

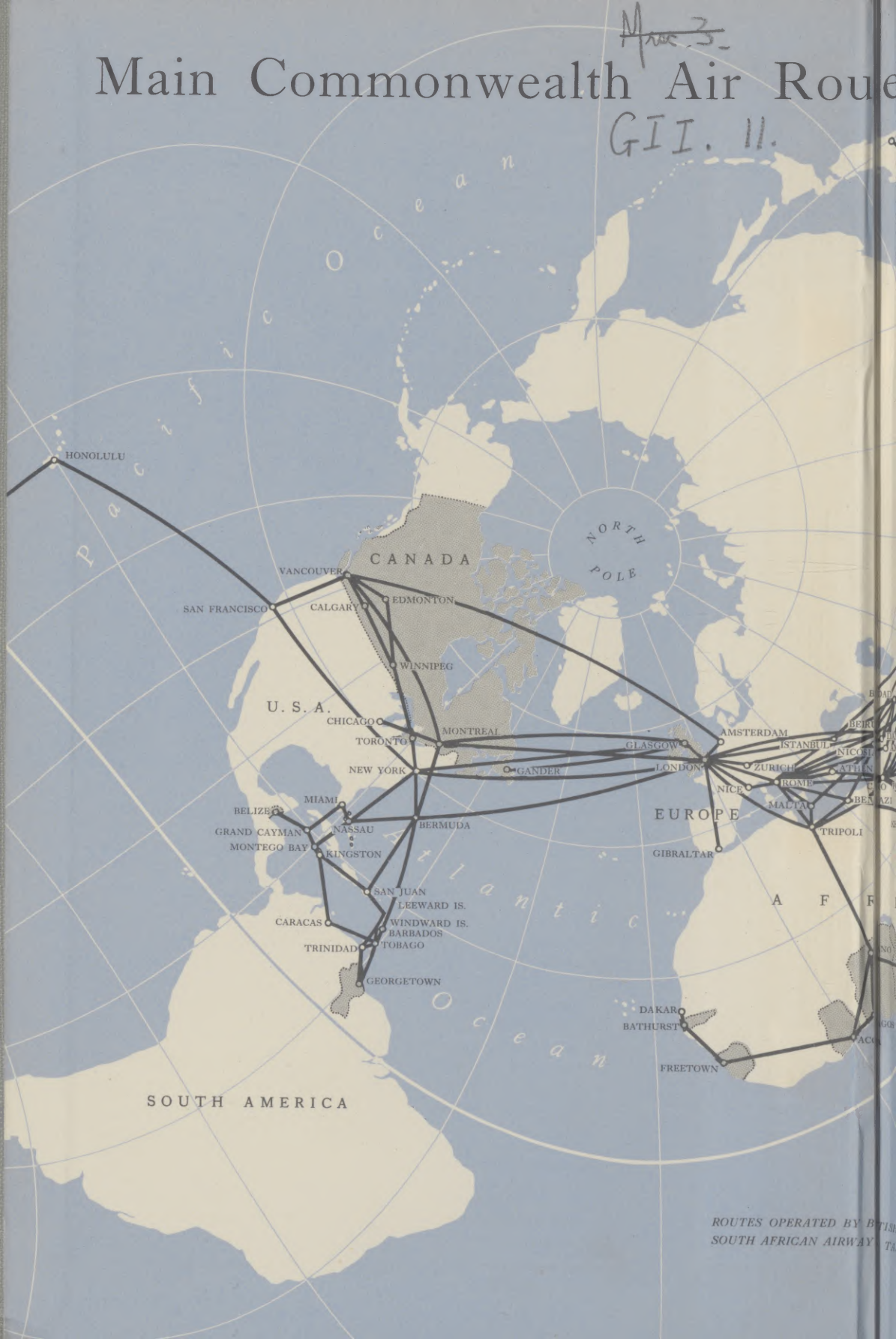


BRITAIN

AN OFFICIAL HANDBOOK

Main Commonwealth Air Routes

Apr 3
G.I.I. II.



SOUTH AMERICA

ROUTES OPERATED BY BRITISH SOUTH AFRICAN AIRWAYS

es



BRITISH OVERSEAS AIRWAYS · BRITISH EUROPEAN AIRWAYS · TRANS-CANADA AIR LINES · QANTAS EMPIRE AIRWAYS
 TASMAR AIRWAYS · BRITISH WEST INDIAN AIRWAYS · ADEN AIRWAYS · BAHAMAS AIRWAYS · & ASSOCIATES

BRITAIN

An Official Handbook



Photograph by Antony Armstrong Jones

HER MAJESTY THE QUEEN



BRITAIN

An Official Handbook

PREPARED BY
THE CENTRAL OFFICE OF INFORMATION

1958 EDITION

LONDON
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Acknowledgment is made to *The Ambassador* for the use of the photograph of tableware between pages 206 and 207 and to British Railways for the use of the photograph of Chatsworth facing page 407.

INTRODUCTION

For ten years, successive editions of *BRITAIN: AN OFFICIAL HANDBOOK* have been one of the main foundations of the reference and library facilities provided by the British Information Services overseas. At first available only overseas in a limited free edition, the Handbook was placed on sale throughout the world in 1954. The success of the venture has justified the decision to revise the Handbook each year and to publish it as an annual.

With this edition, a change has been made in the date of publication; the Handbook is to be published at the end of the year, instead of in the spring as formerly. This change of timing makes it possible for each edition to include the Budget statement and Departmental annual reports issued in the first half of the year which it covers; thus each edition will contain more up-to-date information. This volume, the 1958 edition, covers events up to September 1957.

BRITAIN: AN OFFICIAL HANDBOOK, prepared by Reference Division of the Central Office of Information with the co-operation of other Government Departments and many national organizations, contains factual and statistical information on the United Kingdom as a whole, compiled from official and other authoritative sources; separate facts or figures for England, Wales, Scotland, and Northern Ireland are also given in some cases where these are available. The Handbook covers the main aspects of national administration and national economy and gives an account of the part played by the Government in the life of the community; it does not claim to be comprehensive, nor does it attempt to describe the part played by Britain in Commonwealth or world affairs.

Readers who require more detailed information on the United Kingdom should consult the *Annual Abstract of Statistics* and the *Monthly Digest of Statistics*, issued by the Central Statistical Office, and standard works of reference and Government publications, some of which are listed in the bibliography at the end of the Handbook. Readers are also asked to note that the Central Office of Information reference documents listed in the bibliography as free and marked with an asterisk are available free of charge only at United Kingdom Information Offices overseas; they can, however, be obtained in the United Kingdom from the Reference Division, Central Office of Information, on payment of a small charge.

REFERENCE DIVISION

CENTRAL OFFICE OF INFORMATION, LONDON

September 1957

I. THE BRITISH ISLES

THE PHYSICAL BACKGROUND

The British Isles form a group lying off the north-west coast of Europe with a total area of about 121,600 square miles. The largest two islands are Great Britain proper (comprising the greater parts of England, Wales and Scotland) and Ireland (comprising Northern Ireland and the Republic of Ireland). Off the southern coast of England is the Isle of Wight and off the extreme south-west are the Isles of Scilly; off North Wales is Anglesey. Western Scotland is fringed by numerous islands and to the far north are the important groups of the Orkneys and Shetlands. All these form administrative counties or parts of counties of the mainland, but the Isle of Man in the heart of the Irish Sea and the Channel Islands between Great Britain and France have a large measure of administrative autonomy and are not part of England, Wales or Scotland.

England (excluding the county of Monmouth on the Welsh border), has a total area (including inland water) of 50,327 square miles and is divided into 40 geographical or 49 administrative counties; Wales (including Monmouth), with an area of 8,017 square miles, has 13 counties, Scotland, including its 186 inhabited islands, has a total area of 30,411 square miles and is divided into 33 counties. Northern Ireland, consisting of six counties, has an area of 5,459 square miles. Together, these countries constitute the United Kingdom of Great Britain and Northern Ireland with a total area of 94,214 square miles. The total land area of the United Kingdom (excluding inland water) is 93,018 square miles: England, 50,051; Wales and Monmouthshire, 7,966; Scotland, 29,795; and Northern Ireland, 5,206, square miles.

Care must be taken when studying British statistics to note whether they refer to England as defined above, to England and Wales (considered together for many administrative and other purposes), to Great Britain, which comprises England, Wales and Scotland, or to the United Kingdom as a whole. The position is further complicated by the fact that the county of Monmouth is sometimes included with England. United Kingdom statistics and other data sometimes include the Isle of Man, 227 square miles, and the Channel Islands, 75 square miles, which are strictly not part of the United Kingdom, but are dependencies of the Crown. Since southern Ireland became an independent republic, official statistics do not normally refer to the British Isles as a whole.

The latitude of 50° North just cuts across the southernmost part of the British mainland (the Lizard Peninsula) and latitude 60° North passes through the Shetland Islands. The northernmost point of the Scottish mainland, Dunnet Head, is in latitude 58° 40'. The prime meridian of 0° passes through the old Observatory of Greenwich (London), while the easternmost point of England reaches nearly 1° 45' East and the westernmost point of Ireland is approximately 10° 30' West. It is thus rather under 600 miles in a straight line from the south coast of Britain to the extreme north and rather over 300 miles across in the widest part. Owing to the numerous bays and inlets no point in the British Isles is as much as 75 miles from tidal water.

The seas surrounding the British Isles are everywhere shallow—usually less than 50 fathoms (300 feet)—because the islands lie on the continental shelf. To the north-west along the edge of the shelf the sea floor plunges abruptly from 600 feet to 3,000. These shallow waters are important because they provide excellent fishing grounds as well as breeding grounds for the fish. The North Atlantic Current, the drift of warm water which reaches the islands from across the Atlantic, spreads out over the shelf and its ameliorating effect on the air is thus magnified. The effect of tidal movement is also increased by the shallowness of the water.

Geology and Topography

Despite their small area, the British Isles contain rocks of all the main geological periods. In Great Britain the newer rocks, which are less resistant to weather, and have thus been worn down to form low land, lie to the south and east, and the island can therefore be divided roughly into two main regions, Lowland Britain and Highland Britain.

In Lowland Britain the newer and softer rocks of southern and eastern England have been eroded into a rich plain, more often rolling than flat and rising to chalk and limestone hills, but hardly ever reaching a thousand feet above sea level. The boundaries of this region run roughly from the mouth of the Tyne in the north-east of England to the mouth of the Exe in the south-west.

Highland Britain comprises the whole of Scotland, the Lake District in north-west England, the broad central upland known as the Pennines, almost the whole of Wales, and the south-western peninsula of England coinciding approximately with Devon and Cornwall. Highland Britain contains all the mountainous parts¹ of Great Britain and extensive uplands lying above the thousand foot contour. This high ground, however, is not continuous but is interspersed with valleys and plains. Geologically the mountains and hills consist mainly of outcrops of very old rocks (archaeal and palaeozoic), while the top strata in the valleys and plains are mainly more recent (carboniferous age) and similar to those in the northern and western parts of Lowland Britain.

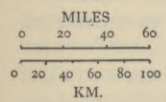
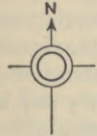
These carboniferous strata are rich in minerals and include the coal measures which have been the foundation of Britain's industrial expansion. The outcrops and shallow seams of coal which have now largely been exhausted were found on the edge of the plains and up the valleys leading to the high land. Most of the present deep coal workings underlie the fertile lowlands.

Towards the end of Britain's long geological history, when the ancestors of present-day man had already settled in the country, came the great Ice Age, and at one period or another during this time the whole of Britain north of a line joining the Thames and the Bristol Channel was covered by ice caps and ice sheets. The ice naturally accumulated on the higher ground and swept from the mountains of Scotland, northern England and Wales any loose rock or soil which had previously been formed, so that when the ice eventually disappeared the hills stood out as barren rocky areas, while a thick mantle of glacial debris—boulders, boulder-clay, sands and gravels—lay distributed widely over the lower ground. The ice had blocked up previous drainage channels and left large lakes, which have since gradually dried up, leaving deposits of sand, silt and mud, often affording soils of great fertility.

In Ireland, where the solid rocks are covered deeply by the debris left by ice sheets, the great central plain has large boggy areas, due to interruption of the previous natural drainage. The mountains and hill masses of Ireland are irregularly

¹ The highest peaks are: in Scotland, Ben Nevis, 4,406 feet; in Wales, Snowdon, 3,560 feet; and in England, Scafell Pike (in the Lake District, Cumberland) 3,210 feet.

UNITED KINGDOM Physical



ISLES OF SCILLY Land's End

disposed round the fringes of the island, and in the higher parts the moorland cover resembles that of the higher parts of Highland Britain.

Because of the complex geology and the varied relief which results, Britain enjoys not only very attractive and contrasting scenery within short distances but a characteristic, ever different, coastline. The ancient rocks of Highland Britain often reach the coast in towering cliffs; elsewhere the sea may penetrate in deep lochs, as along much of the west coast of Scotland. Bold outstanding headlands are notable features in other parts of the varied coastline: the granite cliffs of Land's End; the limestone masses or forbidding slates of the Pembrokeshire coast; the red sandstone of St. Bees Head; and the vertically jointed lavas of Skye and the island of Staffa. Even around Lowland Britain there are striking contrasts. In some parts the soft, white limestone—the chalk—gives rise to the world-famous white cliffs of Dover or the Needles off the Isle of Wight; while other parts of the south and south-east coastline have beaches of sand or shingle. The eastern coast of England between the Humber and the Thames estuary is for the most part low-lying, and for hundreds of years some stretches of it have been protected against the sea by embankments. These have occasionally been breached, as in the flood disaster of January 1953, which was caused by the abnormal concurrence of violent gales and exceptionally high tides.

The marked tidal movement around the British Isles sweeps away much of the sand and mud brought down by the rivers and makes the estuaries of the short British rivers¹ valuable as natural havens. In times past every little cove round the rocky coasts afforded shelter to a fishing village from the waves of the North Sea or the giant rollers of the Atlantic.

Climate

Britain enjoys a temperate and equable climate. It lies in middle latitudes to the north-west of the great continental land mass of Eurasia, but as the prevailing winds are south-westerly the climate is largely determined by that of the eastern Atlantic, although occasionally during the winter months easterly winds may bring a cold, dry, continental type of weather which, once established, may persist for many days or even weeks. The weather from day to day is controlled mainly by a succession of depressions from the Atlantic which, moving in a generally easterly or north-easterly direction, pass over or near the British Isles. During the summer months the Azores high pressure system extends its influence north-eastwards towards north-west Europe, and the depressions take a more northerly course, often passing entirely to the northwards.

Winds. In Britain, south-westerly winds are the most frequent, and those from the south-east and east the least; easterly winds occur about half as often as south-westerly ones. In hilly country, wind direction may differ markedly from the general direction owing to local conditions. Winds are generally stronger in the north than in the south of the British Isles, on the coasts than inland, and in the west than in the east. The strongest winds usually occur in the winter; the average speed at Kew Observatory, on the western outskirts of London, varies from about 10·3 m.p.h. at 50 feet in January and February to a minimum in August of 7·5 m.p.h. The stormiest region of the British Isles is along the north-west coast with about 40 gales a year; south-east England is the least stormy, with gales occurring on about 18 days a year inland and 25 days on the Channel coast.

¹ The longest rivers in England—the Severn and the Thames—are only 210 and 200 miles long respectively.

Temperature. At stations near sea level the mean annual temperature ranges from 45° F. in the Hebrides to 52° F. in the extreme south-west; it is slightly lower in the eastern part of the country in the same latitude. The mean monthly temperature in the extreme north, at Lerwick (Shetlands), ranges from 39° F. during the winter (December, January and February) to 53° F. during the summer (June, July and August): the corresponding figures for Jersey (Channel Islands), in the extreme south, are 43° F. and 63° F. The average range of temperature between winter and summer varies from 15° F. to 23° F., being greatest at inland stations in the eastern part of the country. During a normal summer, the temperature occasionally rises above 80° F. in the south, but temperatures of 90° F. and above are uncommon. Extreme minimum temperatures depend to a large extent on the environment, but 20° F. may occur on a still, clear winter's night, 10° F. is rare, and 0° F. or below has been recorded only during exceptionally severe winters.

Rainfall. The British Isles as a whole have an annual rainfall of over 40 inches, while England alone has just over 30 inches. The distribution of annual rainfall is mainly determined by topography, the mountainous areas of the west and north having far more than the plains of the south and east. Between 150 and 200 inches of rain fall on the summits of Snowdon and Ben Nevis during the average year, whereas some places in the south-east of England record less than 20 inches. Rain is fairly well distributed throughout the year, but April, on the whole, is the driest month, and December, with about twice as much, the wettest. A period of as long as three weeks without rain is exceptional, and confined to limited areas.

Sunshine. The distribution of sunshine over the British Isles shows a general decrease from south to north, a decrease from the coast inland, and a decrease with altitude. During May, June and July—the months of longest daylight—the mean daily duration of sunshine varies from five hours in western Scotland to eight hours in the extreme south-east of England; during the months of shortest daylight—November, December and January—sunshine is at a minimum, with an average of 0·5 hours a day in the Highlands of Scotland and in the Peak District (Derbyshire) and 1·5 hours in the south of England.

Soil and Vegetation

Many parts of the surface of Highland Britain have only thin, poor soils, with the result that large stretches of moorland are found over the Highlands of Scotland, the Pennines, the Lake District, the mountains of Wales and in parts of north-east and south-west England. In most areas the farmer has cultivated only the valley lands and the plains where soils are deeper and richer, and villages and towns are often separated by uplands with few if any habitations.

With the exception of a few patches of poor soil or rocky land, almost the whole of Lowland Britain has been cultivated, and farmland stretches over the whole area except where interrupted by urban and industrial settlements. Elaborate land drainage systems have been developed through the centuries to bring under cultivation the fertile soil of the low-lying Fenland of Lincolnshire and other nearby areas in East Anglia.

With its mild climate and varied soils, Britain has a diverse pattern of natural vegetation cover. When the islands were first settled, oak woodland doubtless covered the greater part of the lowland, giving place to thin forests of Scots pine on higher or sandy ground, interrupted by extensive marshlands and perhaps some open moorland. In the course of the centuries nearly all the forests have been cleared so that forest and woodland now occupy only about 6 per cent of the surface

of the country. Midland Britain appears to be well wooded because of the numerous hedgerows and isolated trees. The greatest density of woodland occurs in the north and east of Scotland, in some parts of south-east England and in Monmouthshire on the Welsh border.

The hilly moorland with its heather (and cotton grass in the wetter parts), with its numerous hill grasses and the bracken fern, is a semi-natural wild vegetation. Most of Lowland Britain consists either of grass pastureland, representing centuries of careful management, or ploughland. Because the rainfall varies little in quantity from month to month, streams rarely dry up and grass remains green throughout the year.

THE DEMOGRAPHIC BACKGROUND

The people who now inhabit the British Isles are descended mainly from the people who inhabited them nearly nine centuries ago. The last of a long succession of invaders and colonizers from Scandinavia and the continent of Europe were the Normans, a branch of the Norsemen or Scandinavian Vikings who, after settling in northern France, intermarrying with the French, and assimilating the French language and customs, crossed to England and conquered it in 1066.

It is neither possible nor suitable to attempt in this chapter to estimate the relative importance of various early peoples—pre-Celts, Celts, Romans, Anglo-Saxons and the Norsemen, including the Danes—in the ancestry of the present English, Scots, Welsh and Irish. It is significant, however, that over most of England and the Lowlands of Scotland the language which soon came to predominate was English, mainly a marriage of Anglo-Saxon and Norman-French, while the use of Celtic languages persisted in Wales, Cornwall, the Isle of Man, the Highlands of Scotland and in Ireland.

The available records do not permit of any precise estimates of the size of population or of the extent or direction of population movement until the beginning of the nineteenth century. It is believed that at the end of the eleventh century the population of Great Britain was of the order of two million, while at the end of the seventeenth a reasonable contemporary estimate put the population of England and Wales at $5\frac{1}{2}$ million and the population of Scotland at about one million. Natural increase was the main factor in this slow growth, though it was kept down in Britain, as in all countries before the development of medical science, by high death rates and particularly by very high infant and maternal mortality. Immigration from the continent of Europe, e.g., of Flemish weavers, was an influence at certain times.

From the beginning of the nineteenth century, information about the British people, their number, sex, age, geographical distribution, births, deaths, marriages, occupations, language and family structure, is relatively plentiful and reliable. Most of it is derived from two main sources: the periodic census of population which gives a national snapshot at a particular moment of time, and the regular flow of statistical information based on statutory registration of births, marriages and deaths.

The Census

Censuses of the people of Great Britain were taken regularly every ten years from 1801 to 1931. There was no census between 1931 and 1951, but a count of the population by age and sex was a by-product of the national registration which was instituted at the outbreak of the second world war in September 1939.

Censuses were taken on 8th April, 1951, by the appropriate authorities in the United Kingdom, the islands of the British Seas and the Republic of Ireland.¹ This was the first simultaneous population count covering all these areas since the censuses of 1911. The co-operation of the Republic of Ireland in arranging a simultaneous census was of particular value, owing to the considerable sea and land traffic and the movement of population between that country and the United Kingdom. Nearly all the reports based on these censuses have now been published (see the Bibliography, pp. 464-5).

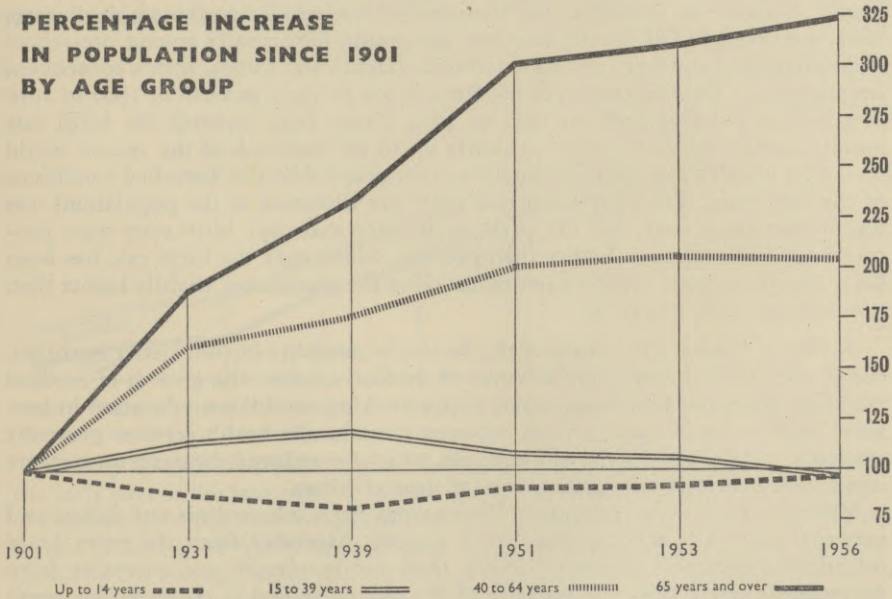
The short demographic account of the United Kingdom given in this chapter is based mainly on census reports (including the 1951 censuses) and on the regular returns of births, marriages and deaths, though some use has been made of other special investigations.

Total Population

The enumerated population of the United Kingdom at the censuses taken on 8th April, 1951, was, to the nearest thousand, 50,225,000, excluding 158,000 persons in the Isle of Man and the Channel Islands, which are not strictly parts of the United Kingdom.

The population had increased by about 2½ million since mid-1939, by about 4 million since 1931, by about 6 million since 1921 and by about 43 million—or about sevenfold—since 1700. The main causes of this increase were a progressive reduction in death rates and a continuance of high birth rates into the beginning of the twentieth century. The population is still increasing, though relatively slowly,

PERCENTAGE INCREASE IN POPULATION SINCE 1901 BY AGE GROUP



¹ These authorities are: the General Register Office, Somerset House, London; the General Registry Office, Edinburgh; the General Register Division of the Ministry of Finance of the Government of Northern Ireland; the Governments of the Isle of Man, of Jersey and of Guernsey and its associated islands; and the Central Statistical Office of the Republic of Ireland.

and at mid-1956 the home (*de facto*) population of the United Kingdom (i.e. those people actually in the United Kingdom at that time) was estimated at 51,208,000.

The population density of the United Kingdom is one of the highest in the world. It was approximately 533 persons per square mile at the time of the 1951 censuses, and had risen to 544 persons per square mile at mid-1956.

Birth and Death Rates. During the nineteenth century the annual birth rate was usually about 35 per thousand of the population. The annual death rate was just over 20 per thousand. Both birth and death rates fell over the last 30 years of the century, but the natural increase of the population changed but little. It rose from 12 per thousand in 1851 to 15 per thousand in 1881, and fell to 11 per thousand in 1901.

These fertile years, with their comparatively high death rates in all age groups, produced a population of low average age. At each successive census the population of any age group exceeded the corresponding figure at the preceding census, while the short expectation of life further reduced the ratio of older to younger persons. When, therefore, death rates in all age groups fell by an average of about 33 per cent, as they did between 1880 and 1910, the result was first a very low general death rate which helped to maintain the population increase in spite of a fall in the birth rate, and, secondly, a gradual increase in the average age of the population.

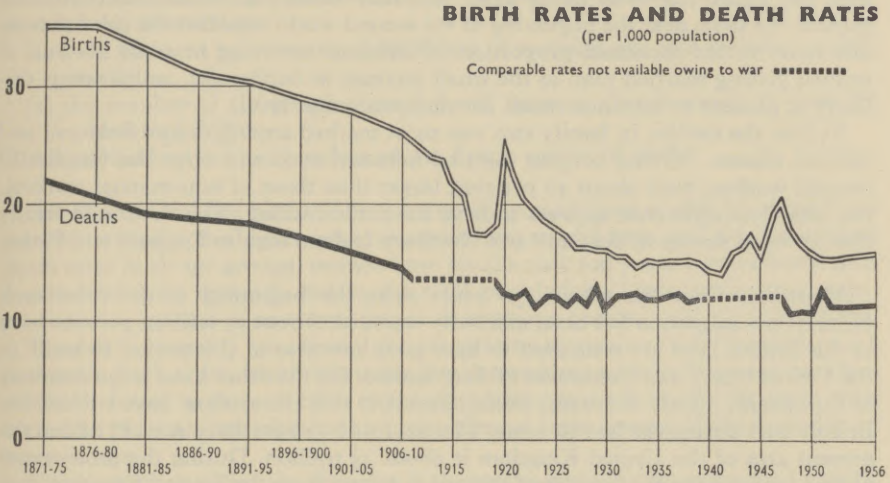
After the first world war the birth rate fell to less than half the nineteenth-century rate. Even so, the population continued to increase slowly, though its average age rose more rapidly (see diagram p. 7).

Owing to the changing age composition, the general death rate has remained nearly stationary at around 12 per thousand of the population though death rates have continued to fall heavily in every age group, particularly among pre-school children, school children, and adults in their thirties and forties, with a consequent lengthening of the expectation of life from about 50 years at birth in 1900 to 1910 to about 70 years at birth in 1952 to 1954. From 1933 onwards the birth rate steadied itself and thereafter rose slowly up to the outbreak of the second world war, after which all orderly movement was interrupted by the disturbed conditions of the war years. The 1947 birth rate (20.7 per thousand of the population) was the highest since 1921, but the 1948, 1949, 1950 and 1951 birth rates were progressively lower, though higher than pre-war. Since 1951 the birth rate has been fairly steady at about 15½ to 16 per thousand of the population, slightly higher than pre-war (see diagrams p. 9).

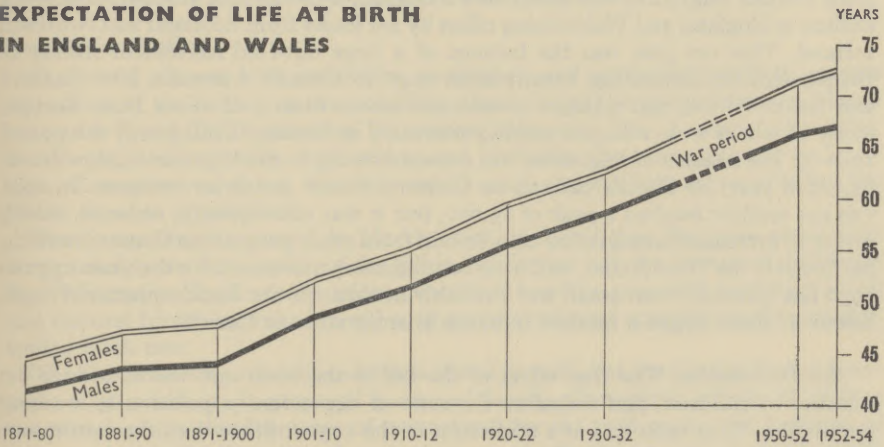
Mortality Causes. The causes of the decline in mortality include better nutrition, rising standards of living, the advance of medical science, the growth of medical facilities, improved health measures, better working conditions, education in personal hygiene, public and private schemes to make the health services generally available, and the smaller size of the family, which has reduced the strain on mothers and enabled them to take greater care of their children.

Mortality from acute infectious diseases and from tuberculosis and infant and maternal mortality have declined very sharply. Mortality from the main acute infectious diseases of childhood is less than one-hundredth and mortality from tuberculosis is less than one-thirtieth of the rate prevailing in the mid-nineteenth century. Infant mortality has fallen by about 70 per cent since 1900, and between 1934 and 1942 maternal mortality was nearly halved, and it is now only very slightly over one-sixth of the 1934 rate. The reported mortality from many of the chronic diseases of middle and old age has risen during the twentieth century, and this rise, though exaggerated by the improvement in diagnosis, is at least partly real. Medicine has not yet discovered effective measures to combat some of these diseases,

and improvement in positive health does not always bring increased immunity or resistance to them.



EXPECTATION OF LIFE AT BIRTH IN ENGLAND AND WALES



Fertility Trends. The fall in birth rates in the latter part of the nineteenth and the early part of the twentieth centuries was due mainly to a decline in the number of children born per married couple (the average size of the family), caused by the spread of deliberate family limitation. Couples married a hundred years ago produced on the average rather more than six liveborn children. The decline seems to have set in with those married in the eighteen-sixties, and continued steadily until, with the couples married in the nineteen-twenties, the average family size had been reduced to between 2.2 and 2.1. The decline then stopped, and the figure has remained stable in spite of the disturbance of the war years; the latest data suggest a slight increase.

The generation of girls born about 1840, and married mostly between 20 and 30 years later, had about 40 per cent more children than were needed to replace

the original generation. Those born at the beginning of the present century had only about 70 per cent of the number of children needed for replacement. Since then the figure has been rising again and may reach full replacement with the generations born near the beginning of the second world war. But the rise has been due more to the increased proportion of children surviving to adult life and of women getting married than to the small increase in family size, and it seems unlikely at present to continue much above replacement level.

At first the decline in family size was most marked among the professional and salaried classes. Among couples married between 1900 and 1930 the families of manual workers were about 40 per cent larger than those of non-manual workers, but this class difference appears to have been diminishing. The decline in family size has been slower in Scotland and Northern Ireland than in England and Wales.

Migration. Over the whole 150 years since the beginning of the nineteenth century, net migration has been markedly outward. About 25 million persons born in the British Isles are estimated to have gone overseas in this period to settle in the United States and Commonwealth countries. On the other hand large numbers of Europeans, mainly Russians, Poles, Germans and Hungarians have entered the British Isles during the last 80 years. The net loss by migration since 1871 from the present area of the United Kingdom is about $3\frac{1}{2}$ million. During the inter-censal period 1931-51 the net balance of migration to and from the United Kingdom was inward for the first time in the past century. The net gain to the United Kingdom from civilian migration was about half a million, a net gain of three-quarters of a million to England and Wales being offset by net losses from Scotland and Northern Ireland. This net gain was the balance of a large outward movement mainly of British subjects emigrating, mostly since 1945, to Canada, Australia, New Zealand and South Africa, and a larger inward movement mainly of aliens from Europe, many of whom were refugees seeking sanctuary in Britain. Taking only the period 1946-51 the balance of migration was outward owing to the high net outflow (some 65,000 a year) of British citizens to Commonwealth countries overseas. In 1951 this net outflow reached a peak of 85,000, but it was subsequently reduced, chiefly owing to increased immigration into Britain from other parts of the Commonwealth, particularly the West Indies, and total net migratory movement for the years 1952 to 1956 has certainly been small and probably inward. In the fourth quarter of 1956, however, there began a marked increase in emigration to Canada.

Age Distribution. The first effect of the fall in the birth rate was to reduce the number of children, and therefore the ratio of dependent population to working population. This ratio was at a minimum in the 1930s. Since then the continuous fall in death rates and the low inter-war birth rates have been increasing the proportion of elderly people, and thus reducing the proportion of the working population to the total population. The small age groups born between the wars have been coming to maturity. The size of the age groups reaching retirement age increases yearly, as these groups were born during a period of rapidly expanding population. The continuing fall of death rates in all age groups has still further increased the number of old persons. Moreover, the higher birth rates since 1942 have arrested the compensating fall in the number of dependent children. At mid-1956 the age distribution of the United Kingdom was estimated as follows:

Under 15	.. ..	23.1 per cent
65 and over	.. ..	11.4 per cent
15 to 64	.. ..	65.5 per cent.

During the present decade an unusually large proportion of the population of the United Kingdom (about 15 per cent) are between 40 and 50 years of age. Assuming that mortality rates continue to fall, and disregarding migration, it can therefore be shown that:

- (1) over the next 15 years the population of working age will remain roughly constant;
- (2) the number of old people (over 65) will increase over the next 30 years by about $2\frac{1}{2}$ million.

These predictions are independent of the future course of births.

Sex Ratio. Total live births of boys currently exceed those of girls by about 6 per cent, but owing to the higher infant mortality rate among boys, and the higher male death rates in all age groups, women have for the past 100 years outnumbered men from adolescence onwards and in the total population. Their predominance increases with age and is now over 60 per cent among persons over 70 years of age.

The fall in mortality has affected the sex ratio by increasing the proportion of old persons in both sexes, which has made female predominance in those age groups a weightier factor in the sex ratio of the population as a whole. At the same time there has been a slight rise in the proportion of boys among children under 15 years of age.

The proportion of females to males in the total population has not varied greatly, however, as these two effects have counterbalanced each other. At present there are between seven and eight per cent more females than males.

Population Policy

A growing concern with population problems—and particularly with the causes and effects of the decline in the size of families—led to the appointment in March 1944 of a Royal Commission on Population to inquire into the facts concerning British population trends, their causes and probable consequences; and to ‘consider what measures, if any, should be taken in the national interest to influence the future trend of population’.

The Commission reported in March 1949. It found that the main cause, and very probably the only cause, of the fall in family size was the spread of deliberate family limitation. In the course of the nineteenth century, powerful economic, social and cultural forces combined to tell against the continued acceptance of an uncontrolled birth rate.

The Commission’s recommendations aimed at reducing the economic disadvantages of parenthood. It proposed increased family allowances; reform of income tax to reduce the disadvantages of parenthood for the well-to-do; the building of more houses with more than three bedrooms; the further development of family health and welfare services; and research and education in population questions. Most of these recommendations are gradually being implemented.

Regional Distribution and Trends

The distribution of the population of the British Isles by country and major administrative region as enumerated at the 1951 censuses and at certain previous censuses back to 1841, and so far as estimated at mid-1956, is shown in Tables 1 and 2.

The populations of England, Wales, Scotland and Northern Ireland and of each of the principal regions of England were in every case greater in 1956 than in 1951 and in 1951 than in 1931, whereas in the period 1921–31 the populations of Wales, Scotland and Northern Ireland had declined. Between 1931 and 1951, the greatest

TABLE 1
POPULATIONS 1841-1956^(a)

		1841	1871	1901	1931	1951	1956 ^a
ENGLAND (excluding Monmouth- shire)	Persons	14,867,882	21,299,771	30,514,967	37,359,045	41,159,213	42,059,000
	Males	7,259,028	10,352,934	14,717,155	17,839,205	19,745,530	20,238,000
	Females	7,608,854	10,946,837	15,797,812	19,519,840	21,413,683	21,821,000
WALES AND MONMOUTH- SHIRE	Persons	1,046,266	1,412,495	2,012,876	2,593,332	2,598,675	2,608,000
	Males	518,558	706,000	1,011,458	1,293,805	1,270,103	1,279,000
	Females	527,708	706,495	1,001,418	1,299,527	1,328,572	1,329,000
SCOTLAND	Persons	2,620,184	3,360,018	4,472,103	4,842,980	5,096,415	5,145,000
	Males	1,241,862	1,603,143	2,173,755	2,325,523	2,434,358	2,463,000
	Females	1,378,322	1,756,875	2,298,348	2,517,457	2,662,057	2,682,000
GREAT BRITAIN	Persons	18,534,332	26,072,284	36,999,946	44,795,357	48,854,303	49,812,000
	Males	9,019,448	12,662,077	17,902,368	21,458,533	23,449,991	23,980,000
	Females	9,514,884	13,410,207	19,097,578	23,336,824	25,404,312	25,832,000
NORTHERN IRELAND	Persons	1,648,945	1,359,190	1,236,952	1,243,000 ^b	1,370,921	1,397,000
	Males	799,711	647,285	589,955	601,000 ^b	667,819	681,000
	Females	849,234	711,905	646,997	642,000 ^b	703,102	716,000
TOTAL GREAT BRITAIN AND NORTHERN IRELAND	Persons	20,183,277	27,431,474	38,236,898	46,038,357	50,225,224	51,209,000
	Males	9,819,159	13,309,362	18,492,323	22,059,533	24,117,810	24,661,000
	Females	10,364,118	14,122,112	19,744,575	23,978,824	26,107,414	26,548,000
ISLE OF MAN	Persons	47,975	54,042	54,752	49,308	55,253	55,000 ^e
	Males	23,011	25,914	25,496	22,443	25,774	Not available
	Females	24,964	28,128	29,256	26,865	29,479	Not available
JERSEY	Persons	47,544	56,627	52,576	50,462	57,310	57,000 ^e
	Males	21,602	24,875	23,940	23,424	27,291	Not available
	Females	25,942	31,752	28,636	27,038	30,019	Not available
GUERNSEY AND ASSOCIATED ISLANDS	Persons	28,521	33,969	43,042	42,743	45,496	43,000
	Males	12,943	15,433	21,140	20,675	22,091	Not available
	Females	15,578	18,536	21,902	22,068	23,405	Not available
IRISH REPUBLIC	Persons	6,528,799 ^c	4,053,187	3,221,823	2,933,000 ^d	2,960,593	2,894,822
	Males	3,222,485	1,992,468	1,610,085	1,497,000 ^d	1,506,597	1,462,097
	Females	3,306,314	2,060,719	1,611,738	1,436,000 ^d	1,453,996	1,432,725
TOTAL BRITISH ISLES	Persons	26,836,116	31,629,299	41,609,091	49,113,870	53,343,876	54,258,000
	Males	13,099,200	15,368,052	20,172,984	23,623,075	25,699,563	Not available
	Females	13,736,916	16,261,247	21,436,107	25,490,795	27,644,313	Not available

Source: Census Reports and Estimates by Population Authorities.

(a) The figures for 1841, 1871, 1901, 1931 and 1951 (with the exception of those indicated in (b) and (d) below) and for the Irish Republic in 1956 are for populations enumerated in censuses. The other figures for 1956 are mid-year estimates, to the nearest thousand.

(b) Estimate (censuses were taken in 1926 and 1937, but not in 1931).

(c) The Military and Navy are not included in these figures.

(d) Estimate (censuses were taken in 1926 and 1936, but not in 1931).

(e) These figures take no account of migration.

increases were in the eastern, southern, midland and south-western regions of England, and in Northern Ireland. The smallest increase was in Wales. Since 1951 the main increases have been in the eastern, southern and north midland regions of England.

The population of the United Kingdom taken as a whole is predominantly urban and suburban. During the nineteenth century, when the labour demands of newly developing industry drew great numbers from the countryside to the towns, the urban element continuously and rapidly outgrew the rural element. At the end of the nineteenth century 75 per cent of the British population was living within the boundaries of urban administrative areas and the large conurbation¹ was already the dominant type of British community. By 1911, the economic and social limits of these conurbations extended far beyond the administrative boundaries of the cities which formed their core, owing to the building of outer suburbs which linked up neighbouring towns. Since 1921, nearly 40 per cent of the population has lived in the seven great conurbations whose centres are the cities of London, Glasgow, Birmingham and Wolverhampton, Manchester, Liverpool, Leeds and Bradford, and Newcastle upon Tyne (see Table 2, pp. 14-15).

During the twentieth century the general character of urbanization changed, the later increases in urban areas being relatively much smaller and much more due to the natural growth of the towns than to the influx of population from rural areas. Moreover, two new and decided trends became apparent: first, the outer rings of conurbations and the suburbs of large cities began to increase in population much more rapidly than the large cities themselves; secondly, there was a considerable migration, particularly of young adults, to the expanding new light industries and suburban residential areas springing up in and around London and Birmingham. This movement was intensified by the heavy unemployment of the inter-war years which affected with particular severity the textile and heavy engineering industries of Scotland, Northern England and South Wales.

The combined effect of these two trends was that the outer rings of the London and Birmingham conurbations increased most in population, while the remoter country areas and some industrial towns of Scotland, Wales and Northern England declined. In urban areas in England and Wales, the medium-sized towns of between 50,000 and 100,000 inhabitants increased most rapidly, while the populations of very large or very small towns tended to decline.

The second world war halted suburban building and for a time reduced the population of conurbations and large cities, but by the end of the war many people had returned to the neighbourhood of their pre-war homes. At the 1951 Census many large cities and towns had larger populations than in 1939, but the populations of others, notably London, were reduced. The decrease in the County of London was about two-thirds of a million, and in spite of an increase in the population of the outer ring, the population of Greater London, 8,348,023, was 380,000 less than in 1939. The populations of many urban and rural areas surrounding Greater London have continued to increase very rapidly.

Table 2 shows the distribution of the population by urban and rural districts and the populations of the standard administrative regions, of the seven major conurbations and of 16 large cities, some of which are the principal cities included in the conurbations.

¹ An area of urban development where a number of separate towns have grown into each other or become linked by such factors as a common industrial or business interest or a common centre for shopping or education.

TABLE 2

DISTRIBUTION OF THE POPULATION (a)

Thousands

	Area in square miles(b)	1921	1931	1939(c)	1951	1956(c)
Urban and rural districts						
England and Wales:						
Urban districts ..	8,240.5	30,035	31,952	34,183	35,336	35,873
Rural districts ..	50,104.5	7,851	8,000	7,277	8,422	8,794
Scotland:						
Cities and burghs	416.3	3,311	3,362	3,525	3,563	3,224
Landward areas ..	29,378.6	1,572	1,481	1,482	1,534	1,528
Northern Ireland:						
Urban districts ..	78.5	638(d)	678(d)	684	728	746
Rural districts ..	5,159.5	619(d)	602(d)	611	643	651
Standard regions of						
England and Wales						
Northern	7,470.7	3,020	3,038	3,003	3,141	3,175
East and West Ridings	3,962.7	3,731	3,929	3,976	4,097	4,114
North Western ..	3,083.0	6,023	6,197	6,237	6,447	6,462
North Midland ..	6,303.8	2,746	2,939	3,065	3,378	3,477
Midland	5,024.9	3,503	3,743	3,987	4,423	4,547
Eastern	7,263.9	2,224	2,433	2,691	3,098	3,378
London and						
South Eastern ..	4,190.5	9,486	10,330	11,046	10,906	10,982
Southern	4,846.3	1,954	2,135	2,317	2,649	2,840
South Western ..	8,183.5	2,544	2,615	2,673	3,021	3,084
Wales	8,015.8	2,656	2,593	2,465	2,599	2,608
Conurbations						
Greater London ..	721.6	7,488	8,216	8,728	8,348	8,270
West Midlands ..	268.8	1,773	1,933	2,079	2,237	2,268
West Yorkshire ..	480.9	1,614	1,655	1,658	1,693	1,683
South East Lancashire	379.6	2,361	2,427	2,421	2,423	2,412
Merseyside	148.5	1,263	1,347	1,357	1,382	1,387
Tyneside	90.1	816	827	825	836	842
Central Clydeside ..	326.5	1,638	1,690	1,783	1,758	1,778
Cities						
Birmingham ..	79.9	919	1,003	1,053	1,113	1,111
Liverpool	42.7	803	856	822	789	774
Manchester	42.6	730	766	728	703	686
Sheffield	61.9	491	512	522	513	499
Leeds	59.8	458	483	497	505	509
Bristol	41.2	377	397	419	443	441
Nottingham	25.3	263	269	279	306	312
Kingston upon Hull	22.4	287	314	318	299	300
Bradford	39.9	286	298	288	292	286
Newcastle upon Tyne	17.3	275	283	293	292	277
Leicester	26.5	234	239	263	285	284
Stoke on Trent ..	33.1	240	277	271	275	273

TABLE 2 (*contd.*)
DISTRIBUTION OF THE POPULATION (a) Thousands

	Area in square miles (b)	1921	1931	1939(c)	1951	1956(c)
<i>Cities—contd.</i>						
Coventry	29.9	128	167	220	258	273
Glasgow	60.4	1,034	1,088	1,128	1,090	1,082
Edinburgh	50.6	420	439	472	467	467
Belfast	23.9	415(d)	438(d)	439	444	444

Source: Census Reports and Estimates by Population Authorities.

(a) The boundaries of some of these administrative areas have been altered from time to time. The population figures given for cities relate to the areas as these were defined in the year noted at the head of each column. The figures for regions and conurbations, however, relate as nearly as possible to areas as constituted in 1951.

(b) Area at the date of the 1951 Census of Population.

(c) Mid-year estimate.

(d) 1926 and 1937 census figures.

Language

In England, Wales, Scotland and Northern Ireland, English is the language predominantly spoken. In Wales, however, Welsh, a form of British Celtic, is the first language of most of the population in some of the central and northern counties and was spoken by 29 per cent of the population at the time of the 1951 census. In Scotland, nearly 100,000 persons, mainly in Ross and Cromarty, Inverness, Argyll, and Lanark, speak the Scottish form of Gaelic,¹ while a few families in Northern Ireland speak the Irish form of Gaelic. The Manx and Cornish varieties of Celtic are no longer effectively living languages, although, in the Isle of Man, Manx is spoken by a few people, and is used in addition to English for certain official pronouncements.

French is still the official language of Jersey, but, in Guernsey, English is now used for almost all official proceedings. English is spoken throughout the Channel Islands, although a Norman French patois is still also spoken there by some people.

Social Patterns

A general summary of trends in social organization, similar in scope to the foregoing summary of population trends, is not practicable. It may be useful, however, to review some of the evidence relating to the structure of British households and the extent and use of leisure in Britain in order to provide a background to the information given in later chapters on such matters as town planning, housing, and transport.

Number and Composition of Households

In Great Britain, as in other countries, most people live as members of private households (usually families). Less than 5 per cent of the population was enumerated by the censuses of 1911, 1921, 1931 and 1951 in institutions such as hotels, schools, and hospitals.

¹ Most of the islands off the west coast of Scotland where Gaelic is spoken are included in the counties of Ross and Cromarty, Inverness, and Argyll.

In 1911 there were about nine million private households¹ in Great Britain. By 1951, according to the censuses of England and Wales, and of Scotland, there were about 14½ million households, an increase of about 60 per cent. This expansion seems out of proportion to the 19 per cent increase in the total population for the same period. It was in fact comparable with the proportionate increase in the population of persons over 24 years old and the slightly larger proportionate increase in the number of married persons. In other words, the increasing age of the population meant more but smaller families. The average size of household in Great Britain fell from 4.5 persons in 1911 to 3.2 in 1951. In England and Wales the number of persons living in households of one or two persons almost tripled between 1911 and 1951. At the end of this period such households constituted about 40 per cent of private households and comprised about 20 per cent of the population in private households. About two-thirds of the persons living alone in 1951 were 60 years of age or over, while in 43 per cent of families of two persons, the head of the household was 60 or over.

It has been difficult to increase the number of separate dwelling-places (houses or flats) sufficiently rapidly to overtake the increasing number of private households, and this difficulty was aggravated by the suspension of house-building and the destruction of property during the second world war. There were in 1951 only some 13.7 million structurally separate dwelling-places in Great Britain, and about 2 million households shared a home (see also p. 386). It is unofficially estimated that about three-quarters of all dwellings in Great Britain are terraced or semi-detached houses (usually of 4 to 6 dwelling-rooms including bedrooms) while the remaining quarter consists of detached houses and flats in approximately equal numbers. The proportion of flats is greatly above average in Scotland (estimated at about 60 per cent) and considerably above average in London (estimated at 17 per cent).

Of the 14½ million private households in Great Britain in 1951, 11½ million were estimated according to the 1951 Census One Per Cent Sample Tables (based on an analysis of a representative one per cent sample of census returns in Great Britain) to be of the simplest type, comprising married couples or widowed persons with their children, if any, or persons living alone. More specifically, they comprised 3.2 million married couples with no children, 900,000 widowed persons living alone, 6.9 million married couples or widowed persons with children of any age, 600,000 single persons living alone. Over a third of all married couples living alone were 60 years old or over; less than a quarter of the married couples under 40 years of age in these simplest types of household had no children; and the majority of the single persons living alone were over 40 years old.

Nearly another million households were of these simple types except for the inclusion of parents or non-married brothers or sisters of the head of the household. Only 2 million households contained persons less closely related to the head than parent or brother or sister, or contained non-relatives. There were nearly a million families consisting of married couples, or married or widowed persons with children, who were without their own homes, and the majority of these were living in the homes of their parents. Apart from these satellite family groups, 1,102,700 households contained an aggregate of 1,240,000 other persons unrelated or distantly related to the head of the household, the bulk of whom were presumably of the status of boarders.² Of these more than half a million constituted sole individual

¹ Counting persons living alone as one-person households.

² According to census definitions, persons paying for lodging and meals are boarders; lodgers cook for themselves and therefore are enumerated as separate households.

additions to the more normal types of families with married heads. There were nearly 300,000 households consisting of two persons who were distantly related or were unrelated to one another.

Over 8 million households (57 per cent of all households) were estimated in the 1951 Census Sample Tables to be without children under 16, while another 3·1 million contained only one child.

In Great Britain as a whole it was estimated that, in 1951, 180,000 households had resident domestic servants, who numbered, in all, 205,000. Of these, about half were in households of one or two other persons, and over a quarter were in the households of single or widowed or divorced persons, 40 years old or over, living alone except for a servant. A sample analysis of 1931 census data covering only England and Wales estimated 706,800 resident domestic servants in private households, which compares with 178,000 in England and Wales in 1951.

The small average size of households does not imply that wider family and kinship ties are without strength and social significance. Indeed, a recent study, *Family and Kinship in East London* (see Bibliography, p. 464) has stressed the importance of the mutual help of relatives and neighbours in the long-established and balanced communities living in the more crowded parts of East London. The survey, which also covered a suburban area of Greater London, noted the dangers of weakening such ties when households are moved out to more congenial suburban surroundings.

Work and Leisure

The great majority of British males over 15 years of age are in full-time gainful employment, and the majority of females are either housewives or in full-time gainful employment (see p. 271). In many cases housewives also undertake part-time or even full-time employment.

Agreed hours of full-time work for the majority of occupations are usually about 44 hours a week, with some variation on each side. Actual weekly hours worked by men average a little longer owing to overtime working, and actual hours worked by women and girls average a little less (see p. 294). To these hours must often be added the time taken in travel to and from work. The 1951 census showed that a million of the million and a third persons working in Central London lived outside it and that many travelled in from the fringes of Greater London and some from farther away. A sample survey of travel in Greater London, made in 1954, showed that 89 per cent of workers in Greater London made regular journeys to work and that 56 per cent of workers used public transport. The average time taken by such persons was 39 minutes each way, though for workers in Central London it was 47 minutes each way.

In addition, there is often a long journey from home to the main shopping centre in both urban and rural areas. According to a sample survey made in 1946 it averaged about 18 minutes each way, and in many rural areas took much longer. In most areas there are, of course, a few shops much closer at hand.

One consequence of the distance from home to work and to shops is the growth of the habit of eating away from home. Food rationing restrictions during the second world war and the early post-war years tended to increase this habit, which has also been encouraged by the establishment of factory and office canteens and the provision of midday meals in schools. About half the total number of school children and many adults take some meals regularly outside their homes.

According to a sample survey made in 1947, only 6 per cent of housewives employ any paid help, and only 1 per cent¹ have a resident servant. Such surveys confirm, what would in any case be readily deduced from everyday experience, that housewives have less leisure and considerably fewer periods of continuous leisure of over one hour than other persons in Britain, in spite of the spread of labour-saving devices for the home. (In 1955 one household in two had a vacuum cleaner, one in six a washing machine and one in nine a refrigerator.)

Nearly all employees, in addition to 1½ or 2 days' holiday each week and 6 statutory public holidays a year, get at least one week's continuous holiday in the year, and most employees are now entitled to two weeks' holiday a year (see p. 294). In fact, about half the population take at least a week's holiday away from home every year, mostly in July and August. Some two-thirds of these spend their holiday by the sea in Britain. A relatively small but rapidly increasing number of holiday-makers go abroad: over 2½ million in 1956, including nearly half a million to the Channel Islands and to the Republic of Ireland; in the same year, over a million overseas tourists came to visit Britain (see p. 322).

At least a quarter of the adult population is interested in playing or going to watch outdoor sports²; the most popular are Association football and cricket. In England alone about 23,000 football clubs—mainly amateur clubs—are affiliated to the English Football Association, excluding the numerous clubs in the armed forces, universities and schools. Some 750,000 youths and men play in weekly football matches during the winter months, apart from those playing in informal games; spectators at professional football matches number between one and two million weekly. Cricket is played by children, youths and men of every walk of life, especially in England. Attendance at first-class cricket matches is somewhat smaller than at professional football matches, but the 'Test' matches with the cricket teams of Commonwealth countries have become of nation-wide interest. Cricket is less popular in Scotland, where golf has pride of place. Race meetings throughout the country draw large crowds, while many other sporting events, for instance, rugby football matches in the winter months and, in the summer, tennis tournaments, especially the annual lawn tennis championships at Wimbledon, have their smaller but devoted public. Amateur athletic associations flourish throughout the country, and every form of outdoor pursuit from swimming, hiking, cycling and motoring³ to hunting, shooting and fishing has an enthusiastic following, though many sports, such as sailing, gliding, and rock-climbing, are practised only by relatively few keen amateurs. Climatic and physical conditions in Britain afford few opportunities for ski-ing and mountaineering, but numbers of people go abroad regularly for these pursuits.

The spread of television has added a vast new audience of indoor spectators to the crowds who go to watch sporting events and great national occasions. By the end of December 1956, one out of every two homes had a television set; viewers are fairly evenly distributed among all sections of the population, irrespective of income. The number of television licences is still increasing rapidly; in the four

¹ This estimate has been shown to be approximately correct by the analysis of households employing servants made in the 1951 Census Sample Tables (see p. 16).

² A social survey of Derby made in 1953 showed that half the adult population in that town, including two-thirds of the men, were at least occasional spectators of sporting events, and that over one-fifth, including over half those under 25 years of age, actually participated, most of them regularly.

³ There were over 6½ million licensed motor vehicles in the summer of 1956, of which over 3½ million were cars and over 1¼ million were motor cycles. Many of these vehicles, however, are used partly, if not primarily, for business purposes.

years from end-June 1953 to end-June 1957 the number rose by over 4½ million (from 2,415,305 to 7,169,509).

Television has caused a large fall in cinema attendances among adults and has affected leisure habits in many ways. The cinema remains, however, the most popular form of indoor entertainment outside the home. A quarter of all adults, including two-thirds of those under 25 years of age, and one out of two school children go to the cinema, on average, at least once a week. Attendances at theatres are much smaller, though most people visit them occasionally. There are only some 400 to 500 theatres in the country, compared with some 4,400 cinemas (see p. 433), yet the Derby Survey showed that half of the adult population of that town went to the theatre more than twice a year. About a quarter of the adult population of Derby sometimes went to concerts, and in the country as a whole there is known to be an enthusiastic and growing public for concerts, ballet and opera.

Dancing is popular especially with those under 25 years of age. There have been estimated to be some 450 regular dance halls in the United Kingdom which open three times a week or more and employ a manager, and between 4,000 and 5,000 recognized schools of ballroom dancing. Dances and other social gatherings are also often held in other halls or in club-rooms. The Derby Survey showed that in that town nearly half the adult population, including 60 per cent of the men, belonged to a social, sporting or cultural club and that over a third of them visited such a club at least once a month.

Organizations of national importance in social life and in the promotion of social gatherings include, in addition to those connected with religious denominations, the Working Men's Clubs and Institutes, the Townswomen's Guilds and the Women's Institutes. There are some 3,500 clubs with about 2 million members (mainly but not entirely men) which are affiliated to the Working Men's Club and Institute Union. These clubs are primarily social and recreational, though they also arrange lectures and classes. Some 1,800 Townswomen's Guilds, with a total membership of about 180,000 are affiliated to the National Union of Townswomen's Guilds. The Guilds are both educational and social in purpose, and they co-operate in many public welfare activities. The declared objective of the National Federation of Women's Institutes is to improve rural life and amenities; the Institutes make an important contribution to rural life by providing meeting places for country-women and organizing social gatherings. There are in villages throughout England and Wales over 8,300 Institutes with some 459,000 members, while in Scotland and Northern Ireland there are Women's Rural Institutes with similar aims and interests.

One traditional social rendezvous, the public house, has maintained and even increased its popularity, although there has been a marked decrease in drunkenness and in consumption of alcohol per head since the nineteenth century. The public house now attracts a very wide circle of casual customers (both men and women) as well as many 'regulars', who meet for a drink and a chat, and perhaps to play some traditional public house game such as darts. A recent, and in some ways rival, feature of urban life, especially in London, is the coffee bar. A characteristic of many of these coffee bars, which stay open until late at night and are popular as a rendezvous for young people, is their modern *décor*. On the other hand many people, especially the married and the elderly, spend much of their leisure at home—reading, listening to the radio, viewing television, or pursuing hobbies. The most widespread hobbies are practical, for example, gardening. The standard of town and country gardens is high.

A number of people, young and old, find their main free-time interest in some form of group activity of a serious nature, connected, for example, with the

churches, trade unionism, politics, social welfare and reform, or with cultural pursuits such as amateur dramatics or music. People with such interests are, of course, in a minority,¹ but they constitute an important and characteristic feature of British life and, indeed, an essential ingredient in the working of British democracy.

¹ The figures from the Derby Survey showed that 8 per cent of adults in that town belonged to intellectual or cultural clubs or societies, 11 per cent were members of some political party, 13 per cent went to church every week (although 9 out of 10 homes had a Bible), and 3 per cent held some church office.

II. GOVERNMENT AND ADMINISTRATION

GENERAL SURVEY

The United Kingdom is a monarchical state, whose origins go back to the ninth century when all England was unified under a Saxon king. Wales and Ireland became part of the kingdom before the end of the thirteenth century, and the English and Scottish thrones were dynastically united in the person of James I and VI in 1603. In 1707, the Treaty for the Union of England and Scotland provided that the two countries 'should be forever united into one kingdom', and one Parliament (the Parliament of Great Britain) became the supreme authority in both countries. In 1801, the authority of this Parliament was extended to the whole of the United Kingdom by a provision of the Act for the Union of Great Britain and Ireland, 1800, which joined the Irish Parliament to the Parliament of Great Britain. In 1922, the United Kingdom was diminished by the separation of the 26 counties of Southern Ireland (now the Republic of Ireland). Meantime, the Government of Ireland Act, 1920, had enacted a constitution for Northern Ireland which perpetuated Northern Ireland representation in the United Kingdom Parliament as the supreme authority and, at the same time, provided that country with its own legislature and executive, to deal with domestic affairs.

Fundamental policies on major issues are adopted for the whole of the United Kingdom; methods of government, however, are flexible and adapted to individual needs. Thus Welsh affairs are administered as far as possible in Wales and, in recent years, a Cabinet Minister has been designated as Minister for Welsh Affairs. Scotland has its own system of law, its own courts, its own established church, its own educational system and its own Government Departments which are under the direction of the Secretary of State for Scotland, who is a leading member of the United Kingdom Government. The Northern Ireland Government Departments are responsible to the Northern Ireland Parliament. The Channel Islands and the Isle of Man (which are Crown dependencies, not part of the United Kingdom) have their own legislative assemblies and systems of local administration and of law, and their own courts. At the same time, they have a special relationship with the United Kingdom because of their proximity to the mainland and the antiquity of their connection with the Crown. They are treated as part of the mainland for purposes of trade and postal communication and are 'territories for whose international relations Her Majesty's Government is responsible'. They are also formally subject to the United Kingdom Parliament.

The United Kingdom is thus a multi-national nation; it is also one of the member nations of the Commonwealth, all of which (except the republics of India and Pakistan and the Federation of Malaya) owe allegiance to the Crown. India, Pakistan and Malaya, accept the Queen as the symbol of the free association of the member nations and, as such, as the head of the Commonwealth.

Each member nation of the Commonwealth has its own separate constitution, governed by different laws and customs, and subject to different powers of change.

The United Kingdom constitution is formed partly by statute, partly by common law and partly by precepts and practices, known as conventions, which are not part of the law of the land in that violation of them may lead to proceedings in a court of law, but which are nevertheless indispensable to the machinery of government. The rules of the constitution have never been codified, and can be changed at any time by the passing of an Act of Parliament or by the general acceptance of a new convention.

Under the present constitution, the organs of government are threefold:

- (1) the Legislature, which consists of the Queen in Parliament, and is the supreme authority in the realm;
- (2) the Executive, which consists of the Cabinet and other Ministers of the Crown, who are responsible for initiating and directing national policy; Government Departments, most of them under the control of Ministers, and all staffed by civil servants, who are responsible for administration at the national level; local authorities, who administer and manage many services at the local level; and statutory bodies, which are severally responsible for the operation of particular nationalized industries or public services, and which may be subject to ministerial control in varying degrees.
- (3) the Judiciary, which determines common law and interprets statutes, and is independent of both the legislature and the executive.

The three organs of government are readily distinguishable: the same cannot be said of their functions, which often intermingle and overlap.

This chapter will attempt to describe the machinery of government and administration of the United Kingdom in some detail in order to present a composite picture of the processes through which the constitution now works.

THE MONARCHY

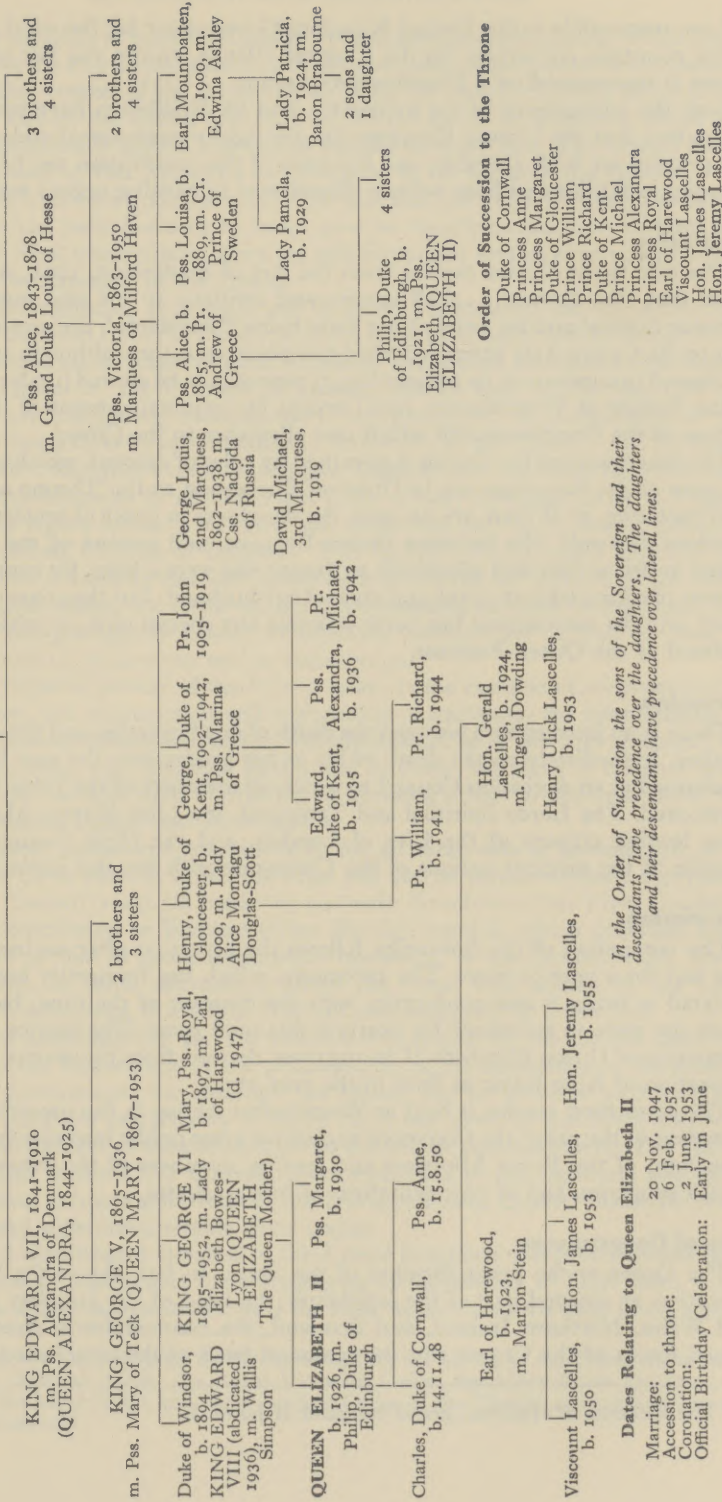
The monarchy is the most ancient secular institution in the United Kingdom. Its continuity has been broken only once in over a thousand years; and in spite of interruptions in the direct line of succession, the hereditary principle upon which it was founded has never been abandoned. Queen Elizabeth II is a descendant of the Saxon king, Egbert, who united all England in the year 829.

The Royal title in the United Kingdom is, according to the Royal Titles Act, 1953: 'Elizabeth the Second, by the Grace of God of the United Kingdom of Great Britain and Northern Ireland and of Her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith'. The form of the Royal title is varied for the other member nations of the Commonwealth which owe allegiance to the Crown, to suit the particular circumstances of each.

The seat of the monarchy is in the United Kingdom. In the other member nations of the Commonwealth which owe allegiance to the Crown, the Queen is represented by a Governor-General appointed by the Crown on the advice of the Ministers of the country concerned. The functions of the Governor-General are to fill the role of ceremonial head of the State and to exercise the prerogative powers of the Crown in public administration according to the constitutional practice obtaining in the country to which he is accredited. As the Queen's representative, the Governor-General is wholly independent of the United Kingdom Government; he is sometimes a national of the country in which he holds office. In the dependent territories—the Colonies, the Protectorates and the Trust Territories—the Queen is represented by Governors, High Commissioners or Residents, who are appointed by the Crown, but who have, in addition, varying executive and legislative powers,

THE ROYAL FAMILY

QUEEN VICTORIA, 1819-1901
 m. Prince Albert of Saxe-Coburg and Gotha (Prince Consort)



In the Order of Succession the sons of the Sovereign and their descendants have precedence over the daughters. The daughters and their descendants have precedence over lateral lines.

Dates Relating to Queen Elizabeth II

Marriage: 20 Nov. 1947
 Accession to throne: 6 Feb. 1952
 Coronation: 2 June 1953
 Official Birthday Celebration: Early in June

and are responsible to the United Kingdom Government for the good governance of the countries concerned. In the Channel Islands, and in the Isle of Man, the Queen is represented by a Lieutenant-Governor.

Both the permanence of the monarchy, and its divisibility, have been ascribed to the fact that the United Kingdom has no rigid constitutional code. Principles and practice are both alterable, and the rules of the constitution can be adapted to changing conditions without serious disturbance to existing organs and forms.

Succession

The title to the Crown derives from the Act of Settlement, 1701, which laid it down that 'the Crown . . . shall remain and continue to the said most excellent Princess Sophia¹ and the heirs of her body being Protestants'. Subsequent Succession to the Crown Acts have confirmed this declaration; and although succession is not bound to continue in its present line, it cannot now be altered (under a provision of the Statute of Westminster, 1931) except by common consent of the member nations of the Commonwealth which owe allegiance to the Crown.

The inheritance of the Crown is governed by rules of descent, which provide that the sons of the Sovereign are in Order of Succession to the Throne according to their seniority, or, if there are no sons, the daughters in order of seniority. When a daughter succeeds, she becomes Queen-Regnant, and powers of the Crown are vested in her as fully and effectively as though she were a king. By convention, the consort of a king takes the rank and style of her husband; but the converse does not apply, and the constitution has never attached any special rank or privileges to the husband of the Queen-Regnant.

Accession

There is no interregnum between the death of one Sovereign and the accession of another. Immediately on the death of his or her predecessor the new Sovereign is proclaimed at an Accession Council to which all members of the Privy Council are summoned. The Lords Spiritual and Temporal, the Lord Mayor, Aldermen and other leading citizens of the City of London, and the High Commissioners in London of the member nations of the Commonwealth are also invited to attend.

Coronation

The coronation of the Sovereign follows the accession after an interval which may last for a year or more. The ceremony, which has frequently been modified in detail to bring it into conformity with the customs of the time, has remained much the same in substance for nearly a thousand years. The service used at the coronation of Queen Elizabeth II in 1953 was derived from the service used at the coronation of King Edgar at Bath in the year 973.

The coronation service is held at Westminster Abbey in the presence of representatives of the peers, the Commons and all the great public interests in the United Kingdom, of the Prime Ministers and leading members of the other Commonwealth countries, and of representatives of foreign States.

Acts of Government

The Queen is the personification of the State. In law, she is the head of the executive, an integral part of the legislature, the head of the judiciary in England and Wales, Northern Ireland, and Scotland, the commander-in-chief of all the armed forces of the Crown and the temporal head of the established Church of

¹ The Electress of Hanover, grand-daughter of James I.

England. In practice, as a result of a long evolutionary process, during which many restrictions on the Royal Prerogative have been imposed, these powers have changed from being the weapon of the monarchy to being the means of giving effect to the public will. Today, the Queen acts only on the advice of her ministers which she cannot constitutionally ignore. She reigns, but she does not rule. The United Kingdom is governed by Her Majesty's Government in the name of the Queen.

Within this framework, and in spite of the fact that the trend of legislation during the past hundred years has been to assign powers directly to ministers without any necessity for royal intervention, there are still important acts of government which require the participation of the Queen.

The Queen summons, prorogues and dissolves Parliament; she opens the new session with a speech from the throne; and she must give Royal Assent before a Bill which has passed all its stages in both Houses of Parliament becomes a legal enactment. The Queen is 'the fountain of justice', and in spite of the fact that the judiciary is now completely independent of the executive, 'all jurisdictions of the courts are either indirectly or immediately derived from the Crown'. As 'the fountain of honour', the Queen confers peerages, knighthoods and other honours,¹ and she makes appointments to all important State offices, including those of judges, officers in the armed forces, governors, and diplomats, and to all leading positions in the established Church of England. The Queen's consent and approval are required before a minister can take up office or a Cabinet be formed. In the realm of international affairs, by virtue of her pre-eminence as head of the State, the Queen has the prerogative power to conclude treaties (see p. 32), to cede or accept territory, to declare war and to make peace.

Other prerogative powers of the Crown relate to the creation of corporations by Royal Charter; the construction and supervision of harbours; the guardianship of infants and persons of unsound mind; the administration of charities; coinage; the grant of franchises, e.g., markets, ferries and fisheries; the right to treasure trove (see p. 80); and the sole right of printing or licensing others to print the Bible, the Book of Common Prayer and State papers.

There is clear ministerial responsibility for all these acts of government, as is shown in the three ways in which the royal will can be constitutionally expressed: by Order in Council (see p.38) made 'by and with the advice of the Privy Council'; by Order, Commission or Warrant under the sign manual, which generally bears the signature of one or more responsible ministers; or by Proclamation, Writs, Letters Patent, or other documents under the Great Seal affixed by the Lord Chancellor in obedience to a Royal Warrant countersigned by a minister.

Ministerial responsibility for the exercise of powers by the Crown does not detract from the importance of the participation of the Sovereign in the smooth working of government; for although the Queen has no personal authority and must show complete impartiality in every field, she must be informed and consulted on every aspect of the national life to the widest possible extent. The Queen holds meetings of the Privy Council, gives audiences to her ministers and other holders of office at home and overseas, receives accounts of Cabinet decisions, reads dispatches and signs innumerable State papers.

Such is the significance attached to these royal functions that provision has been made by Acts of Parliament for a Regent to be appointed to fulfil them if the Sovereign is totally incapacitated, or if the Heir Apparent or the Heir Presumptive

¹ Most honours are conferred by the Sovereign on the advice of the Prime Minister; a few, i.e. the Order of Merit, the Royal Victorian Order, the Most Noble Order of the Garter, and the Most Noble and Most Ancient Order of the Thistle, are conferred by the Sovereign personally.

is under the age of eighteen on accession to the throne. In the event of the Sovereign's partial incapacity or absence abroad, provision is made for the appointment of Counsellors of State to carry out those of the royal functions which are delegated to them. The latest of these Acts—the Regency Act, 1953—laid down that the first potential Regent should be the Duke of Edinburgh and thereafter the Princess Margaret and then those in succession to the throne who are of age.

Ceremonial

Ceremonial has always been associated with the kings and queens of the British Isles, and in spite of the changes that have taken place with the altered outlook of both the Sovereign and the people, certain customs and usages are the same today as they were many centuries ago.

The formal ceremony of Presentation still takes place, although now at the Afternoon Presentation Parties held by the Queen, which have superseded the former Courts. Royal marriages, the birth of royal children and royal funerals are still marked by ancient ceremonial, although to a lesser degree than in former days. The birthday of the Sovereign, formerly the occasion of many royal and public functions, is today officially celebrated early in June by Trooping the Colour on the Horse Guards Parade.

State banquets still take place when a foreign monarch or head of State pays a visit to the United Kingdom; investitures are still held at Buckingham Palace, although today honours may be bestowed without the personal attendance of the recipient upon the Sovereign. State processions are still an integral part of royal ceremonial; they grace such social occasions as the Ascot Race Meeting, known as Royal Ascot; and they add significance to the opening of Parliament, when the Queen drives in state from Buckingham Palace.

The Sovereign is the leader of society by order of general precedence dating from the fourteenth century and sustained until the present day by royal ordinances, ancient usage, established custom and the public will. The Queen's presence at the inauguration of scientific, artistic, industrial, and charitable works of national importance ensures nation-wide interest and support.

PARLIAMENT

The supreme legislative authority in the United Kingdom is the Queen in Parliament, that is to say the Queen and the two Houses of Parliament—the House of Lords and the House of Commons—which together represent all the elements in the nation.

The three sections of 'Parliament' in this sense are outwardly separate: they are constituted on entirely different principles; they do different work in different places and they meet only on occasions of great symbolic significance such as the Coronation or the opening of Parliament by the Queen in person, when the Commons are summoned by the Queen to the House of Lords. As a law-making organ of State, however, Parliament is a corporate body and cannot legislate without the concurrence of all its parts, except in the case of measures passed under the Parliament Acts, 1911 and 1949 (see pp. 32 and 34).

The Parliament at Westminster is representative of all the countries of the United Kingdom; it can legislate for all the British Islands; for the United Kingdom; for Great Britain; for England and Wales separately, or for Scotland alone. It is not, however, the only legislature, for the Northern Ireland Parliament (see pp. 21 and 37) has power to legislate in certain spheres, and within the British Islands the ancient legislatures of the two Channel Island Bailiwicks (the States) and of the

Isle of Man (the Tynwald) both legislate on domestic matters.¹ Nevertheless, the Parliament at Westminster retains supreme authority, and within practical limits there is nothing that it cannot legally do.

By the passing of the Parliament Act, 1911, the normal life of the United Kingdom Parliament was fixed at five years (although it may be and often is dissolved in less than that time); and since one Parliament cannot bind its successor (for otherwise the succeeding Parliament would not be sovereign or supreme), each assembly has a period of time of up to five years during which it may legislate exactly as it chooses. During its life, it can make or unmake any law; it can destroy by statute the most firmly established convention of the constitution; it can legalize past illegalities and thus reverse the decisions of the courts; and it even has power to prolong its own life by legislative means beyond the normal period of five years without consulting the electorate.

In law, therefore, the supremacy of Parliament is absolute. In practice, Parliament does not attempt to exert its supremacy in this way. In the first place, pressure of business in recent decades has resulted in a large and increasing amount of delegation of legislative authority to ministers (see pp. 34-36), and of specific powers to local authorities and to public corporations of various kinds. Powers delegated in this way could, of course, be withdrawn by Parliament, but existing demands on parliamentary time make such a development extremely unlikely. Secondly, the system of party government in the United Kingdom effectively discourages Parliament from acting in too arbitrary a fashion; any parliamentary majority which abused its powers would almost certainly suffer severely at the hands of the electors.

The Meeting of Parliament

A 'Parliament', in the sense of a parliamentary period, begins and ends with a proclamation made by the Sovereign on the advice of the Privy Council. Such a proclamation on the one hand dissolves an existing Parliament and, on the other, orders the issue of writs for the election of a new one and appoints the day and place of its meeting.

Formerly the death of a Sovereign involved the dissolution of Parliament, since Parliament meets on the personal summons of the monarch. However, since the passing of the Representation of the People Act, 1867, made the duration of Parliament independent of the demise of the Crown, both Houses stand adjourned only until their members have taken the Oath of Allegiance to the new Sovereign, which occurs immediately after the Accession Council has made the order for Proclamation.

The time between the meeting of a Parliament and its prorogation or dissolution is called a session. Parliament is usually prorogued by a commission under the Great Seal, which appoints the day and place of its meeting in a new session. The date so appointed may be brought forward or deferred by a subsequent proclamation. The effect of a prorogation is at once to terminate all business until Parliament is summoned again, when any measures not yet passed must be re-introduced, unless it has been decided that they are to be abandoned.

During the session, either House may adjourn itself on its own motion to such date as it pleases. An adjournment does not affect uncompleted business. A re-assembly of the House can be accelerated either by proclamation or by virtue of powers specially conferred by each House on its Speaker.

¹ The legislatures of the Channel Islands and the Isle of Man consist of the Queen, the Privy Council and the local assemblies. It is the duty of the Home Secretary, as the member of the Privy Council primarily concerned with island affairs, to scrutinize each legislative measure before it becomes law.

The average length of a session is about 160 sitting days, divided by custom into the following periods: one from November until Christmas lasting about 30 sitting days, one from January to Easter of about 50 sitting days, one from Easter until Whitsun of about 30 sitting days, and one from Whitsun until the end of July lasting about 40 sitting days. In addition, in recent years, the session has usually concluded with a short period of about 10 sitting days in October, after the long summer recess.

The House of Lords

The House of Lords consists of over 800 peers, as follows: (1) princes of the royal blood (who nowadays take no active part in proceedings), (2) 26 spiritual peers (the two archbishops and 24 senior bishops of the Church of England), (3) all hereditary peers (other than minors and those who have not applied for a writ of summons) of England, Great Britain, and the United Kingdom,¹ (4) 16 hereditary peers of Scotland elected from their own number for each Parliament in accordance with the provisions of the Treaty of Union, 1707, (5) four representative peers of Ireland elected for life,² and (6) nine Lords of Appeal in Ordinary appointed to perform the judicial duties of the House and holding their seats therein for life.

Temporal peerages are conferred as a mark of distinction by the Sovereign on the advice of the Prime Minister, who may be advised by his ministerial colleagues and others. All, except the judicial peerages, are hereditary and, with the exception of the Scottish and Irish peerages, they carry with them, for men over 21 years of age, a right to a seat in the House of Lords. A summons to Parliament cannot be withheld from a peer who is entitled to it, but only about a quarter of the members take an active part in the work of the House, although many more may attend on occasions when some matter in which they have a special interest is being discussed. During recent sessions the average daily attendance has been just under one hundred.

Peers taking part in the debate in the House of Lords are generally persons of very considerable experience, who can claim to speak with authority on the subject under review. Many are elder statesmen and others who have spent their lives in public service. Peers receive no salary for their work in Parliament, but may claim an expenses allowance. Party politics have little effect upon the membership of the House, which remains relatively stable over a long period of time.

The House of Lords is presided over by the Lord Chancellor, who is the Speaker of the House. The permanent officers include the Clerk of the Parliaments, who is charged with keeping the records of proceedings and judgments and who pronounces the words of assent to Bills; the Gentleman Usher of the Black Rod, who enforces the orders of the House; and the Serjeant-at-Arms, who attends the Lord Chancellor.

The House of Commons

The House of Commons is a popular assembly elected by an almost universal adult suffrage and containing members from all sections of the community regardless of income or occupation. There are at present 630 members of the House of Commons (511 for England, 36 for Wales, 71 for Scotland, 12 for Northern Ireland).

¹ Peerages created between 1707 (the Treaty for the Union of England and Scotland) and 1800, are peerages of Great Britain; those created since the Act for the Union of Great Britain and Ireland, 1800, are peerages of the United Kingdom.

² By the Act for the Union of Great Britain and Ireland, 1800, the Irish peers were entitled to elect 28 representatives, but since 1922 no new peers have been elected.

Members of the House of Commons, who receive a salary for their parliamentary work, hold their seats during the life of a Parliament. They are elected either at a General Election, which takes place after Parliament has been dissolved and a new one summoned by the Sovereign, or at a by-election, which is held when a vacancy occurs in the House as a result of the death or resignation of a member during the life of a Parliament.

For electoral purposes, the United Kingdom is divided into constituencies, each of which returns one member to Parliament. In order that the people shall at all times be equitably represented by this means, permanent Boundary Commissions for England, Scotland, Wales, and Northern Ireland (established in 1944) keep constituencies constantly under review and submit periodic reports, either recommending some alteration in boundaries if, for instance, movement of the population has made this necessary, or recommending no change. Changes in the boundaries of constituencies which came into effect for the 1955 General Election increased the number of seats in the House of Commons from 625 to 630.

The law relating to parliamentary elections is contained in three consolidating statutes, the most important of which is the Representation of the People Act, 1949, which repeals and re-enacts in a single statute previous legislation relating to the franchise, the conduct of elections and corrupt and illegal electoral practices. The other Acts are the House of Commons (Redistribution of Seats) Act, 1949, and the Election Commissioners Act, 1949. Under the provisions of these Acts, election to the House of Commons is decided by secret ballot in which all United Kingdom citizens (except members of the House of Lords) and all citizens of the Commonwealth and of the Republic of Ireland who are resident in the United Kingdom are entitled to vote, provided that they are 21 years old or over, and unless they suffer any legal incapacity to vote. A register containing the names of all electors is prepared and published yearly by registration officers, who, in England and Wales, are usually the clerks of local councils, and in Scotland are the lands valuation assessors. Electors normally vote in person at polling stations specially established for the purpose, although Service voters, i.e. members of the armed forces, Crown servants of the United Kingdom employed overseas, and the wives of such persons if resident overseas with their husbands may vote by proxy. Voting by post, or in certain cases by proxy, may also be allowed if the voter cannot attend in person for such reasons as illness or the nature of his work. All entitled to vote may stand for election, except undischarged bankrupts, clergymen of the established Churches of England and Scotland, of the Church of Ireland and of the Roman Catholic Church, and such persons as are disqualified under the Disqualification Act, 1957.

The chief parliamentary officer of the House of Commons is the Speaker, who is elected by the members as president of the House immediately after a new Parliament is formed. Other parliamentary officers of the House are the Chairman of Ways and Means (see p. 34), and the Deputy-Chairman, who may act as Deputy-Speaker; both these officers are elected by the House. In addition there are the party officials, i.e. the Government and Opposition Whips. Non-parliamentary or permanent officers of the House, i.e. those who are not members of Parliament, include the Clerk of the House of Commons, who is charged with such matters as keeping the records, endorsing Bills and signing Orders; the Serjeant-at-Arms, who attends the Speaker in the House; and the Chaplain to the Speaker.

Parliamentary Privilege

Both Houses of Parliament enjoy certain privileges and immunities designed to protect them from unnecessary obstruction in carrying out their duties. These privileges apply collectively to the Houses and individually to each member.

In the House of Commons, the Speaker formally claims from the Crown for the Commons 'their ancient and undoubted rights and privileges' at the beginning of each Parliament. These include freedom from arrest in civil proceedings for a period of forty days before to forty days after a session of Parliament; freedom of speech in debate; and the right of access to the Crown, which is a collective privilege of the House. Further privileges include the right (rarely exercised) to debate in secret; the right to control internal proceedings; and the right to pronounce upon legal disqualifications for membership and to declare a seat vacant on such grounds.

The privileges of the House of Lords are freedom from civil arrest for peers as for members of the House of Commons; freedom of speech in debate; freedom of access to the Sovereign for each peer individually; and the right to commit for contempt. These privileges are not formally claimed by the Speaker as in the House of Commons; they exist independently without grant.

The Party System

The party system has existed in one form or another since the seventeenth century, and has now become an essential element in the working of the constitution.

The present system is based upon the fact that there are three effective political parties in the United Kingdom: Conservative, Labour and Liberal, each of which lays rival policies before the electorate. Whenever there is a General Election, these parties (and any minor parties that may be in existence at the time) may all put up candidates for election; independent candidates may also stand.¹ The electorate then indicates, by its choice of candidate at the poll on election day, which of the opposing policies it would like to see put into effect.

The party which wins the majority of seats (although not necessarily the majority of votes) at a General Election, or which is able to command a majority of supporters in the House of Commons, forms the Government. By tradition, the leader of the majority party is appointed as Prime Minister by the Sovereign, usually on the formal advice of the retiring Prime Minister; and its most outstanding members in the House of Lords and the House of Commons receive ministerial appointments on the advice of the Prime Minister. The larger of the two minority parties becomes the Official Opposition with its own leader and its own council of discussion or 'shadow Cabinet'; while the members of any other parties or any Independents who have been elected may support the Government or the Opposition according to their party's or their own view of the policy being debated at any given time.

In the General Election which took place on the 26th May, 1955, 76.8 per cent of the electorate voted, compared with 76.1 per cent in 1945, 84 per cent in 1950, and 82.6 per cent in 1951. The number of votes cast for the principal parties is shown in Table 3.

The distribution of seats in the House of Commons resulting from the General Elections of 1951 and 1955 is shown in Table 4.

The effectiveness of the party system rests to a considerable extent upon the fact that Government and Opposition alike are carried on by agreement: that is to say, the minority agrees that the majority must govern and, therefore, accepts its decisions; and the majority agrees that the minority should criticize and, therefore, sets time aside for that criticism to be heard. As far as is compatible with effective

¹ In the General Election of May 1955, the choice was between Labour and Conservative in most constituencies. Liberal candidates numbered 110. In a few constituencies, two of the parties agreed to support the same candidate. The number of candidates representing other political parties was very small.

TABLE 3
VOTES CAST AT GENERAL ELECTIONS 1945-1955

Party	1945 (a)	1950 (a)	1951 (a)	1955
Labour (and Co-operative) ..	11,992,292	13,295,736	13,948,385	12,405,146(b)
Conservative and Supporters ..	9,960,809	12,501,983	13,724,418	13,311,938
Liberal	2,245,319	2,621,489	730,551	722,395
Communist	102,780	91,815	21,640	33,144
Others (c)	677,749	258,454	177,329	288,038

(a) Figures for 1945, 1950 and 1951 exclude those few constituencies for which candidates were returned unopposed. All seats were contested in 1955.

(b) Includes Northern Ireland Labour (35,614).

(c) 'Others' include Welsh and Scottish Nationalists, Independent Labour Party, other Independents, Irish Labour, Irish Nationalist, Irish Anti-Partitionist and Sinn Fein.

TABLE 4
SEATS GAINED AT GENERAL ELECTIONS IN 1951 AND 1955

1951				1955			
Conservative and Supporters	320			Conservative and Supporters	346(b)		
Labour	295			Labour	277		
Liberal	6			Liberal	6		
Others (a)	3			The Speaker	1		
The Speaker	1						
	—				—		
	625				630		

(a) Two Irish Nationalists and one Irish Labour Party.

(b) A majority of 63 (excluding the Speaker) over all other parties. This was the first time in 90 years that a Government in office had been returned with an increased majority. Sinn Fein candidates headed the poll in two Northern Ireland constituencies, but as they were serving sentences of penal servitude (for taking part in an armed raid on an army barracks in 1954) they were legally incapable of becoming members of Parliament. Ulster Unionist candidates now represent both constituencies.

By end-August 1957, as a result of by-elections held since 1955, the Labour party had gained two seats—one from the Conservative party and one from the Liberal party. Therefore, at that date, Conservatives and their Supporters held 345 seats, Labour 279, and the Liberals 5, and the Government majority (excluding the Speaker) was 61 over all other parties.

government, the Prime Minister meets the convenience of the Leader of the Opposition and the Leader of the Opposition meets the convenience of the Prime Minister. Through the respective Whips there is a measure of agreement on the subjects to be debated and on the time to be allowed; sometimes even on the information to be provided and the proposed line of attack. In this way, Parliament has a chance of hearing a full discussion on policy from every point of view.

Outside Parliament, party control is exercised by the national and local organizations; inside Parliament, it is exercised by the Whips, who in addition to their other

functions are expected to keep their forces effective by all means in their power. For the Government, this work is done by the Parliamentary Secretary to the Treasury, the Junior Lords of the Treasury, and the political officers of the Household—the Treasurer, the Comptroller and the Vice-Chamberlain. The Opposition Whips have no official position and are not paid from public funds, but their parliamentary duties are the same.

Parliamentary Procedure

Parliamentary procedure is based on forms and rules, many of which date back to the beginning of the sixteenth century and even earlier.

Each House has its own Standing Orders, but the system of debate is much the same in the two Houses, except that in the House of Commons the Speaker has a much greater measure of control. In the House of Lords, the office of Speaker could be held by a commoner, since the Woolsack on which the Lord Chancellor sits as Speaker is technically outside the precincts of the House. In fact, the office is always held by a peer, but it carries with it only a limited authority to check or curtail debate. Such matters are decided by the general sense of the House and not by rulings of its Speaker.

In the Commons, the Speaker has the prime duty of controlling debate. It is his responsibility to see that parliamentary time is used to the best possible advantage and, therefore, although he must carefully guard against abuse of procedure or any infringement of minority rights, he has power to limit unreasonable obstruction and his rulings on points of order cannot be challenged at the time. The Speaker has the right to allow or disallow a closure motion (i.e. a motion to curtail or end discussion so that the matter may be put to the vote), to check irrelevance in debate, and to refuse to admit delaying tactics. In cases of grave and continuous disorder, he may even adjourn the House or suspend the sitting.

Voting in the House of Commons is carried out under the direction of the Speaker, and it is his duty to pronounce the final result. If an equal number of votes is cast, the Speaker must give the decisive vote; he does this in such a way as to avoid change and leave the question to be debated on another occasion.

The Speaker has the responsibility of deciding whether a Bill is a Money Bill (i.e. a Bill dealing only with national taxation and finance, which comes within the terms of the Parliament Act, 1911); and who, in case of doubt, is the Leader of the Opposition. He is also responsible for such extraneous matters as the decision whether a *prima facie* case has been made against persons accused of breach of privilege; the issue of warrants for elections to fill vacancies in the House; and the appointment of the chairmen of the Standing Committees.

All proceedings of either House (except secret sessions) are public, and a verbatim record is published daily in the official reports, *Parliamentary Debates (Hansard)*.

Parliamentary Functions

The main functions of Parliament today are (1) to make laws regulating the life of the community, (2) to take formal action, cast in legislative form, to make available finance for the needs of the community and to appropriate the funds necessary for the services of the State, and (3) to criticize and control the Government (see page 36). By custom, Parliament is also consulted before the ratification of certain international treaties and agreements, in spite of the fact that the making of treaties is a Royal Prerogative (see p. 25) exercised on the advice of the Government which, strictly speaking, is under no obligation to obtain parliamentary approval at all. In practice, there are two types of agreement about which Parliament is consulted: treaties which could not be implemented without legislation; and treaties of

such political importance that the Government feels obliged to arrange a debate on the matter before becoming committed. In the case of other treaties requiring ratification, it is customary to presume parliamentary acquiescence unless disapproval is expressed within 21 days from the date on which the treaty was laid before Parliament.

In the past, legislation was initiated from both sides of the House; but in present-day practice almost all Bills are brought forward by the Government in power as a result of policy decisions taken in the Cabinet at the instigation of those Government Departments which will be responsible for their administration when the Bills become law. The chief exceptions are Private Bills,¹ which relate solely to some matter of individual, corporate or local interest, and Private Members' Bills, which are Public Bills introduced by members on their own initiative on certain days set aside expressly for the purpose.

Bills may be introduced in either House, unless they deal with finance or representation, when they are always introduced in the Commons. As a rule, however, no Bills likely to raise much political controversy are introduced in the Lords, as the House of Commons is considered a more suitable place of origin for measures of that kind. On the other hand, legislation of an intricate but non-controversial nature is frequently introduced and fully discussed in the Lords before being sent to the Commons, who can then deal with it more speedily.

The process of passing a Public Bill is basically the same in the House of Lords as in the House of Commons. The Bill receives a formal First Reading on introduction; it is then printed; and after a period of time (which varies between one and several weeks depending on the nature of the Bill) it may be given a Second Reading as the result of a debate on its general merits or principles. It is then referred, in the Commons, either to one of the Standing Committees appointed for the purpose by the Committee of Selection² and composed of members of all parties in the same proportion as in the whole House, or, if the House so decides, to the whole House sitting in Committee; and, in the Lords, to a Committee of the whole House. During the Committee stage, members may suggest appropriate amendments, which will be incorporated into the Bill if the majority of the Committee agrees. When this stage is finished, the Bill is reported to the House, and a further stage takes place during which the Committee's amendments may be altered, additional amendments may be suggested and incorporated, and, if necessary, the Bill may be recommitted to Committee. Finally, it is submitted for a Third Reading and, if passed, it is sent on from the Commons to the Lords or from the Lords to the Commons (depending on its place of origin), where it enters on the same course again. Any amendments which the second House makes to the Bill must be agreed to by the first House or a compromise reached, before the Bill becomes law.

An exception to this procedure is made in the case of some financial Bills, such as the Finance Bill, which authorizes annual taxation and amends existing taxation, and the Appropriation Bill, which authorizes expenditure on the Supply Services from the Consolidated Fund.³ As a general rule, these Bills must be introduced in

¹ Such Bills, which are usually promoted by persons or bodies outside Parliament, are founded on petitions to Parliament, and promoters must give notice of their intention to all persons and bodies whose interests may be affected by their proposals. Committees are small, consisting of five members in the Lords and four members in the Commons. The committee stage is quasi-judicial and provision is made for counsel to represent supporters and opposers of the Bill.

² A body of 11 members, drawn from all the main parties, nominated at the beginning of every session by the House.

³ See also p. 299.

the House of Commons upon Resolutions in a Committee of the whole House (the Committee of Ways and Means) and they may be initiated only by a Minister of the Crown.

All Bills which have passed through their various parliamentary stages are sent to the Sovereign for Royal Assent, which is given either by the Sovereign in person or (usually) by commission. The right of veto has not been exercised since the early eighteenth century.

The majority of Bills introduced in the House of Lords pass through the Commons without difficulty because of their non-controversial nature; and they are then returned to the Lords to be brought forward for Royal Assent. However, should any Lords Bill be unacceptable to the Commons, it would never reach the Statute Book, for no debating time would be allotted to it—at any rate until a new Government came into power, when it might be revived. The Lords, on the other hand, are unlikely to be able to prevent a Bill passed in the Commons from becoming law. In the normal course of events, they either accept a Bill from the Commons and return it unchanged; or they revise and improve it by amendments and return it for the consideration of members of the other House, who frequently agree to the amendments made. They cannot require the Commons to agree to amendments; nor can they delay a Bill indefinitely. They have no powers in respect of Money Bills; and since the passing of the Parliament Act, 1949, any other Bill which has been passed by the House of Commons in two successive sessions may be presented for Royal Assent without the consent of the Lords, provided that a year has elapsed between the date of the Second Reading of the Bill in the Commons and the date on which it is finally passed in that House. These limitations to the powers of the Lords are based on the fundamental principle that the function of the Upper House, which is a non-representative assembly, is not to thwart the will of the people, but to use the combined experience and wisdom of its members to ensure that that will is precisely and reasonably interpreted. In other words, proceedings in the House of Lords impose a second stage in the legislative process which gives time for reflection and is in itself worth while for eliciting new points of view.

Parliamentary Committees

There are three kinds of Parliamentary Committee, all of which exist to a varying degree to relieve the full assembly of Parliament of some of the details of its more specialized and complex work. They are: regular Standing Committees (see p. 33), which are concerned with current legislation; official Parliamentary Committees, such as the Committee of Privileges and the Select Committees on Public Accounts (see pp. 300–1), on Estimates (see p. 301), on Statutory Instruments, and on the Nationalized Industries (see p. 145), which are concerned with particular aspects of parliamentary work; and a number of informal committees, consisting of members either of one party or of all parties, such as study groups concerning themselves with particular issues (e.g., the Parliamentary and Scientific Committee, see p. 420), parliamentary party committees (e.g., the Labour Policy Committee) and back-benchers¹ organizations (e.g., the Conservative Members' Committee, known as the 1922 Committee). These groups have grown up spontaneously and have a varying degree of influence upon the development of Government policy.

Delegated Legislation

Delegated legislation, which is legislation not by Act of Parliament but by Orders in Council, Orders, Warrants, Regulations and Rules, has been part of the parliamentary system for at least six hundred years. One of the earliest recorded examples

¹ Members who are neither ministers nor, as a rule, ex-ministers.

is to be found in a statute of 1337 which laid down that no wool should be exported from England 'till the King and his Council do otherwise provide'. Parliament, however, made but sparing use of its power to delegate legislation (except during a period of social, political and economic change in the second half of the fifteenth and most of the sixteenth centuries) until the end of the nineteenth century, when a changing conception of the part to be played by the State in the life of the community made inroads upon parliamentary time and thus caused the system to be adopted on a more extensive scale. With the ever-increasing scope of Government activity in domestic affairs during the past fifty years, pressure on parliamentary time has become even more acute; as a result, the system of delegated legislation has become generally accepted, and there are at present few Acts of Parliament which do not contain provisions for its use.

The advantages of the system of delegated legislation, which empowers ministers and other authorities to regulate administrative details after a Bill has become an Act, are said¹ to be: (1) that it shortens and clarifies Bills before Parliament, thus enabling Parliament to deal with a greater volume of business and to give fuller attention to matters of policy and principle which are its primary concern; (2) that it encourages flexibility, for administrative details can be worked out as and when the necessity arises 'with greater care and minuteness, and with better adaptation to local and other special circumstances than they possibly can be during the passage of a Bill through Parliament'; (3) that it is invaluable in an emergency, for it is 'the means by which the legislature can dispense with its own deliberative procedure and arm the executive with power to take immediate action'; and (4) that it provides a speedy, convenient and accurate means of giving effect to the policy of Parliament.

In order to minimize the risk—inherent in the system—that delegated legislative powers might supersede or weaken parliamentary government, such powers are normally delegated to the Queen in Council or to authorities directly responsible to Parliament: to Ministers of the Crown, to Government Departments for which ministers are responsible, or to organizations whose legislation is subject to confirmation or approval by ministers who thereby become responsible to Parliament for it. Moreover the Acts of Parliament, by which particular powers are delegated, frequently provide for some measure of parliamentary control over legislation made in the exercise of these powers. There are cases in which an instrument² must be approved by Parliament or the House of Commons before it can have permanent operation ('affirmative resolution procedure'), or in which Parliament or the House of Commons may secure the annulment of an instrument by a resolution passed within a certain number of days of the instrument being laid before it ('negative resolution procedure'), and others in which drafts of proposed instruments must be laid before Parliament or the House of Commons before they are made and must then be subject either to affirmative or negative resolution procedure. The resolution, in the case of an instrument to be annulled after it has been made, takes the form of an Address to Her Majesty that the instrument be annulled (after which the instrument may be annulled by Order in Council).

¹ From an official minute written in 1893 and quoted in *Concerning English Administrative Law*, by Sir C. T. Carr. Oxford University Press. 1942. pp. 33-34.

² Almost all delegated legislation of the central Government is enacted by means of 'statutory instruments', made in accordance with the provisions of the Statutory Instruments Act, 1946, which repealed and replaced the Rules Publication Act, 1893. Instruments of delegated legislation made under the Act of 1893 were known as 'statutory rules and orders' ('S.R. & O.').

As a further safeguard, the principal Act generally defines the precise limits of delegated legislative power; and if these limits are surpassed, the courts can be moved to declare that the action taken is *ultra vires*. Certain Acts also require direct consultation with organizations which will be affected by delegated legislation before such legislation is made.

Parliamentary Control

Parliament's function of controlling the Government in power is exercised in the final analysis by the power of the House of Commons to pass a resolution of 'no-confidence' in the Government, or to reject a proposal which the Government considers so vital to its policy that it has made it a 'matter of confidence'; and thus to force the Government to resign.

The financial control necessary to ensure that money shall be spent only with the authority of Parliament and for the purposes authorized by Parliament is described on pp. 298-301. Methods of general control are provided by:

- (1) the institution of Question Time, which is a daily hour of parliamentary time during which members may question any minister on matters for which that minister is responsible, and may thus focus the attention of the public on the day-to-day processes of government;
- (2) the practice whereby the consideration of the Estimates in Committee of Supply (see page 299) has ceased to be a consideration of the financial requirements of the Government and has become an occasion, initiated by the Opposition, for the examination of some aspect of the Government's administrative policy which has been included in the Estimates;
- (3) the practice of bringing on a debate later in the same day by moving the adjournment of the House, which is permitted only if the matter is deemed by the Speaker to be definite, urgent, of public importance, and to be the responsibility of the Government, and if 40 members rise in their places to support it, or 10 members rise and the House grants leave on a division;
- (4) the right of members to raise any matter on the motion for the adjournment of either House at the end of each day's sitting; and
- (5) the power to confirm or annul ministerial Orders and Regulations (see page 35).

In addition, Government policy and action are fully discussed in the important debates which take place during the proceedings at the opening of Parliament and in the motion for the adjournment of the House before a recess.

Parliament and the Public

The public's attitude to the work of Parliament has, in late years, been one of growing interest. This is evidenced by the queues which form outside the House of Commons for admission to the public gallery, by the growth in the circulation of the daily official report (*Hansard*) which has increased to nearly eight times the pre-war figure, and by the large radio audience which listens to two regular BBC programmes: *Today in Parliament*, a fifteen-minute summary of the day's proceedings in both Houses, broadcast each evening when Parliament is sitting; and *The Week in Westminster*, a commentary on each week's work given by members from various political parties in turn.

The major news agencies and national newspapers have special parliamentary correspondents to report on parliamentary activities. The Hansard Society for Parliamentary Government, an unofficial non-party educational society, was founded in 1944 to promote interest in parliamentary affairs.

The Northern Ireland Parliament

The Parliament of Northern Ireland consists of the Sovereign, a Senate and a House of Commons. The Sovereign is represented in Northern Ireland by a Governor, who summons, prorogues and dissolves Parliament in Her Majesty's name; the Senate is composed of two *ex officio* Senators (the Lord Mayor of Belfast and the Mayor of Londonderry) together with 24 Senators elected by the House of Commons according to the principle of proportional representation; and the House of Commons consists of 52 members, elected by a system of parliamentary franchise similar to that which operates in the United Kingdom. The House, unless sooner dissolved, continues in existence for a period of five years.

The Northern Ireland Parliament has power to make laws for the peace, order and good government of Northern Ireland in relation to all matters except those especially reserved to the Parliament of the United Kingdom, i.e. the Crown or succession to the Crown; foreign relations; defence; the postal services; the judiciary; customs and excise; income and profits taxes; coinage; standards of weights and measures; trade marks; submarine cables; wireless telegraphy; aerial navigation; and lighthouses, buoys and beacons. The Northern Ireland Parliament is also prohibited from making laws which would interfere with religious freedom, and from taking property without compensation.

In consequence of these reservations, provision was made in the Government of Ireland Act, 1920, for the continued representation of the Northern Ireland constituencies in the House of Commons of the United Kingdom; by virtue of this provision, 12 members are returned to Westminster.

THE PRIVY COUNCIL

Before the emergence of the system of Cabinet government in the eighteenth century, the Sovereign in Council or the Privy Council was the chief source of executive power in the State. As this system developed, however, the Privy Council declined in importance; many of its powers were transferred to the Cabinet, and much of its work was handed over to newly created Government Departments. The present-day Privy Council exists mainly to give effect to policy decisions made elsewhere.

Apart from Cabinet Ministers, who must be Privy Counsellors and are sworn of the Council on first assuming office, membership of the Privy Council (which is retained for life) is accorded by the Sovereign on the recommendation of the Prime Minister as an honour to persons who have reached eminence in some branch of public affairs in any country of the Commonwealth. At the end of 1956 there were just under 280 Privy Counsellors.

Procedure and Functions

The Privy Council is convened by the Clerk of the Council. At meetings where the Sovereign is present, three Privy Counsellors form a quorum, but, as a rule not fewer than four are summoned to attend. The whole Privy Council is called together only on the death of the Sovereign or when the Sovereign announces his or her intention to marry.

Meetings of the Privy Council are presided over by the Sovereign. The duties of the Lord President in connection with these meetings are to attend the Sovereign's person, to manage the debates, to put forward proposals from the Sovereign at the council table and to report to the Sovereign the resolutions of the Council thereon. The Lord President also presides over committees of the Council (see overleaf). Since 1660 the office of Lord President has been a political appointment held by a

member of the party in power, who is usually a leading member of the Cabinet, free to undertake duties of a general nature.

The Privy Council is responsible for the making of Orders in Council, of which there are two kinds differing fundamentally in constitutional principle: those made in virtue of the Royal Prerogative as, for example, when approving the draft of royal instructions to Governors; and those which are authorized by Act of Parliament and are a form of delegated legislation (see pp. 34–36). Members of the Privy Council attending meetings at which Orders in Council are made do not thereby become personally responsible for the policy upon which the Orders are based; this rests with the ministers in whose Departments the draft Orders were framed, whether they are present at the meeting or not. Certain Orders in Council must be published in the *London Gazette*, which is an official periodical published by the authority of the Government.

The Privy Council also advises the Crown on the issue of Royal Proclamations, some of the most important of which relate to prerogative acts (such as summoning, or dissolving Parliament) which are of the same validity as Acts of Parliament.

Committees of the Privy Council

Advisory functions still belong to the committees of the Council, whose meetings differ from the meetings of the full Council in that the Sovereign cannot constitutionally be present. These committees may be prerogative, such as the committee which deals with legislative matters submitted by the legislatures of the Channel Islands and the Isle of Man for ratification by Order in Council, and the committees for medical research, scientific and industrial research, agricultural research and nature conservation; or they may be provided for by statute as are those for the universities of Oxford and Cambridge and for the Scottish universities, and that which deals with applications for the grant of charters to municipal corporations.

The Privy Council Office

The administrative work of the Privy Council committees is carried out in the Privy Council Office, which is an ancient prerogative Department under the control of the Lord President of the Council. Parts of the work relating to research are undertaken by the Office of the Lord President of the Council.

Judicial Committee of the Privy Council

The Judicial Committee of the Privy Council is the final court of appeal on certain legal issues arising in Australia and New Zealand and their dependencies, in Ceylon, and in the United Kingdom dependent territories. Its appellate jurisdiction derives from the principle of English common law which recognizes 'the right of all the King's subjects to appeal for redress to the Sovereign in Council' if they believe that the courts of law have failed to do them justice.

Appeals come to it either where a right of appeal in limited categories of cases has been specially created, e.g., by Statute, Order in Council or Letters Patent, or by special leave of the Sovereign in Council on the advice of the Judicial Committee. Appeals are heard by a board of three or five drawn from the committee, depending on the significance of the case, the quorum being three. Invitations to sit on the board are issued by the Lord Chancellor, who thus determines which members of the committee shall hear particular appeals. In practice, boards are generally selected from the Law Lords of the United Kingdom—the Lord Chancellor, ex-Lord Chancellors and Lords of Appeal in Ordinary—although Lords Justices of Appeal and other members of the Privy Council who have held high judicial office are also asked to sit when business is heavy. Chief Justices and certain judges from

other Commonwealth countries have usually been sworn of the Privy Council and may be invited to sit on the committee's boards.

HER MAJESTY'S GOVERNMENT

Her Majesty's Government is the body of ministers charged for the time being with the administration of national affairs.¹

Composition

The composition of the Government is subject to variation from time to time, both in the number of ministers and in the titles of some offices. The usual ministerial offices may be classified under the following heads:

1. *The Prime Minister* (see also p. 40), who is the recognized head of the Government but has no Department.
2. *Departmental Ministers*, some of whom are known as Secretaries of State. There are at present seven Secretaries of State—for the Home Department, Foreign Affairs, Scotland, Commonwealth Relations, Colonies, War, and Air. Most of the more recently created posts have the formal title of 'Minister'. There are Ministers of Agriculture, Fisheries and Food; Defence; Education; Health; Housing and Local Government; Labour and National Service; Pensions and National Insurance; Power; Supply; Transport and Civil Aviation; and Works. A few of the older posts have special titles: the Chancellor of the Exchequer (who is responsible for the Treasury and for a number of other financial and central Departments); the President of the Board of Trade; the First Lord of the Admiralty; and the Postmaster-General.
3. *Non-Departmental Ministers*, or Ministers who are the holders of various traditional offices, but who have few or no departmental duties and are thus available to perform any special functions entrusted to them by the Prime Minister, e.g., the Lord President of the Council,² the Lord Privy Seal, the Chancellor of the Duchy of Lancaster, who manages and controls the Duchy,³ the Paymaster General, and, at present, a Minister Without Portfolio.
4. *The Lord Chancellor and the Law Officers*. The Lord Chancellor has a Department, but is in a somewhat special position as a Minister of the Crown who is also head of the Judiciary in England and Wales. The four Law Officers of the Crown are: for England and Wales, the Attorney-General and the Solicitor-General; for Scotland, the Lord Advocate and the Solicitor-General for Scotland.
5. *Ministers of State*, who are deputy Ministers in Departments where the work is particularly heavy or involves frequent travelling overseas. There are at present five Ministers of State: two in the Foreign Office, one in the Colonial Office, one at the Board of Trade, and the Secretary of State for Scotland is assisted at ministerial level by a Minister of State.

¹ See pp. 30–32, *The Party System*.

² The Lord President of the Council, who controls the Privy Council Office, is responsible to Parliament for the work of the Department of Scientific and Industrial Research, the Medical Research Council, the Agricultural Research Council and the Nature Conservancy, and has a general oversight of scientific matters.

³ An inheritance which, since 1399, has always been enjoyed by the reigning Sovereign; it is kept quite apart from his or her other possessions and separately administered.

6. *Junior Ministers*, who generally have the title of Parliamentary Secretary or, where the senior minister is a Secretary of State, Parliamentary Under-Secretary of State. The primary function of most junior ministers is to relieve their senior ministers of some of their burden by taking part in parliamentary debates and answering parliamentary questions, and by assisting in their departmental duties. The Parliamentary Secretary to the Treasury and the Junior Lords of the Treasury are in a different category as Government Whips (see pp. 31-32).

The Prime Minister is appointed by the Crown (see p. 30) and all senior ministers are appointed by the Crown on the recommendation of the Prime Minister.

The majority of ministers are members of the House of Commons, since the approval of that House is necessary for the general policy (and frequently for the specific proposals) of the Government. There must, however, always be some ministers in the House of Lords, partly because the Ministers of the Crown Act, 1937, limits the number of ministers who may sit in the Commons while receiving salaries from the Crown, and also because every Government must be assured of spokesmen of standing to expound and justify its intentions and its actions to the Lords.

The Prime Minister

The office of Prime Minister as head of the Government has been in existence since the middle of the eighteenth century. The office is a conventional one in that it is not defined by statute or rule of common law, and the Prime Minister's official title is First Lord of the Treasury. In 1905, however, the Prime Minister was given precedence, after the Archbishops of Canterbury and York and the Lord Chancellor, as the fourth person in the realm after the Royal Family. The unique position of authority enjoyed by the Prime Minister derives on the one hand from his status as leader of the majority party in Parliament and on the other from his power to submit his own choice of ministers to the Sovereign and to obtain their resignation or dismissal individually.

It is the duty of the Prime Minister to inform the Crown of the general business of the Government; to preside over the Cabinet; to exercise a general supervision over Departments, settling departmental differences where possible and approving important departmental decisions where Cabinet reference is not required; to be prepared to speak in Parliament both on general subjects and on the most important Government Bills; and to answer to Parliament for all actions of the Government, both at home and abroad. Only the Prime Minister can recommend to the Sovereign a dissolution of Parliament if he wishes to put the Government's policy to the country before the normal time for a General Election has come. The Prime Minister's other responsibilities include making recommendations for the appointment of Church of England archbishops, bishops, some senior dignitaries, and incumbents of Crown livings, as well as that of the Lord Chief Justice and of the holders of other high judicial offices, Lords Lieutenant of Counties,¹ Trustees of National Museums and Regius Professors in certain universities. He also makes recommendations for the awards of most civil honours and distinctions.

The Cabinet

The Cabinet is a conventional organ of government composed of a number of ministers selected by the Prime Minister. Membership is not fixed, although the

¹ See footnote, p. 77.

holders of certain important ministerial offices are always included; the number of members is now usually fewer than 20.

The system of Cabinet government came into being as one of the results of the passing of the Bill of Rights in 1689. In origin it was an informal gathering of those Privy Counsellors who were also ministers, meeting at first with, and later without, the Sovereign. The Cabinet assumed its present shape when the accession of the Hanoverian kings with their limited knowledge of the English language, the British constitution and the British way of life had severely curtailed the personal participation of the Sovereign in executive government and made it essential that a substitute should be found.

The Cabinet is not in itself an executant in that it has no legal authority, its decisions being valid by convention and not by law. It is designed to formulate general policy, to bring about co-operation between the different forces of the State without interfering with their legal independence, and to exercise general control. Its functions, as defined in the Report of the Machinery of Government Committee (Haldane Committee) *Cd.* 9230, 1918, are:

- (1) the final determination of the policy to be submitted to Parliament;
- (2) the supreme control of the national executive in accordance with the policy agreed by Parliament; and
- (3) the continuous co-ordination and delimitation of the authority of the several Departments of State.

In the performance of its functions the Cabinet makes considerable use of a system of committees. The beginnings of this system can be traced back to the nineteenth century and it has been developed to keep pace with government business during the past fifty years. The system involves the reference of any issue either to one of the standing Cabinet committees or to an *ad hoc* committee composed of the ministers primarily concerned, which considers the matter in detail and either disposes of it or reports upon it to the full Cabinet with recommendations for action.

Cabinet Meetings

The Cabinet meets in private and its proceedings are strictly confidential. Its members are bound by their oath as Privy Counsellors not to disclose any information. The Official Secrets Acts forbid the publication of Cabinet as well as of other State papers, and a resigning minister desiring to make a statement involving disclosure of Cabinet discussions must first obtain the permission of the Sovereign through the Prime Minister. The theoretical reason for this secrecy is that a Cabinet decision is advice to the Sovereign, whose consent is necessary before it is made public. From a practical point of view, secrecy is essential in the interests of unprejudiced debate, which can take place only if there is no risk of publicity for every statement made and every point conceded.

In normal times, the Cabinet meets for about two hours once or twice a week during parliamentary sittings, and rather less frequently when Parliament is not sitting. Additional meetings may be called by the Prime Minister at any time if a matter urgently requiring discussion should arise. During Cabinet meetings, decisions are reached on major issues of Government policy, and the Cabinet settles any matters which cannot be disposed of at lower levels.

Ministers not in the Cabinet are called to attend Cabinet meetings when matters affecting their Departments are under discussion; they may also be members of Cabinet committees.

Detailed accounts of Cabinet meetings are not prepared; only the substance of documents submitted, together with a summary of the arguments and the conclusions, are recorded; and even these records have a strictly limited circulation. Responsibility for the keeping of records lies with the Secretariat of the Cabinet, known as the Cabinet Office (see p. 43).

Ministerial Responsibility

Ministerial responsibility means both the collective responsibility which ministers share for the policy and actions of the Government and the individual responsibility of ministers to Parliament for the work of their Departments.

The doctrine of collective responsibility, which was fully accepted by the middle of the nineteenth century, imposes upon ministers the obligation to act not as individuals but (in the interests of stability of government) as a united group. It does not require every Cabinet minister to be present at every Cabinet meeting; and the obligations of individual ministers may be passive rather than active when the decision to be taken does not relate to their spheres of administrative responsibility. At the same time, every minister should be fully informed of the subject of discussion beforehand, so that if he has any objections he may voice them at the meeting. He may not repudiate, either in Parliament or in his constituency, policies which have received Cabinet approval, nor may he adopt policies which have not been agreed with other Departments (including the Treasury) which may be concerned. He must be prepared to vote with the Government on all issues, and where necessary to speak in support or defence of its policy. Any minister who feels himself unable to agree or to compromise with the view of the majority of his colleagues in Parliament or elsewhere must resign. If he does not resign, he is held to be responsible, and cannot afterwards reject criticism on the ground that he did not personally agree with the policy adopted.

The doctrine of collective responsibility also means that the Cabinet is bound to offer unanimous advice to the Sovereign, even when its members do not hold identical views on a given subject.

The individual responsibility of a minister for the work of his Department means that, as political head of that Department, he is answerable for all its acts and omissions and must bear the consequences of any defect of administration, any injustice to an individual or any aspect of policy which may be criticized in Parliament, whether he is personally responsible or not.

Since the majority of ministers are members of the House of Commons, they are available to answer questions and to defend themselves against criticism in person. Ministers who are in the House of Lords must be represented in the Commons by political subordinates qualified to speak on their behalf, i.e. by their Parliamentary Secretaries and Under-Secretaries. Responsibility, however, cannot be delegated and remains with the senior minister concerned.

Ministers are expected to take all decisions relating to their spheres of administration, unless these are of such political importance that in their opinion Cabinet sanction is required.

If any departmental decision brings a minister under fire of criticism in Parliament he may be upheld by the Cabinet, which will then treat the matter as one of confidence in itself; or he may be disowned, when he alone will be liable to lose office.

Ministerial responsibility is an effective way of bringing government under public control, for the knowledge that any departmental action may be reported to and examined in Parliament discourages the taking of arbitrary and ill-considered decisions.

GOVERNMENT DEPARTMENTS

Government Departments are the organs of Government used to give effect to Government policy when Parliament has passed the necessary legislation. They may and frequently do work with and through local authorities (see p. 66), public corporations (see pp. 135-6 and 144-5), and many Government-sponsored organizations which, while not forming part of Government Departments, are under varying degrees of Government control.

A change of Government does not generally affect the number or functions of Government Departments, although a radical change in policy may be accompanied by a corresponding change in the Departments concerned. The widening scope of Government activity has, however, led to the formation of a substantial number of new Departments in the past half-century. A few have existed for over 200 years.

The work of some Departments, e.g., the Post Office and the Customs and Excise Department, covers the United Kingdom as a whole. Other Departments cover Great Britain (England and Wales, and Scotland, but not Northern Ireland), e.g., the Ministry of Labour and National Service; others cover England and Wales only, e.g., the Ministry of Health, and there are similar but separate Departments for Scotland and Northern Ireland. Some Departments, e.g., the Ministry of Education, make special arrangements for Welsh affairs.

Departments differ in size and in the number, type and complexity of their functions, and some have regional and local offices. Most Departments have a minister of their own in control; a very few have no minister responsible to Parliament, e.g., the Exchequer and Audit Department under the Comptroller and Auditor General, who is an officer of Parliament and not of the Government; and some are in charge of ministers who have other duties. For instance, Treasury ministers are responsible for the administration of a number of Departments, including H.M. Stationery Office, the Central Office of Information, the Treasury Solicitor's Department, the Departments of the Government Actuary and of the Government Chemist, the Royal Mint, the National Debt Office, the Public Works Loan Board, the National Savings Committee and certain museums and art galleries.

This section provides an outline of the principal functions of the main Government Departments. Since much of their work is interconnected, they are not grouped according to the subjects with which they deal, but are arranged in alphabetical order, except for the Cabinet Office and the Treasury (which, in view of their central position, are placed first) and the Scottish and Northern Ireland Departments, which are grouped at the end of the section. Further information on the work undertaken by the various Departments is given in later sections of this handbook under the relevant subject headings.

The Cabinet Office

The Cabinet Office, or Secretariat of the Cabinet, was introduced as an emergency institution during the first world war and has grown into an organ of great importance in the co-ordination of policy at the highest level. The Secretariat is responsible for the keeping of Cabinet records, for providing information and advice to ministers, and for issuing directives or promulgating decisions of the Cabinet or the Prime Minister to the Departments concerned. It has a military side and a civil side. There is also a *Central Statistical Office* which is charged with the collection, analysis and presentation of statistics relating to the national economy.

The Treasury

Nominally the heads of the Treasury are the Lords Commissioners: the First Lord of the Treasury (who is now invariably the Prime Minister), the Chancellor of the Exchequer and five Junior Lords. In practice, the Lords Commissioners never meet as a Board and their responsibilities are carried by the Chancellor of the Exchequer assisted by two junior ministers, the Financial Secretary and the Economic Secretary. There is also a Parliamentary Secretary to the Treasury who is the Chief Government Whip in the House of Commons (see pp. 31-32).

The functions of the Treasury fall under four main headings: finance, control of expenditure, general Civil Service establishment matters, and co-ordination of economic policy. Finance may be further sub-divided into home finance and overseas finance. Home finance includes taxation policy (though executive responsibility for the collection of revenue lies with the Board of Inland Revenue and the Department of Customs and Excise), the provision of funds for the day-to-day needs of the public services, currency and banking, and the management of the national debt. Overseas financial questions have formed a greatly increased part of the Treasury's work since the second world war because of the post-war emphasis on the problem of the balance of payments.

Control of expenditure is a matter partly for Parliament, partly for the Treasury, and partly for the Departments themselves. Treasury control arises very largely out of Parliamentary control and the scrutiny of detailed annual estimates for the great majority of Government expenditure. The Treasury's responsibility in general Civil Service questions has developed gradually out of the control of expenditure.

Since the end of the second world war, the Treasury has acquired a new function of co-ordination in economic affairs. This has come about for two reasons: the acceptance by successive Governments since the war of responsibility for maintaining full employment, and the need to safeguard the balance of payments by ensuring that economic resources are directed to essential ends.

Attached to the Treasury is the Office of the Parliamentary Counsel, in which Government Bills are prepared for introduction into Parliament.

The Admiralty

The Board of Admiralty has been in existence since 1708. It is served by the Admiralty Divisions of the Naval Staff and the Admiralty Departments. The Divisions of the Naval Staff deal with operational and technical policy. The Departments deal with the manning of the ships and establishments; the provision of warships and other vessels, aircraft, weapons and munitions, stores, fuel and other goods, equipment and reserve forces; the general organization and administration of the Fleets and establishments; and the accounting and administration of the moneys voted by Parliament for these purposes.

The Admiralty is responsible for the Government's economic policy in the ship-building and ship repair industries and certain minor allied industries. It also undertakes research, principally to meet naval requirements; much of this research has additional civil applications. It administers the Royal Observatory and the National Institute of Oceanography.

The Ministry of Agriculture, Fisheries and Food

The Ministry of Agriculture, Fisheries and Food was established by Order in Council in April 1955 and assumed the responsibilities previously discharged by the Ministry of Agriculture and Fisheries and the Ministry of Food.

The Ministry has a general responsibility for food supplies, both home produced and imported, for food manufacture and food distribution.

Its economic appraisements range from the annual review of farm prices to assessments of food and agricultural imports in relation to the country's balance of payments.

The Department is responsible generally for the efficiency of the agricultural, horticultural and fishing industries in England and Wales, and for the operational control of epidemic diseases of animals, and of plant diseases and pests throughout Great Britain. This involves supervision over County Agricultural Executive Committees, which act locally as the Minister's agents; the administration of schemes to improve the quality of livestock, to control or eradicate animal diseases, to control pests, and to facilitate production on marginal land; the provision of technical advice on all aspects of food production; responsibility for agricultural education, for research as applied to agriculture, horticulture and fisheries, and for such questions as land drainage, the enforcement of agricultural wages awards and labour supply. With other Government Departments, the Ministry is concerned with the improvements of such rural services as housing, farm buildings, water supplies and electricity, and with the supply of machinery, fertilizers and seeds.

The Department administers in England and Wales the guarantees to farmers under the Agriculture Act, 1947; and in this connection it operates deficiency payments schemes for fatstock and for the main cereal crops. It is also generally responsible for schemes for milk, eggs, potatoes and wool operated through producers' marketing boards.

The Ministry has primary responsibility for administering part of the food and drugs legislation, in particular that part dealing with the composition of food and with labelling and advertising. It is responsible for matters concerning slaughterhouses and for the inspection of meat, and for enforcing legislation relating to the quality and cleanliness of milk.

The Ministry maintains relations with Commonwealth and other overseas countries interested in the United Kingdom as a market for their food exports, and is responsible for schemes such as the Commonwealth Sugar Agreement which is operated through the Sugar Board. It contributes to the work of a number of international bodies including the Food and Agriculture Organization of the United Nations, the Organization for European Economic Co-operation, and, for food defence planning purposes, the North Atlantic Treaty Organization.

The Ministry is also responsible for the Ordnance Survey and for Kew Gardens.

The Air Ministry

The Air Council was established in 1918 under the presidency of the Secretary of State for Air to provide for the growing importance of aircraft in warfare by taking over responsibility for the administrative control of the Royal Air Force. The functions of the Air Ministry include strategic planning; the manning of the Royal Air Force and its reserves and auxiliaries; the organization of flying, technical and general training; the acquisition of lands required for air force purposes; and the supervision of the finance and contracts of the Royal Air Force.

The Meteorological Office operates the State weather service. It has existed since 1855, at first under the Board of Trade, then as a self-contained unit, and since 1920 as a part of the Air Ministry. The Office provides meteorological services for the general public, Government Departments, the Armed Forces and civil aviation. It organizes meteorological observations in the United Kingdom and at certain stations overseas and undertakes the collection, publication and distribution of meteorological information from all parts of the world. Research is undertaken at Dunstable (Bedfordshire), Harrow (Middlesex) and London, and at observatories

at Kew (Surrey), Eskdalemuir (Dumfriesshire) and Lerwick (in the Shetland Islands).

The Colonial Office

The Colonial Office is the Department of the United Kingdom Government which deals with the affairs of the great majority of the non-self-governing countries of the Commonwealth. At the head of the Colonial Office is the Secretary of State for the Colonies, who is the Minister responsible to Parliament for the general administration of those territories. The main functions of the Colonial Office are to convey to Colonial Governments the views and wishes of Her Majesty's Government on broad matters of policy; to see that the interests of Colonial Governments and peoples are safeguarded and promoted; to provide, through its staff of professional advisers and with the help of Advisory Committees composed of men and women eminent in many fields, guidance to Colonial Governments on a wide range of matters; and to undertake expert services of many kinds, including the allocation of moneys for development purposes under the Colonial Development and Welfare Acts and the provision of administrative and professional staff for the Overseas Civil Service. Other functions of the Colonial Office include the care of Colonial students in the United Kingdom, the British Council acting as agent in providing for their general welfare.

The Colonial Office does not directly administer the non-self-governing territories with which it deals. Each of these has its own administration and an increasing measure of autonomy.

Her Majesty's Overseas Civil Service. Members of this Service are employed in the public services of Colonial Overseas Territories and are paid by the Government of the territory in which they serve. The Service merges the former administrative and professional branches of the Colonial Service. Its members are eligible for employment in any post which the Secretary of State for the Colonies is requested or authorized to fill, and may also be considered, as opportunity offers, for any post in Commonwealth or foreign territories for which the United Kingdom Government may be invited to recommend candidates. Recruitment into this Service is undertaken in the United Kingdom and other Commonwealth countries when suitably qualified local candidates are not available for appointment to the territorial public service.

The Crown Agents for Oversea Governments and Administrations are appointed by the Secretary of State for the Colonies to act as commercial and financial agents in the United Kingdom for the Governments of the territories for which he is responsible. They also act by special arrangement for other Governments and bodies.

The Commonwealth Relations Office

The Commonwealth Relations Office is the main channel of communication between the United Kingdom Government and the Governments of the other independent nations of the Commonwealth—Canada, Australia, New Zealand, South Africa, India, Pakistan, Ceylon, Ghana and the Federation of Malaya. Through it, consultation and exchange of information takes place with the External Affairs Departments of those Commonwealth countries, either directly or through United Kingdom High Commissioners, on all subjects of mutual interest—foreign affairs, defence co-operation, economic and other matters. Where foreign policy is concerned, the Office works in close association with the Foreign Office.

The Commonwealth Relations Office is also responsible for the conduct of relations with the Federation of Rhodesia and Nyasaland (except in regard to territorial matters concerning Northern Rhodesia, which are dealt with by the Colonial Office), and for the administration of the High Commission Territories—Basutoland, the Bechuanaland Protectorate and Swaziland.

The Commonwealth Relations Office was established in 1947, replacing the Dominions Office (set up in 1925). In the same year the conduct of relations with India and Pakistan was transferred to the Commonwealth Relations Office from the India Office, which was abolished; in 1948 the Commonwealth Relations Office assumed responsibility in respect of Ceylon and, in 1957, for Ghana and the Federation of Malaya.

The Commonwealth Relations Office remains the Department responsible for the conduct of relations between the United Kingdom Government and the Government of the Irish Republic, which left the Commonwealth in 1949.

The Customs and Excise Department

Commissioners to collect the Customs and the Excise revenues were first appointed by the Long Parliament in 1643 (although after the Restoration the older method of collection through private contractors was revived for a time). The two branches of the Revenue remained distinct until 1909, when they were amalgamated under Commissioners of Customs and Excise. The primary work of the Customs and Excise Department is to collect and administer the duties of Customs and Excise imposed from time to time in the annual Finance Acts or by other legislation, and to advise the Chancellor of the Exchequer on any matters connected with them. The Department is also responsible for preventing and detecting evasion of the Revenue laws, including smuggling and illicit distillation.

In addition to its revenue work the Department undertakes a wide range of non-revenue agency work for other Departments, e.g., the enforcement of prohibitions and restrictions on the importation and exportation of certain classes of goods, exchange currency control, and the compilation of United Kingdom overseas trade statistics from Customs import and export documents.

The Ministry of Defence

The Ministry of Defence was formally constituted in January 1947 following the passing of the Ministry of Defence Act, 1946. The Act charges the Minister with responsibility for 'the formulation and general application of a unified policy relating to the armed forces of the Crown as a whole and their requirements'. He carries out this responsibility in accordance with general defence policy laid down by the Cabinet.

In addition to its main function of co-ordinating the policies and requirements of the three armed Services, the Ministry is responsible for the administration of the Joint Intelligence Bureau, the Imperial Defence College, the Joint Services Staff College and Amphibious Warfare Headquarters.

The Ministry of Education

The Ministry of Education was established in 1944 to take over the powers and duties previously exercised by the Board of Education (1899-1944) in regard to the promotion of the education of the people of England and Wales and of the progressive development of institutions devoted to that purpose. The Ministry exercises this function in co-operation with the local education authorities—the councils of the counties and of the county boroughs—whose duty it is to secure the provision in their areas of adequate facilities for all forms of education. On

professional matters, contact with the local education authorities is maintained through Her Majesty's Inspectorate of Schools, organized in regional divisions throughout England and Wales for its work of inspection, liaison and advice. A separate Welsh Department of the Ministry deals with education in Wales.

The Ministry is concerned with the development of primary, secondary and further education, including vocational education and education for leisure and the social and physical training of young people. It deals with the supply, training and superannuation of teachers; the building of new schools and other institutions; the school health service; the special educational treatment of handicapped children; and the provision of school meals and milk. It is responsible for the award of State scholarships and other awards for university students; for the administration of the Victoria and Albert Museum and the Science Museum, London; and for the maintenance of educational relations with the countries of the Commonwealth, with foreign countries, and with the United Nations Educational, Scientific and Cultural Organization.

The Imperial Institute. The Institute was founded in 1893. Its work is now directed by a Board of Governors, some of whom are appointed by the Minister of Education and others by the Governments of the member nations of the Commonwealth. The Institute houses permanent exhibitions of the peoples and products of the Commonwealth, shows films on Commonwealth subjects, and does much educational work in co-operation with the schools. It also arranges lectures and conferences and has study and recreational accommodation for Commonwealth students. The Institute is financially dependent on an endowment fund and on grants from the United Kingdom and other Commonwealth Governments.

The Foreign Office

The Foreign Office, which is the headquarters of Her Majesty's Foreign Service, first became a separate Department of State in 1782. The Minister in charge of the Foreign Office, and responsible to Parliament for the conduct of foreign affairs and for the direction and operation of the Foreign Service, is styled Her Majesty's Principal Secretary of State for Foreign Affairs.

The Foreign Office acts as a channel of communication between the Government of the United Kingdom and the Governments of foreign States, either through the representatives of foreign States in the United Kingdom or through Her Majesty's representatives abroad, for the discussion and negotiation of all matters falling within the field of international relations, including the drawing up of international treaties and agreements. It also provides the means by which the United Kingdom Government is represented in the United Nations and on other international bodies and is kept informed of developments in foreign countries; by which British subjects and interests abroad are protected and trade promoted; and by which British policy is explained to the Governments and peoples of foreign countries. The questions dealt with by the Foreign Office are primarily of a political nature, but they also include many other matters such as questions of nationality, the issue and renewal of passports, and the immunities and privileges of foreign diplomatic representatives.

Her Majesty's Foreign Service. The Foreign Office is staffed by members of the Foreign Service, which is a separate and self-contained Service of the Crown formed in 1943 as a result of the amalgamation of the Foreign Office and the Diplomatic Service with the Consular and Commercial-Diplomatic Services. It provides an interchangeable staff for service both at home and at United Kingdom diplomatic missions and consular posts abroad.

The Forestry Commission

The Forestry Commission was established under the Forestry Acts, 1919-47, to promote the interests of forestry, the development of afforestation, and the production and supply of timber in Great Britain; the Forestry Act, 1951, places responsibility on the Forestry Commissioners for the maintenance of reserves of growing trees, through a system of licensing of felling.

The Minister of Agriculture, Fisheries and Food and the Secretary of State for Scotland are responsible for forest policy in Great Britain.

The General Register Office

The General Register Office is responsible under the Registrar General for the regulation of civil marriages and for the administration of civil registration in England and Wales, for the preparation of statistics and reports relating to population, fertility, births, marriages, diseases and deaths, and for making arrangements for the periodic census of the population.

The Ministry of Health

The Ministry of Health, created in 1919 to take over the powers and duties previously attaching to the Local Government Board (established in 1871) and the National Health Insurance Commission (formed in 1912), assumed in 1920 the responsibilities in connection with mental illness formerly attached to the Home Office.

Twice since 1944 there has been a transfer of some of the Ministry's main responsibilities to newly created Departments—in 1945 those in respect of national health insurance and contributory pensions to the Ministry of National Insurance (now the Ministry of Pensions and National Insurance), and in 1951 those in respect of housing, water and sewerage services, and the supervision of local government to the Ministry of Local Government and Planning (now the Ministry of Housing and Local Government).

On the other hand, in 1953, when the Ministry of Pensions ceased to exist, the Ministry of Health became responsible for the medical and surgical treatment of war pensioners, including war pensioners in the Channel Islands and the Isle of Man and those residing in the Republic of Ireland, and, in 1955, the Ministry assumed responsibilities regarding food hygiene and welfare foods which had previously been carried out by the Ministry of Food.

The main function of the Ministry of Health is the administration of the National Health Service in England and Wales under the National Health Service Acts. The Ministry is also responsible in England and Wales for supervising the work of local authorities under certain Sections of the Public Health Acts and their services for the care of the aged, infirm, blind, deaf and dumb and other handicapped persons under the National Assistance Act, 1948.

The Home Office

The Home Office was created in 1782. Its head is the Secretary of State for the Home Department (the Home Secretary), who is the principal Secretary of State and is entrusted with all the responsibilities of national administration which have not been especially assigned by law or convention to the remaining Secretaries of State or Ministers. The Home Secretary is also the channel of communication between the Sovereign and his or her subjects, and between the United Kingdom Government and the Governments of Northern Ireland, the Channel Islands and the Isle of Man.

The chief matters with which the Home Office deals are: the maintenance of law and order; the efficiency of the police service; the treatment of offenders, including juvenile offenders; the efficacy of the probation service; the organization of magistrates' courts; legislation on criminal justice; the efficiency of the fire service; the care of children by local authorities and voluntary organizations; the regulation of the employment of children and young persons; the control and naturalization of aliens; the law relating to parliamentary and local government elections; public safety and public well-being; and preparations for civil defence.

Particular matters for which the Home Office is responsible, both in connection with its general functions and otherwise, include: receiving and submitting Addresses and Petitions to the Sovereign and preparing Presentations to Parliament; preparing patents of nobility for peers and formal proceedings for the bestowal of honours; advising the Crown on the exercise of the Prerogative of Mercy; sanctioning byelaws made by local authorities in so far as they relate to 'law and order' and 'good governance'; granting licences to experiment with animals; ordering the exhumation and removal of bodies; supervising the control of explosives, firearms and dangerous drugs; and administering the State Management Scheme for control of the liquor trade in the Carlisle district.

The Ministry of Housing and Local Government

The Ministry of Housing and Local Government was constituted in January 1951, under the title of Ministry of Local Government and Planning, to take over the housing and local government functions of the Ministry of Health and the planning functions of the Ministry of Town and Country Planning (1943-1951). It was renamed the Ministry of Housing and Local Government in November 1951. It is the Department generally responsible for local government, and, in this capacity, it is responsible for sanctioning loans for most purposes for which local authorities require to borrow money, and for acting as the main link between local authorities and the central Government.

The Ministry exercises powers in regard to housing, water, sewerage and other services administered by local authorities in England and Wales. In regard to these services, the position, broadly, is that the Minister is responsible to Parliament (1) for securing, so far as intervention by the central Government is necessary, the performance of duties laid upon local authorities by Parliament, whether this obligation is to be discharged by the aid of grants from national funds or not; (2) for encouraging the exercise of powers given to local authorities in regard to such services whether by grants paid out of national funds or otherwise; and (3) for inquiring into difficulties and complaints concerning any local authority services which may be brought to the Minister's notice.

As the central Housing Authority under the Housing Act, 1936, the Minister supervises the administration of the housing statutes and the national housing programme; and his officers keep in close touch with the local authorities in England and Wales. Local authority proposals for dealing with areas of unfit houses (slum clearance) are also submitted to the Minister.

The town and country planning work of the Ministry includes the framing and execution of the national policy on the use and development of land for the purpose of achieving the best use of land in the public interest. The responsibilities of the Minister include confirmation of the acquisition and disposal of land by local authorities; and the payment of grants, for planning purposes, in certain cases of acquisition, clearing and compensation. The Minister also has responsibilities in connection with the establishment and work of the Development Corporations of the New Towns, and with the National Parks Commission.

The Minister of Housing and Local Government is also the Minister for Welsh Affairs.

The Central Office of Information

The Central Office of Information was established in 1946 as the successor to the war-time Ministry of Information. It is a common service agency for the production of information and publicity material and the supply of general publicity services required by Government Departments. It produces and distributes books, pamphlets, magazines, films (including films for television), exhibitions, photographs and other visual material for the home and overseas ministerial Departments. It conducts all official press and poster advertising except that of the National Savings Committee, carries out social surveys, and distributes departmental news to the Press, the BBC and the television companies. For the overseas Departments, it supplies British information posts with a daily service of topical information, comment and official news and with a comprehensive reference service, and arranges tours for official visitors from overseas to enable them to see various aspects of life in Britain. Administratively, the Central Office is responsible to Treasury Ministers, while the Ministers whose Departments it serves are responsible for the policy expressed in its work.

The Board of Inland Revenue

The Board of Inland Revenue administers the laws relating to income tax and surtax, profits tax, stamp duty, estate duty, and certain other direct taxes of lesser importance; and advises the Chancellor of the Exchequer on any matters connected with them. The Board is also responsible for the valuation of real property for various purposes such as compensation for compulsory purchase, local rates in England and Wales, and estate duty.

The Ministry of Labour and National Service

The Ministry of Labour was created in 1916 and took over certain duties of the Board of Trade. In 1939, when the Ministry became responsible for manpower, both for the armed forces and for industry, its name was changed to the Ministry of Labour and National Service. One of its principal functions is the administration of the Employment and Training Act, 1948, and provision of facilities and services for the purposes of assisting persons to select, fit themselves for, obtain and retain employment suitable to their age and capacity, of assisting employers to obtain suitable employees, and generally for the purpose of promoting employment in accordance with the requirements of the community. Its services include the operation of (1) a national system of Employment Exchanges, (2) a Technical and Scientific Register, (3) Nursing Appointments Offices and (4) Government schemes for vocational training.

The Ministry also has responsibility for manpower policy and co-operates with other Government Departments on matters of general employment policy, including the distribution of industry and the maintenance of a high and stable level of employment. Among its functions in this connection are the registration, medical examination and calling-up of men for National Service and the resettlement in civil employment of men released from National Service or the Regular Forces.

In the field of employment and training, the Ministry is concerned with the central administration of a comprehensive Youth Employment Service provided locally either by the local education authority or by the Ministry's local office, and the provision of a Disablement Resettlement Service with, where necessary, industrial rehabilitation and vocational training, to enable disabled persons to secure employment.

The Ministry provides an important service in dealing with questions concerning the safety, health and welfare of industrial workers in factories and certain other premises. The provisions of the Factories Acts and associated legislation are enforced by H.M. Inspectors of Factories. Related to this service is the administration of the Anthrax Prevention Act and of the Government Wool Disinfecting Station at Liverpool. Another service is the collection and publication of statistics and information on manpower, employment and unemployment, wage rates, earnings, hours of labour, retail prices, industrial disputes, employers' and employees' organizations and industrial accidents and diseases.

The Ministry assists in the promotion of good industrial relations, having statutory powers which reinforce and supplement the voluntary arrangements within industry, and it actively encourages the development of good personnel management and of joint consultation in industry.

Responsibility for the relations of H.M. Government with the International Labour Organization rests with the Ministry, which is also concerned with labour policy in the international field, with overseas questions concerning employment and with the employment of foreign workers in Great Britain.

Besides these principal functions, the Ministry undertakes agency work for other Government Departments in connection with National Insurance, National Assistance, repayment of income tax to unemployed persons, and the receipt of applications for passports.

The Law Officers' Department

The Law Officers of the Crown for England and Wales¹ (the Attorney-General and the Solicitor-General) are the legal advisers to the Crown and to all Government Departments and appear in Court on their behalf in cases of importance. In such cases the Law Officers are assisted by Junior Counsel to the Treasury. The appointments, which are made from among the more distinguished members of the English Bar, are generally, though not invariably, political, and the office holders change with the Government.

The Attorney-General has a number of important functions in regard to the administration of justice and he has wide powers in connection with the enforcement of the criminal law. The Director of Public Prosecutions acts under his superintendence and is subject to his directions. The Attorney-General is the senior Law Officer but the Solicitor-General, as his deputy, acts for him in all cases where he is authorized or required to do so.

The Lord Chancellor's Department

The Chancellorship is a legislative, judicial and executive office always carrying Cabinet rank in peace time. The office is political in that it is held by an eminent ex-member of the Bench or of the Bar, who is a member of the political party in power.

In addition to his functions as Speaker of the House of Lords and Custodian of the Great Seal, the Lord Chancellor is in charge of more than 20 different offices and branches which are mainly concerned with legal practice and procedure. He controls the machinery of the courts of law both through his patronage and through administrative powers conferred by the Judicature Act, 1925, and other Acts; he advises the Crown on many appointments to the judiciary in England and Wales; and he is the Minister responsible for the Judge Advocate General's Department. This Department advises the War Office and the Air Ministry on all legal matters arising out of the administration of military law, and, where necessary, reviews the

¹ For details of the Law Officers for Scotland, see p. 59.

proceedings of army and air force courts martial.¹ The Lord Chancellor is also a member of the Judicial Committee of the Privy Council, exercises ecclesiastical patronage and is connected with a number of administrative tribunals, including the Pensions Appeal Tribunals and also the Lands Tribunal which determines questions relating to compensation for the compulsory acquisition of land and hears rating appeals from local valuation courts. The Land Registry, which is responsible for maintaining a State register of title to land,² and the Public Trustee Office, which may act as the executor or administrator of the estate of a deceased person or as a trustee under a will or settlement, are both administered under the Lord Chancellor.

The National Assistance Board

The National Assistance Board, responsible to Parliament through the Minister of Pensions and National Insurance, administers the State service of financial assistance to persons in need and unable to maintain themselves, and the non-contributory pension scheme under the Old Age Pensions Act, 1936. The Board is also responsible for assessing the means of persons applying for legal aid.

The Paymaster-General's Department

The Paymaster-General's Department acts as chief paying agent for Government Departments other than the Revenue Departments. The majority of payments are made through banks (to whose accounts the necessary transfers are made at the Bank of England), but cash payments can be made and the payment of pensions, mainly comprising those to retired teachers, officers of the Civil Service and the National Health Service and members of the Armed Forces, and in certain cases to their widows, is an important feature of the work of the Department.

The Ministry of Pensions and National Insurance

In 1953 the Ministry of Pensions (established in 1917) and the Ministry of National Insurance (established in 1944) were amalgamated.

The Ministry of Pensions and National Insurance is responsible (1) for the social security services established since the second world war by the Family Allowances Acts, the National Insurance Acts and the National Insurance (Industrial Injuries) Acts, and for reciprocal social security arrangements with other countries, and (2) for the award and payment of war pensions and allowances for disablement and death due to service in the armed forces of the Crown or in the Home Guard (now disbanded), or due to war injuries sustained by naval auxiliaries, merchant seamen, civil defence personnel and civilians in the second world war, and for the welfare of pensioners and their dependants and war orphans. In addition to these responsibilities for war pensioners in the United Kingdom and in the Irish Republic, the Ministry is responsible for the administration of war pensions and for the medical treatment of war disablement of United Kingdom pensioners living in Northern Ireland and, through its various agencies, in other countries overseas. The Ministry maintains an office in Ottawa to serve pensioners in North America.

The Post Office

The Post Office was set up in the seventeenth century to take over the responsibility for carrying letters, which was previously attached to the Crown. The

¹ The Judge Advocate of the Fleet is responsible for these matters in the Royal Navy.

² Title must be so registered and guaranteed by the State in certain compulsory areas, but elsewhere registration is voluntary.

Minister at its head is the Postmaster-General. Its work is mainly concerned with the operation of the inland postal, telegraph and telephone services and, in cooperation with other countries and interests, of the overseas postal and telecommunications services. It also undertakes certain banking functions, including the operation of the Post Office Savings Bank, the sale of premium bonds and the issue of money orders, and it acts as an agent for many other Government Departments in the collection of revenue (e.g., by the sale of broadcast receiving and other licences and by the sale of stamps for National Insurance contributions) and the payments of grants and allowances, such as National Insurance payments, retirement and certain other pensions and family allowances.

The Postmaster-General is the minister responsible to Parliament for broad questions of national policy concerning sound and television broadcasting services.

The Engineering Department of the Post Office carries out a considerable volume of scientific research and technical development relating to telephone, telegraph and radio systems.

The Ministry of Power

The Ministry of Power was established in 1942 (as the Ministry of Fuel and Power) when it absorbed the former Mines and Petroleum Departments of the Board of Trade and the Board's functions in relation to gas and electricity. It was made permanent by the Ministry of Fuel and Power Act, 1945, the title being changed to Ministry of Power by Order in Council in January 1957.

Since 1942, the Ministry has had the general duty of ensuring the effective and co-ordinated development of fuel and power supplies in Great Britain, and of promoting economy and efficiency in their distribution and consumption. The business of producing and distributing gas and electricity and of producing coal is operated by the boards of the three nationalized industries, whose members are responsible to the Minister on policy issues. The distribution of coal and coke is carried out, under Ministry control, largely by private concerns. The Ministry is also responsible for Government relations with the petroleum industry. In January 1957, the Ministry assumed the functions in relation to iron and steel previously exercised by the Board of Trade and, at the same time, was made specifically responsible for extending the use of atomic energy as a source of industrial power.

The Acts and Regulations governing the safety and health of workers in and about coal mines, metalliferous mines and quarries are administered by the Safety and Health Division of the Ministry, which includes the Inspectorate of Mines. The Ministry is responsible for the general co-ordination of fuel research, and the Chief Scientist's Division itself conducts or arranges for scientific research on specific projects and on matters affecting safety and health in mines and quarries.

The Department of Scientific and Industrial Research

The Department of Scientific and Industrial Research was set up as a Department of the Privy Council in 1916. It accounts for its own Vote in the Estimates and is responsible to Parliament through the Lord President of the Council.

The work of the Department covers research (except defence research) in all branches of natural science except medicine and atomic energy, and in all industries except agriculture, fishery and forestry. Its primary functions are to undertake research in the national interest for the benefit of the community and to meet the requirements of other Departments; to encourage research and the application of scientific knowledge in industry; and to encourage fundamental research at universities and elsewhere, and the maintenance of an adequate supply of trained research workers for laboratories of all kinds.

The Stationery Office

Her Majesty's Stationery Office was established in 1786. It is the Government's central organization for the supply of desk stationery, office equipment, office machinery, printed matter, published books and periodicals for British Government Departments at home and abroad. It is responsible for the publishing and sale of all Government publications. The Stationery Office also undertakes duplicating, addressing and distributing services for other Departments. The ministerial head of the Stationery Office is the Chancellor of the Exchequer, and questions pertaining to the Department asked in the House of Commons are normally answered by the Financial Secretary to the Treasury.

The Ministry of Supply

The present Ministry of Supply was formed in 1946 by the amalgamation of the war-time Ministries of Supply and of Aircraft Production.

The primary functions of the Ministry are to furnish supplies, which include complete atomic weapons, to the armed forces; to undertake research on, and the design and development of, equipment for these forces, principally for the Army and Royal Air Force, but including aircraft, vehicles, some guns and ammunition and other equipment for the Royal Navy. Other functions of the Ministry are to carry out the primary Government responsibility in the field of electronics and in the light metals industry, and to undertake research on, and development and production of, certain classes of equipment for civil use, e.g., civil aircraft and industrial gas turbines.

The Ministry controls the Royal Ordnance factories and those experimental, storage and other establishments which are owned by the Department; it is responsible for the administration of such matters as labour supply, labour management, welfare, housing and transport in connection with these organizations.

The Board of Trade

The Board of Trade was formally constituted as a Committee of the Privy Council by an Order in Council of 1786, which still provides the constitutional basis for the Board. Since 1867, the President has been the only effective member of this Committee and his authority is, in practice, similar to that of a Secretary of State or other Minister of Cabinet rank; he is now assisted by a Minister of State, who is specially concerned with overseas trade, and by a Parliamentary Secretary.

The Board has a general responsibility in respect of the United Kingdom's commerce, industry and overseas trade, including commercial relations with other countries, import and export trade, the protective tariff, industrial development and consumer protection. It is also responsible for (1) the promotion of exports, (2) statistics of trade and industry (both at home and abroad) including the Censuses of Production and Distribution, and (3) the administration of certain regulative legislation in relation to, for example, patents, registered designs, copyright, trade marks, weights and measures, merchandise marks, companies, bankruptcy, insurance, distribution of industry, films, and enemy property.

In addition, the Board exercises central responsibility for all industries which are not specifically allocated to be the concern of other Departments. In this respect it provides on the one hand, both a channel of communications with, and a point of contact for, the industries with which it is specifically concerned, and on the other hand a focal point at which knowledge about those industries and their problems is accumulated, analysed, and used as a basis for advising Ministers and other Departments. The main industries which fall outside the scope of the

Board's specific concern are food, agriculture and fisheries, building and quarrying, iron and steel, shipbuilding, fuel and power and transport.

The Ministry of Transport and Civil Aviation

In 1953 the Ministry of Transport and the Ministry of Civil Aviation were amalgamated. This amalgamation was foreshadowed in November 1951, from which time the two offices of Minister of Transport and Minister of Civil Aviation were held by the same Minister. The Ministry of Transport and Civil Aviation has two joint Parliamentary Secretaries.

The Ministry of Transport, established in 1919 'for the purpose of improving the means of, and the facilities for, locomotion and transport', assumed also, in 1941, the responsibility for merchant shipping formerly exercised by the Mercantile Marine Department of the Board of Trade.

The Ministry of Civil Aviation was established in 1945 to organize, carry out and encourage measures for the development of civil aviation, for the promotion of air safety and efficiency, and for research on air navigation.

The powers and duties of the Ministry of Transport and Civil Aviation relate to the following aspects of inland transport and merchant shipping: railways; inland waterways; roads, bridges and ferries, and the vehicles they carry; harbours, docks, piers and river conservancy; national and international shipping policy; ships, their masters, officers and men; safety of life at sea; navigation (including pilotage, lighthouses, and other aids to safety in navigation); wreck and salvage; and the Coastguard Service. The Ministry is the highway authority for trunk roads and is responsible for providing and operating troopships.

In civil aviation matters, the Minister of Transport and Civil Aviation may give general directions to the publicly owned airline corporations on matters affecting the national interest. He also approves associate arrangements between airline corporations and independent air transport companies for the operation of scheduled services.

General civil aviation responsibilities include: the regulation of civil flying; air safety; the provision, administration and equipment of State-controlled aerodromes and other ground services; the negotiation of international air transport agreements; the registration of aircraft; and the licensing of aircrew and aircraft maintenance personnel.

The War Office

The office of Secretary of State for War was established in 1854. In 1904 the Army Council was constituted on the model of the Board of Admiralty, with the Secretary of State as president and a membership of both military and civil personnel.

The War Office is responsible for the administrative control of the Army, including appointments, promotions, postings and payment. Its functions include the planning of operations and training; the collection and sifting of military information; the framing of policy on the composition, weapons and equipment of the Army; the determination of financial and labour policy connected with the Army; and the supervision of War Office civilian staffs both at home and abroad.

The Ministry of Works

The Ministry of Works, previously known as His Majesty's Office of Works, was established under its present title in 1943. Its main functions are: the provision of office accommodation for Government Departments (including public buildings overseas), and of many other types of accommodation required by Civil and

Service Departments; the design, purchase, supply and maintenance of furniture and equipment for Government Departments and certain other bodies, and their supplies of fuel, household articles and stores; the administration of the Ancient Monuments Acts and the maintenance of those ancient monuments and historic buildings which are in the Ministry's charge; the making of grants, on the advice of the Historic Buildings Councils, towards the maintenance of historic buildings of outstanding interest; the maintenance of Royal Palaces and certain official residences; the building, engineering and supplies services for certain State ceremonial occasions; the management and maintenance of the Royal Parks and certain other open spaces.

The Ministry also has responsibilities for the efficiency and welfare of the building and civil engineering and building materials industries, including: maintenance of a list of all building and civil engineering firms and collection of statistical returns; oversight of the production of building materials and fitments; consultation with the industries at national and regional level; encouragement of apprenticeship and training in the building and electrical contracting industries; review of building research and development work to meet the industry's requirements, and to ensure that results of research are made available to the industry.

SCOTLAND

The first Secretary for Scotland was appointed in 1885 in recognition of the fact that Scotland required a separate system of administration from that of England and Wales. Forty years later, his powers and duties were transferred to a Secretary of State, appointed by the Secretaries of State Act, 1926.

The functions of the Secretary of State, who is assisted at ministerial level by a Minister of State and three Parliamentary Under-Secretaries of State (there are also two Scottish Law Officers), are discharged by four main administrative Departments of equal status, each under a Secretary responsible to the Secretary of State for the discharge of the duties of the Department. The day-to-day administration of the Departments is conducted in Edinburgh, but each Department has representatives in London for liaison and parliamentary duties. This London office is generally known as the Scottish Office, a term also used to describe all Scottish administration responsible to the Secretary of State.

The four main Scottish Departments are the Scottish Home Department, the Department of Health for Scotland, the Scottish Education Department, and the Department of Agriculture for Scotland. The Scottish ministers are advised and assisted (particularly in relation to questions where more than one of the Departments is concerned or which fall outside the province of any of them) by the Permanent Under-Secretary of State, Scottish Office, who is free from departmental duties.

The Scottish Home Department

The Scottish Home Department was set up in 1939 to take over the work that had been undertaken previously by the Secretary of State's Office, and by the Fishery Board for Scotland and the Prisons Department for Scotland.

In the field of law and order, the Department is concerned with the police, probation and remand home services, criminal justice, legal aid and the services needed by the courts; and it is directly responsible for the administration of prisons and borstal institutions.

The Department is the central Department in Scotland for the fire service and civil defence; for the children's service; for the control of transport facilities, e.g., it is responsible for the construction and maintenance of highways, piers and

ferries; for the issue of motor vehicle and driving licences, and for all matters of road safety other than those relating to the construction of vehicles; and for legislation concerning shops, theatres, cinemas and licensed premises. Licensed premises in districts in which State management of the liquor trade is in operation (State Management Districts) are directly maintained by the Home Department.

The Department has general duties in connection with the structure and finance of local authorities, including valuation and rating and the administration of the Exchequer equalization grants; and it is responsible for the oversight and protection of the Scottish inshore, deep-sea and freshwater fisheries. It is also closely concerned, in co-operation with the Board of Trade and other United Kingdom Departments, with Scottish economic development, including the provision of electric power and the rehabilitation of the Highlands generally.

The Department of Health for Scotland

The Department of Health for Scotland is responsible for the general supervision of the National Health Service in Scotland; for the central administration of the Housing (Scotland) Acts, for the supervision of the house-building programme and for the distribution of grants to local authorities for housing purposes, and for the control, under the Town and Country Planning (Scotland) Acts, of the use of land and the establishment of new towns under the New Towns Act.

The Department is also responsible for supervising the administration of various environmental services, including services connected with water supplies and sewerage; for welfare services, e.g., the care of the aged and handicapped persons; and for the medical and surgical treatment of war pensioners in Scotland (including hospital services and the supply and repair of artificial limbs, surgical appliances and invalid chairs).

The Scottish Education Department

The Scottish Education Department is responsible for supervising the administration of the Education (Scotland) Acts, for guiding the development of public education in Scotland in all its forms, for supervising the training of teachers, for issuing teachers' certificates and administering the Teachers' Superannuation Scheme, for controlling the distribution of Exchequer grants-in-aid of educational expenditure, for conducting the annual examination for the Scottish Leaving Certificate, and for exercising general supervision over approved schools and over the administration of the Royal Scottish Museum.

The Department of Agriculture for Scotland

The Department of Agriculture for Scotland is the successor of the Board of Agriculture which was established in 1912. Its broad function is to assist, encourage and improve home food production. It has a general responsibility for all Government measures for the promotion and development of farming in Scotland, and in most cases the Department itself administers them. They include: guaranteed prices for the major farm products, fixed in association with the other Agricultural Departments in the United Kingdom; the provision of grants and subsidies and other services in connection with food production; the application, through the eleven agricultural executive committees in Scotland, of measures (1) for the promotion of efficiency in husbandry and estate management, and (2) for pest control; the management of the extensive agricultural property owned by the Secretary of State; the use and improvement of land and the improvement of farm stock and crops; the economics of the industry; the instructional, advisory and research services provided by the three agricultural colleges and eight research

institutes in Scotland; measures to promote animal health; the regulation of agricultural wages; and the application to the agricultural industry of safety, health and welfare measures.

Other Departments

In addition to the main Departments, there are a number of other Scottish Departments, all of which work in varying degrees under the direction of the Secretary of State. Such Departments include the Department of the Registrar General for Scotland (the General Registry Office); the Scottish Record Office; the Department of the Registers of Scotland; and the Scottish Information Office, which undertakes information services on behalf of the Secretary of State for Scotland, the Scottish Departments and, in some degree, for Great Britain Departments in Scotland, and acts also as the agent in Scotland of the Central Office of Information. There are also Scottish branches of the Great Britain and United Kingdom Departments under the direction of Controllers, who are responsible for ensuring that the execution in Scotland of the policy and procedure of their Departments is in accordance with Scottish conditions and needs.

Legal Departments

The Law Officers for Scotland are the Lord Advocate and the Solicitor-General. The Lord Advocate is in administrative control of two Departments: *The Lord Advocate's Department*, which is responsible for drafting Scottish legislation, providing legal advice on Scottish questions for other Departments, and assisting the Scottish Law Officers in certain of their legal duties; and *The Crown Office*, which exercises the powers of the Lord Advocate in relation to criminal proceedings.

NORTHERN IRELAND

There are a number of separate Departments for Northern Ireland, which are controlled by the Northern Ireland Parliament. Most of these have functions in Northern Ireland analogous to those performed for England and Wales by the United Kingdom Departments of the same name—the Northern Ireland Ministries of Home Affairs, Education and Agriculture; the Northern Ireland Assistance Board; and the Exchequer and Audit Department for Northern Ireland. Other Northern Ireland Departments cover activities which in Great Britain are divided between several Departments. These Northern Ireland Departments include the Ministries of Finance, Commerce, Health and Local Government, and Labour and National Insurance.

The Ministry of Finance

In addition to acting as Treasury to the Government of Northern Ireland, the Ministry of Finance is responsible for administrative work in connection with the erection and maintenance of public works and buildings; for Government valuation and survey; for land registry, the registry of deeds, and certain duties in connection with land purchase; for the work of the Registrar-General; for the control of Government publications; for the control and administration of charitable donations and bequests; for the control of borrowings; for the collection of death duty, entertainments duty (cinemas) and other transferred excise duties; and for the administration of the Ulster savings movement.

Attached to the Department is the Office of the Parliamentary Draftsmen, in which Government Bills are prepared for introduction into Parliament.

The Ministry of Commerce

In addition to its commercial intelligence work, and its work in connection with industrial production and the development of new, and the expansion of existing, industries, the Department is responsible for the business of the Government in relation to electricity and gas undertakings; roads and bridges and inland public transport; railways; harbours and inland waterways; fisheries; the development of the tourist traffic; the regulation and inspection of mines and quarries; mineral development; scientific development; weights and measures; the registration of companies and trade unions; and the administration of the Assurance Companies Acts and the Industrial Assurance (Northern Ireland) Act, 1924. The Ministry also performs functions delegated by the Ministry of Power (Whitehall) relating to the distribution and prices of coal and other solid fuels.

The Ministry of Health and Local Government

The Ministry was established in 1944, and assumed functions in connection with public health, housing and local government services. The Ministry also supervises the housing and planning activities of local authorities.

The Ministry of Labour and National Insurance

The Ministry is responsible for the administration of the Factories Acts and other legislation connected with industrial health and welfare; for the administration of the Wages Councils Act; for the promotion in industry of joint machinery of negotiation; for assistance in the prevention and settlement of industrial disputes; for the administration of local employment offices and training centres and the machinery for dealing with employment questions of all kinds under the Employment and Training Act and Disabled Persons (Employment) Act; for the administration of the National Insurance Act and the National Insurance (Industrial Injuries) Act, and of the Family Allowances Act; and for carrying out certain statutory functions in connection with the National Assistance Scheme in conjunction with the National Assistance Board for Northern Ireland.

THE CIVIL SERVICE

A civil servant in Britain is a servant of the Crown (not being the holder of a political or judicial office), who is employed in a civil capacity and whose remuneration is found wholly and directly out of moneys voted by Parliament. The number of civil servants under this definition amounts to more than a million; for it includes some 418,300¹ Government industrial employees in such establishments as Royal Ordnance factories and Admiralty dockyards. The term 'Civil Service' is, however, generally used only to cover 'non-industrial' members of the staffs of the various Government Departments in the United Kingdom, or working overseas either in the Foreign Service (see p. 48) or for other Government Departments such as the Commonwealth Relations Office (see p. 46). At 1st January, 1957, the total number of non-industrial civil servants employed in all Departments, at home and overseas, was 637,423¹; nearly one-third of this total are women.

Although the civil servant is legally a servant of the Crown, in practice he serves the Minister in charge of the Department in which he works, by advising in the formulation of policy and by carrying out policy decisions once they have been taken. From time to time the Minister may change, but the civil servant remains

¹ Part-time staffs are included in these, and subsequent, figures—two part-time officers being reckoned as equivalent to one whole-time officer.

to serve his successor. In Britain changes of government do not involve changes in departmental staff; this continuity makes for administrative stability.

Development of the Modern Civil Service

The Civil Service in its present form is a product of the past hundred years. Before then, Departments were free to choose their own staffs, qualifying standards were unknown, there was no central supervision, and political jobbery was rife. Measures of reform instigated during the nineteenth century included the substitution of open competition for the practice of obtaining Civil Service appointments by favour or purchase, and the establishment of an independent body, known as the Civil Service Commission, to organize recruitment to the service. The great expansion in State planning which has taken place during the last fifty years, and the consequent expansion in the numbers of civil servants and the scope of their duties, have led to further reorganization. During the last few decades, recruitment competitions have been adapted to a developing educational system; co-ordination between the various Departments has been improved; and the search for increased efficiency in the conduct of public business has been the task of many Government-appointed commissions and committees of inquiry. As a result, civil servants, though they remain employees of their Departments, are today members of an integrated service with common conditions of employment and common traditions and standards of conduct which belong not to individual Departments but to the Civil Service as a whole.

Departmental Organization

The responsibility for the policy and activities of each Department lies with the Minister, who is answerable to Parliament for what the civil servants in the Department say and do.

The internal organization of Departments is a matter for each Department to decide and it varies according to the volume and nature of the work involved. There are, however, features common to most Departments: for example, the Minister of a major Department is likely to have at the head of his officials a Permanent Secretary (known as the Permanent Under-Secretary of State in those Departments where the Minister is a Secretary of State) who is also Accounting Officer and must appear periodically before the Public Accounts Committee; one or more Deputy Secretaries; and a varying number of Under-Secretaries and Assistant Secretaries. In addition, major Departments usually have a Principal Finance Officer and a Principal Establishments and Organization Officer. A number of Establishment Divisions have their own Organization and Methods (or 'O & M') Branch, the members of which act in an advisory capacity as 'efficiency experts'. Many Departments also have their own Legal Advisers or Solicitors, and their own Information Division. The use (wholly or in part) of the standard classes and grades of civil servants, which are described below, is common to most Departments.

Control of the Service

The measure of uniformity in the Civil Service has largely resulted from the fact that the Treasury exercises general control. One of the two joint Permanent Secretaries to the Treasury is the official head of the Home¹ Civil Service and the principal adviser of the Prime Minister on matters affecting the Civil Service as a whole, and in particular on appointments to senior posts in the Service (see p. 64). The Treasury is also responsible for the salaries and conditions of employment of

¹ Since 1943 the Foreign Service has been organized as a separate service (see p. 48).

civil servants; it controls total numbers of staff and the creation of higher posts, maintains a central Organization and Methods Division which serves all Departments which do not maintain an Organization and Methods branch of their own, deals with general questions relating to training after entry into the Civil Service, and takes the lead on questions concerning the number of Departments and the distribution of functions.

Classes and Grades

The engagement and position of all civil servants are covered by regulation, agreement and traditional practice—every civil servant being assured of a definite status depending upon the post which he is called upon to fill. There are four main classes of civil servants, each class containing a series of grades. The classes are:

1. The *Administrative Class*, which is responsible for advising Ministers on policy, for dealing with any difficulties which may arise in carrying out existing policy, and for forecasting the probable effects of new measures and regulations. This relatively small class, which at 1st January, 1957, numbered 2,628, is recruited largely from university graduates.
2. The *Executive Class* (numbering some 67,900 at 1st January, 1957), which is responsible for the day-to-day conduct of Government business, including the higher work of supply and accounts, within the framework of established policy. Members of this class must have reached a recognized educational standard; after entry they may train for specialist work such as that of auditor, actuary or statistician.
3. The *Clerical Class* (the largest of the main classes, comprising about 183,700 officers including clerical assistants), which undertakes all the usual clerical work involved in running departmental business, e.g., the preparation of accounts and the keeping of records, the handling of particular claims in accordance with known rules, and the summarizing and annotation of documents for the assistance of senior officers.
4. The *Typing Class* (about 27,700 members), which consists of shorthand typists, copy typists and learner typists.

Among other classes are: the *Professional, Scientific and Technical Classes*, which consist of some 73,400 civil servants with the necessary qualifications (e.g., doctors, lawyers, engineers and research workers) for carrying out the wide range of specialized duties which are now discharged by the Government; the *Ancillary Technical Class*, which includes machine and duplicator operators, prison officers, forest workers and others, and numbers some 41,100; the *Messengerial Class* which, in addition to messengers, includes paper keepers, office cleaners and similar workers (in all some 36,700); and the *Minor and Manipulative Class* (with some 200,000 members) which consists entirely of post office workers, e.g., postmen, postal and telegraph officers, telephonists and telegraphists, and their immediate supervisors.

The Foreign Service (see p. 48), which in 1956 numbered some 3,300 members exclusive of messengerial grades, has its own nomenclature. Branch A corresponds roughly to the Administrative Class of the Home Civil Service; Branch B to the Executive and Clerical Classes; and Branch C to the Typing Class. All members of these three branches are liable for service both at home in the Foreign Office and abroad, and may be employed on any type of Foreign Service work—diplomatic, consular, commercial, and 'information'. Various specialists and advisers

who are seconded from the Fighting Services and from home Government Departments (e.g., those concerned with financial, commercial or labour matters) are attached to many overseas posts. In addition, at many posts abroad, some of the staff are locally engaged on a 'temporary' basis, i.e. they do not normally qualify for pensions.

Recruitment of Staff

The recruitment of all permanent civil servants is in the hands of the Civil Service Commission which, in the selection of entrants, is independent of both ministerial and parliamentary control; its members are appointed by the Crown on the advice of the Government. The normal method of entry is by open competition, conducted in accordance with regulations approved by the Treasury and consisting of written examinations or interviews, or both. The main points of entry into the four main classes of the Home Civil Service are planned to correspond to definite levels in the British educational system, and it is the Commission's duty to study the requirements of the Civil Service in the light of the education provided by the schools and universities.

In addition to holding examinations and conducting interviews, the Commission is responsible for issuing a Certificate of Qualification in respect of each successful candidate, for placing new entrants in Departments for which their qualifications are appropriate, and for watching the careers of those it has selected in order to ensure that current methods of recruitment are successful and up to date.

Temporary civil servants, who do not qualify for pensions, but are eligible for gratuities, are normally recruited by the Department concerned, either directly or with the help of the Ministry of Labour and National Service. No qualifying examinations are required for entrance on a temporary basis to general service.

Training after Entry

Each of the larger Government Departments has a Training Officer and a number of instructors, who organize both general and technical courses where necessary. Types of courses vary from Department to Department, but nearly all have systematic instruction of recruits in all classes. There are also 'refresher' courses for more experienced staff covering technical subjects or broader subjects such as management and supervision.

Methods of training include discussion groups, instructional films and educational visits to enable civil servants to study the working of appropriate outside bodies. In addition, officers in the early years of their service may be transferred from Branch to Branch and, more rarely, from Department to Department, in order that they may gain as wide an experience as possible of civil service activities. Special leave schemes enable a few senior officers, each year, to travel abroad or to undertake research at United Kingdom universities.

Civil Service training is co-ordinated by the Training and Education Division of the Treasury, which runs central courses for members of the administrative, professional and scientific classes at different stages of their careers. In addition, the Division trains departmental instructors and other special groups, such as superintendents of typists, and secretaries.

Promotion

A period of probation (lasting from one to two years according to grade, with extensions in certain instances) is the rule for all new entrants to the permanent Civil Service. Promotions from grade to grade are made by Departments; those from class to class partly through centrally conducted competitions (open only to

serving members of specified civil service classes), and partly by Departments themselves. All promotions to the Administrative Class from other classes require Treasury approval. Promotions to most of the highest positions in the Civil Service, i.e. Permanent Secretary, Deputy Secretary, Principal Establishments Officer and Principal Finance Officer, must be approved by the Prime Minister, who is advised in these matters by the Joint Permanent Secretary to the Treasury who is the official head of the Home Civil Service.

Conditions of Service

Machinery for negotiation on conditions of service affecting the Civil Service as a whole is provided by the National Whitley Council¹ which is composed jointly of official and staff representatives. Negotiating machinery for separate sections of the Service is provided through the various staff associations, which civil servants are encouraged to join (e.g., the Civil Service Clerical Association, the Union of Post Office Workers, the Society of Civil Servants, the Institution of Professional Civil Servants, and the Association of First Division Civil Servants), and through departmental Whitley Councils (of which there are about 75).

In general, the civil servant receives a salary which is intended to compare reasonably with that paid for similar work outside the Service, and he normally receives annual increments up to the maximum of the scale of the grade to which he belongs. In addition, although a civil servant holds office at the pleasure of the Crown and may therefore be dismissed at any time, in practice he enjoys a considerable measure of security of tenure. Thus every permanent civil servant may reasonably expect a full career in the public service, and a pension on retirement—though this, again, is not a legal right.

Civil servants are generally 'conditioned' to a given number of hours of attendance a week. Overtime is paid to members of most of the lower salary groups if they work longer than their 'conditioned' hours. The standard working week in the Service is 42 hours in London and 44 hours in the provinces. The highest administrative officials, who work the longest hours, receive no extra remuneration for extra work performed. Annual leave varies according to the grade up to a maximum of six weeks, i.e. 30 working days, a year. Sick leave on full pay, less any National Insurance benefit received, may be granted to established civil servants for up to six months in any twelve months, and on reduced pay up to a maximum of one year's sick leave in any four years.

Political and Private Activities

Civil servants may participate in political activities subject to certain special rules. Many grades are completely free to engage in national and local political activities; others are free to engage in most political activities by permission and subject to certain conditions; while others again are not allowed to take part in national political activities, but are free to seek permission to engage in local political activities. Civil servants of every grade may, of course, exercise the right of all citizens to register their private political opinions on appropriate occasions, e.g., at a general election or at local authority elections. Officially, the position and functions of a civil servant remain the same whichever political party is in power; and it is his duty to serve the Government of the day irrespective of his own political opinion.

Normally the Government is not concerned with the private political views of its servants. There are, however, duties where secrecy is so vitally important to State security that the State is not justified in employing any one to carry them out whose

¹ See also p. 287.

reliability is in doubt, and therefore no one who is known to be a member of, or actively associated with, the Communist Party or with Fascist organizations is employed in connection with such work. In general, however, every civil servant may engage in such private activities as he wishes, provided that such activities do not in any way conflict with his official duties, nor with the provisions of the Official Secrets Acts of 1911 and 1920 and the Prevention of Corruption Act of 1906. A civil servant must not, however, use his official position to further his private interests; and he is therefore subject to restrictions in matters of commerce and business from which the ordinary citizen is free, e.g., he may not hold private interests in public contracts; and he may not use official information in writing, broadcasting or lecturing without the express approval of his Department. Above all, a civil servant is expected to conform to the high standards of integrity which characterize the Service to which he belongs.

LOCAL GOVERNMENT

Local government has been defined as government by elected local bodies charged with administrative and executive duties in matters concerning the inhabitants of a particular district or place and vested with powers to make byelaws for their guidance.

Government on a local basis has been part of the administrative system of the United Kingdom for many centuries. It has existed in England continuously since Saxon times. In its present shape, however, it dates back only to the later nineteenth century, when the conception of local government by popularly elected councils received statutory recognition.

The first 40 years of the present century witnessed a sharp increase in, and expansion of, environmental and social services, and a corresponding increase in the responsibilities of local authorities upon whom the greater part of the management of these services devolved. Legislation passed in the post-war period has made some further changes; on the one hand the powers of local authorities relating to the provision of hospitals, gas and electricity supplies and (in England and Wales) valuation for rating purposes have been transferred to national boards or to Government Departments, while on the other, local authorities (mainly the councils of counties and county boroughs in England and Wales and of counties and large burghs in Scotland) have been charged with certain additional or new responsibilities in connection with the health services, care of children, town and country planning, care of the aged and a number of other welfare services.

Reforms in the general structure of local government in England and Wales (outside Greater London), the redistribution of certain functions as between county councils and county district councils, and changes in local government finance in Great Britain as a whole are proposed in a series of White Papers¹ issued in 1956 and 1957. The Government has expressed the view that there is no convincing case for a radical reshaping of the existing form of local government in England and Wales, but that it should be overhauled and improved in such ways as are necessary to bring it up to date. Certain guiding principles, and the machinery that would be appropriate for applying them to the main problems, are outlined in the White Papers. Legislation is to be introduced to implement these proposals; and a Royal Commission is to be set up to study the position in Greater London.

¹ *Cmd.* 9831, July 1956; *Cmnd.* 161, May 1957; *Cmnd.* 208 and *Cmnd.* 209, July 1957.

Relationship between Central and Local Government

As the supreme authority in the United Kingdom, Parliament controls local authorities through Acts of Parliament, which require elected local councils to implement policies prescribed and defined in those Acts. The scope of local government is limited by the same means; no council may go beyond the bounds fixed for its activities by an Act of Parliament.

Legislation is supported by departmental supervision: Parliament makes certain ministers responsible for securing the efficient functioning of local government services. Departmental supervision is exercised by means of inspections, inquiries, examinations of statistics, authorization of loans, the issue of advisory circulars and statutory instruments, the approval of byelaws, and the administration of Government grants. The Ministry of Housing and Local Government is the main link between local authorities and the central Government in England and Wales; in Scotland the Scottish Home Department is generally responsible for local government; and in Northern Ireland the Ministry of Health and Local Government.

Principal Types of Local Authority

For purposes of local government, England and Wales and Northern Ireland are divided into county boroughs and administrative counties. Administrative counties are further divided into three types of county district: municipal or non-county boroughs; urban districts; and rural districts, which are themselves subdivided into parishes (except in Northern Ireland). Each of these divisions is administered by a different kind of local council, as follows:

*England and Wales*¹

county councils (61)	rural district councils (474) ²
county borough councils (83)	parish councils (some 7,300) or
non-county borough councils (318)	parish meetings (some 3,800).
urban district councils (563)	

Northern Ireland

county councils (6)	urban district councils (24)
county borough councils (2)	town commissioners (3)
borough councils (9)	rural district councils (32).

Scotland

The local authorities in Scotland are:

- county councils (33, of which two pairs are combined for certain purposes)
- town councils (197, consisting of: the authorities for counties of cities, 4; other large burghs, 20; and small burghs, 173)
- district councils (199; two counties are not divided into districts).

There are, in addition, the local authorities for London, which are unlike those in the rest of the United Kingdom. They are:

- the London County Council
- the Corporation of the City of London
- the metropolitan borough councils (28).

¹ Excluding the county of London.

² Including the Isles of Scilly.

Functions and Services

It is the primary duty of every local authority to provide and administer such environmental and social services as it may be required to provide and administer by an Act of Parliament. It may provide additional services under the permissive powers of a general Act or under powers granted to it by Private Bill legislation.

The responsibilities of local authorities depend upon the type of council. In England and Wales and Northern Ireland, for example, county borough councils are all-purpose authorities, while both county councils and county district councils have particular functions allotted to them, which they exercise independently to a considerable extent, although there is a certain degree of delegation from county councils to county district councils especially in the fields of planning and, in England and Wales, education. In Scotland, the town councils of the counties of cities are all-purpose authorities; elsewhere the county councils exercise very many local government functions. In large burghs, they administer education, valuation for rating, and, in some cases, the police service, all other functions being exercised by the town councils. In small burghs, county councils undertake a number of important functions, but housing and some other services are administered by the town councils. The smallest authorities (the parish councils or parish meetings in England and Wales and the district councils in Scotland) have a few functions which they may exercise of right.

The services provided by the councils, which are described more fully in later chapters, may be considered under three heads:

1. *Environmental Services*, which are services designed to secure and improve the citizens' surroundings. The majority are public health and sanitary services administered in England and Wales either by county borough or county district councils (in London by the metropolitan borough councils, in Northern Ireland by the county district councils, and in Scotland by the county and town councils), e.g., the inspection and abatement of nuisances, drainage, sewerage, street cleansing, refuse collection and disposal, the supervision of water supplies, measures for ensuring food hygiene (including inspection of premises where food is prepared, sold or served, and the analysis of food samples), measures for preventing the pollution of air, rodent control and the provision of baths and washhouses. There are also the services for street lighting, public safety on the highways, and the provision of amenities such as parks and recreation grounds, which are generally administered by the same authorities and also by district councils in Scotland. The important work of town and country planning is done in England and Wales by the county and county borough councils, except where it is delegated to county district councils, and in Scotland by county councils and the town councils of large burghs. County borough councils, as all-purpose authorities, provide and administer their own environmental services.

2. *Protective Services*, which include the fire service, the civil defence service and the police. The fire service is administered throughout England and Wales by the county borough councils and the county councils, or by joint authorities (or joint committees) set up by those councils if they amalgamate; and in Scotland, by the county councils and the town councils of most of the large burghs or by joint boards. These authorities and, in London, the metropolitan borough councils and the City Corporation, are also responsible for the local organization of most civil defence services; they may delegate important civil defence functions to constituent district councils. The police service is maintained by Standing Joint Committees

in the counties of England and Wales, by Watch Committees in the county boroughs or by joint boards in the case of combined police authorities. In London the maintenance of the City of London force is a matter for the Common Council of the City while the police authority for the Metropolitan police force is the Home Secretary. The appointment of the Commissioner of Police for the City of London and of the Commissioner of Police of the Metropolis are subject to the approval of the Sovereign. The police authorities in Scotland are the county councils, the town councils of large burghs, or joint committees for combined forces.

3. *Personal Services*, which are services designed to 'cultivate the best physical, mental, and moral potentialities of each individual'. The type of authority concerned depends on the nature of the services, which range from maternity and child welfare, education, care of children and housing to the provision of entertainments. Services under this heading also include certain health services, services for the aged and infirm, and the provision and upkeep of libraries, museums and art galleries.

There are also some trading services, e.g., passenger transport, water supply, and harbour, dock and pier services, although these are now less numerous than before and during the war.

Local Authority Elections

The normal term of office of a councillor elected to any form of local government is three years; aldermen who are elected to county, county borough and borough councils in Great Britain (and to county borough and borough councils in Northern Ireland) from among the councillors or persons qualified to be councillors, hold office for six years. In some local authority areas the whole council retires every third year and another is elected immediately; in other areas elections are held annually, when one-third of the councillors retire. Procedure at local government elections is governed by rules laid down in the Representation of the People Act, 1949.

Any person (including a member of the House of Lords) is entitled to vote at a local government election provided that he or she is 21 years of age or over and a British subject, or a citizen of the Irish Republic, and is registered as a local government elector for the area for which the election is held. In Great Britain, a person qualifies for registration as a local government elector if on the qualifying date for the register he or she is resident in the area or occupies as owner or tenant any rateable land or premises in the area of a yearly value of not less than £10. In Northern Ireland in order to qualify for registration as a local government elector a person must have been born in Northern Ireland, or, alternatively, have resided continuously in the United Kingdom for the whole of seven years immediately prior to the qualifying date and must have either a resident occupier's qualification, or a general occupier's qualification.

Voting takes place at polling stations arranged by the council concerned, under the supervision of a presiding officer specially appointed for the purpose. The procedure governing voting methods in Great Britain is similar to that followed at Parliamentary elections, although facilities for postal voting are more restricted.

Candidates for election stand either as Independents or as representatives of one of the national or local political parties. Each candidate must be nominated by two electors, as proposer and seconder; and in England and Wales (except in elections for metropolitan borough councils, rural district councils and parish councils) eight other electors for the area must assent to the nomination. In Scotland, county and

district council candidates require proposers but no assenters, town council candidates a proposer and five assenters. A candidate for election as a councillor must be of British nationality and over 21 years of age and must either (1) be registered as a local government elector in the Register of Electors for the area for which he seeks election, or (2) have resided within that area during the whole of the twelve months preceding the election (or within 3 miles in the case of parish councils), or (3) in England and Wales, own freehold or leasehold land in the area. Candidates are also subject to a number of statutory disqualifications designed to ensure that unsuitable persons do not offer themselves for election.

Procedure at local government elections in Northern Ireland is governed by Electoral Regulations made by the Ministry of Home Affairs for Northern Ireland. These regulations are similar to those which apply in Great Britain, though differing in certain particulars; for example, the town clerk or the clerk to the council is the returning officer for all elections to the authority; there is no postal voting and the only persons who may vote by proxy are Service voters.

In parliamentary elections, the contest is normally between several candidates for one seat. In local government elections there are usually a good many seats to be filled, and nearly all county boroughs, non-county boroughs and metropolitan boroughs in England and Wales and the larger burghs in Scotland are divided into wards. Except in metropolitan boroughs, the number of councillors for each ward must be three or a multiple of three. All other local authority areas, except the administrative counties, may be divided into wards or they may be left as single units, depending on their size. The administrative counties are split up in accordance with orders made by the Secretary of State for the Home Department or the Secretary of State for Scotland, into electoral divisions which return members to the county council. The London County Council is organized in three-member divisions, which are the same as the parliamentary constituencies in its area.

Internal Organization of Local Authorities

Local authorities are free to a very considerable extent to make their own internal arrangements and to choose the means and methods by which they will discharge their responsibilities. The arrangements made by most councils are briefly as follows: questions of policy and principle are decided by the whole council, which appoints committees to carry out the detailed administration of its various services. The more important of the committees of the larger authorities divide their work among sub-committees, which stand to the parent committee in a relation similar to that of the main committees to the whole council. The execution of the policy decided upon by the council and the committees rests with salaried officers and employees, whose number may vary from about half a dozen in a small rural district to several thousand in the large counties and in the larger county boroughs.

Apart from one or two minor provisions regarding the representation of specialists on committees and the length of time certain members may hold office, committees of councils are remarkably free from legal restrictions; even those known as 'statutory' committees are constituted according to individual requirements and not according to any set pattern laid down. For purposes of classification, however, they may be divided into two kinds: ordinary committees and joint committees. Ordinary committees may be further divided into statutory committees, the appointment of which is compulsory under an Act of Parliament; standing committees, which are appointed in accordance with the standing orders of the council on a permanent basis according to the extent of the council's business; and special committees, which a council may set up for a limited period to deal with a particular problem that once solved is unlikely to recur.

Joint Committees or Joint Boards consist of representatives of more than one authority. They are usually established when local authorities co-operate for services which cannot be dealt with on purely local lines, e.g., water supply, or sewerage.

Committees of a local authority may be advisory or executive; their powers and duties are usually laid down in the appointing council's standing orders or, in the case of a county or large burgh in Scotland, in the council's administrative scheme. A council is free to delegate all its powers to committees except its powers in connection with raising loans, levying rates or issuing precepts, which are legally reserved to the council as a whole.

Officers and Employees

About 1½ million persons (including teachers, transport staff and building workers) are employed in local government service in Great Britain.

Every council is empowered to appoint such staff as it deems necessary to carry out its work. Certain appointments are compulsory (e.g., the Clerk, the Treasurer, the Medical Officer of Health, the Surveyor and the Public Health Inspector), but otherwise the choice of personnel is left to a great extent to the individual council.

Officers are normally of three kinds: heads of departments, whose duties are mainly of an administrative and managerial kind; subordinate officers employed in a professional, clerical or technical capacity; and manual workers who are employed to do the actual physical work for which the council is responsible. As a rule, senior staff appointments are made at the instance of the committee or committees particularly concerned; while most junior appointments are made by heads of departments, who are also responsible for engaging the manual labour required. Appointments and engagements are always made in conformity with a set establishment, and committees are informed of any appointments which they have not made themselves.

Rates of pay and conditions of service for local authority staff are within the jurisdiction of the employing council (except where the proposed salary of an officer requires the approval of a Government Department, as in the case of the clerk of a county council in England and Wales). They are based on recommendations made by the Whitley Councils (see p. 287), of which there are several, including the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services, the National Joint Industrial Council for Local Authorities' Non-Trading Services (Manual Workers), the National Joint Council for County Council Roadmen, and, in Scotland, the Joint Negotiating Committee for Chief Officials of Local Authorities (Scotland) and the Joint Industrial Councils for Local Authority Services. In England and Wales there are also two special joint committees, which have made recommendations with regard to the salaries and conditions of service of town clerks, county district council clerks and other local authority chief officers.

All local government officers are expected to maintain a high standard of conduct: as public servants they 'must not only be honest in fact, but must be beyond the reach of the suspicion of dishonesty'.

Local Government Finance

Total local authority expenditure on current and capital account amounts annually to over £1,500 million. Income derives from Government grants (paid in Northern Ireland by the Government of Northern Ireland), from local rates, from loans, from trading receipts, rents, fees and other miscellaneous sources.

Government grants, which provide over 30 per cent of total income, are of five main types: assigned revenues, which are the proceeds of certain national taxes

handed over to local authorities, e.g., the proceeds of dog, game and gun licences and of the licence fees for hawkers, pawnbrokers, money-lenders and refreshment houses; percentage grants, which are agreed proportions of local authority expenditure upon services approved (in most cases) by Government Departments, e.g., education, health, roads, fire, police and children's services; unit grants, which depend exactly on the service provided, e.g., housing subsidies; equalization grants, which are contributions to the general revenues of the poorer local authorities; and special grants, which are grants paid from time to time for some particular purpose.

Proposals for changes in the local government financial system, contained in the two White Papers on this subject, issued in July 1957, include a proposal to replace most of the percentage and unit grants by a general grant of an amount fixed in advance for a short period of years, though not necessarily at the same level for each year of the period.

Rates are a form of local taxation paid by the occupiers of land and buildings in a local authority area as contributions to the cost of local services. They are levied by a poundage on the rateable value of property, which in England and Wales is equivalent to the yearly rent at which the property might reasonably be expected to let if the tenant paid rates and taxes and also the cost of insurance and repairs, and they provide over a quarter of the total income of local authorities. Valuation is undertaken by the Valuation Officers of the Board of Inland Revenue; appeals may be made to independent Valuation Panels and thereafter to the Lands Tribunal. In Scotland the primary basis of valuation at present is the annual rent payable; valuation on a basis similar to that in England and Wales will come into force in 1961. Valuation areas are the counties of cities and administrative counties, and valuation is carried out by assessors appointed by the councils of these areas. Appeals lie to the Valuation Appeal Committee of each valuation area and thereafter to the Lands Valuation Appeal Court of the Court of Session. A Scottish Valuation Advisory Council has been established by the Secretary of State for Scotland.

The responsibility for levying and collecting the rates in England and Wales lies with the councils of county boroughs and county districts; in London, with the City Corporation and the metropolitan borough councils. County councils finance themselves by issuing a precept on the county districts (in London the metropolitan borough councils and the City Corporation) for the sums of money required; while parishes are financed by rates levied by the appropriate rural district council on property within the parish as an addition to the general rates. Rates in Scotland are levied by the town councils in burghs and by county councils elsewhere; to cover their expenditure, district councils issue a requisition each year to the county council; a town council has to meet an annual requisition from the county council in respect of the burgh's share of the expenditure on functions exercised by the county council throughout the county, including the burgh. In Northern Ireland, county councils are responsible for making, levying and collecting the rates, except in such parts of the county as fall within the jurisdiction of the county borough, borough, or urban district councils.

Loans may be raised by all types of local authority for items of capital expenditure which could not well be met out of current revenue, subject to the approval of the Government Department responsible for the service for which the capital is required. Such loans may be raised either on the open market or from the Public Works Loan Board, which was originally constituted under the Public Works Loans Act, 1875, to make certain local loans out of moneys provided by the Exchequer and which for a brief period (1945-52) was the only source from which local authorities could normally borrow. Freedom to borrow on the open market

was restored to local authorities in January 1953 (see also p. 305); they are now encouraged to raise finance in this way. Government loans provide some 16 per cent of the total income of local authorities.

Internal control of finance is exercised on behalf of the council concerned by a finance committee, whose function is to keep the financial policy of the council under constant review. External control is carried out by means of an annual audit, which in the case of all councils in England and Wales (except for certain general accounts in about two-thirds of the borough councils) is operated by district auditors appointed by the Ministry of Housing and Local Government. Borough councils must use the services of the district auditor for accounts which relate to education, national assistance, children, local health services, coast protection, motor tax, rate collection, police, fire, civil defence and town and country planning, but they may and sometimes do employ a professional firm of auditors to do other work. In Scotland, all accounts are audited by a professional auditor appointed by the Secretary of State for Scotland and paid by the council.

THE LAW

The maintenance of public order in the United Kingdom is effected, generally speaking, by two agencies—the judiciary and the police. Both are concerned in different ways with the obedience of the citizen to the law.

Law is said to be based on the concepts of order and compulsion. In the legal sense, it has been defined as any rule which will be enforced by the courts; as it applies to a country, it is usually understood as the set of rules by which the citizens of that country will expect to regulate their conduct in relation to their fellow citizens and to the State.

There is no written code of law in the United Kingdom. The question whether a particular rule is recognized as part of law is determined by consideration of the authorities, which may be statutes, statements made by legal writers, or reports of decided cases. If none of these exists, the judge uses a process of analogy: that is to say, he bases his decision in a case on its similarity to a previous case in which judgment has already been given.

The sources of law in the United Kingdom are common law which is law recognized by the courts as binding on some other grounds than express enactment, equity (see below), and statute law. The origins of common law are to be found in the customs of the realm. Statute law includes Acts of Parliament and delegated or subordinate legislation made under powers conferred by Parliament (see pp. 34-36).

The Scottish common law is different from that prevailing in England and Wales and (as a rule) in Northern Ireland, since ancient differences were perpetuated by the Treaty for the Union of England and Scotland, 1707, under which Scotland retained her own system of law. Equity was introduced into English law to modify the older common law system during the Middle Ages. Its purpose was to temper justice with mercy when conscience was opposed to the rigours of the law, and to enforce and provide more effectual remedies for existing legal rights. In 1873 the courts of equity were fused in the courts of common law, so that all courts now apply both systems, but where they conflict, equity prevails. The greater part of statute law applies uniformly in all four countries of the United Kingdom, although in many fields of legislation there are statutes applying to Scotland only.

The two main branches of the law in the United Kingdom, as in most other countries, are civil law and criminal law. Civil law has been defined as 'relating to the maintenance of private claims and the redress of private wrongs, which may

not involve moral guilt'.¹ Criminal law deals with offences against the State and their punishment on behalf of the community.

Criminal Justice

English law provides that if anyone is arrested or detained otherwise than upon lawful grounds,² the writ of *Habeas Corpus* may be invoked to set him free, and he may sue the person who detained him for false imprisonment. The writ of *Habeas Corpus* may be granted by a Divisional Court of the Queen's Bench Division or by any judge of the High Court (see p. 76) against the person who detains the prisoner, and this person must then appear before the court on the day named to show cause for the detention; if he can show no cause, the prisoner must be released forthwith.

Lawful arrest may be either by warrant (which must contain a statement of the specific offence with which the accused is charged) or, in certain cases, without warrant. Any person arrested must be charged at once and, unless granted bail by a senior police officer, brought without delay before a magistrates' court sitting in public. It is a basic principle of the legal system that every accused person must be presumed innocent until his guilt has been proved by the prosecution, and it has been laid down that, in the conduct of a criminal case, the prosecution shall neither have, nor appear to have, any advantage over the defence. Therefore, no prisoner can be compelled to answer the questions of the police before trial; but if he is prepared to do so, he must be warned that anything that he says may be taken down and given in evidence at his trial.³ Private interrogation before an examining magistrate prior to public trial forms no part of English criminal proceedings.

Prisoners awaiting trial either before a magistrates' court or before a higher court may, at the discretion of the court, be released on bail—that is to say, they may be temporarily discharged subject to their entering into a recognizance, with or without sureties, for a reasonable sum of money, to appear in court at the time appointed for the trial.

Any person accused of a crime may be assisted at his trial by a professional lawyer. If he cannot afford to pay for legal representation he may be granted legal aid (see p. 83); this is at the discretion of the court, except in the case of a person charged with murder, who must be granted legal aid if his means are insufficient. During his trial, the accused person or defendant has the right to hear and subsequently to cross-examine all the witnesses for the prosecution, to call witnesses on his own account, and to address the court. Once acquitted no accused person can ever again be charged with that particular offence in any court of law.

The Jury System

Generally speaking, all the more serious crimes, i.e. crimes known as indictable offences because a formal written accusation or indictment is required for their prosecution, must be tried in a superior court before a jury. As an exception, however, certain specified indictable offences may be dealt with instead at a

¹ *Outlines of Central Government*, J. J. Clarke.

² These are: in pursuance of criminal justice; for civil debt (this is now permitted only where a person of proved capacity to pay refuses to do so); by order of a court of law or of either House of Parliament, upon the ground of contempt; detention of persons found to be insane or mentally defective; detention of children by their parents or guardians.

³ The police can ask questions of a person not in their custody without warning him, but once the police officer has made up his mind to prefer a charge against the person, he must warn him in similar terms.

magistrates' court if the defendant consents. Conversely a criminal case which would ordinarily be dealt with in a magistrates' court must usually be heard before a jury if the offence is punishable by more than three months' imprisonment and the defendant elects to be so tried.

A jury consists of twelve persons duly summoned in pursuance of a precept from the court. Most property owners and ratepayers (men and women alike) are liable to be summoned for jury service if they are British subjects and are between the ages of 21 and 60, unless they are disqualified as, for example, having been convicted of any infamous crime. Members of certain professions are, however, exempt from service, and no person can be summoned to serve on any jury more than once in any one year unless all the jurors on the list have already been summoned to serve during such year.

In trials by jury it is, broadly speaking, the duty of the judge to determine questions of law, including questions as to the admissibility of the evidence, and for the jury to decide questions of fact. In criminal cases, therefore, the jury has to decide whether, on the evidence placed before them and the summing-up of that evidence by the judge, the defendant is guilty or innocent; if it finds the defendant guilty, sentence is passed by the judge. The judge never accompanies the jury when it retires to consider its verdict. The verdict of a jury must be unanimous; if its members are unable to reach agreement, the case must be retried before a new jury. Both the prosecution and the defence have the right to object to any member of the jury on the grounds of his lack of impartiality; it is an offence to assault, threaten, or attempt to corrupt a juror; and no jury can be penalized for its verdict, though it be apparently contrary to the evidence or to the summing-up of the judge.

Procedure under Scottish law differs from the foregoing in a number of important respects; notably, the verdict may be by a bare majority of the jury (which in Scotland consists of fifteen persons) and, in addition to 'guilty' or 'not guilty', may also be given as 'not proven'; this last verdict, which does not exist in English law, involves acquittal in the same way as 'not guilty'.

In England and Wales, either party may insist on trial by jury in civil courts in cases involving claims for defamation, malicious prosecution, false imprisonment, seduction, breach of promise to marry, or fraud; other civil cases are only tried by jury if the court, in its discretion, so orders on the application of a party. Where there is no jury, the trial is by judge alone. In the trial of a civil action, the jury is responsible for deciding questions of fact (as in the trial of criminal cases) and also the amount of damages to be awarded to the injured party.

The procedure in civil cases in Scottish courts again differs in some respects.

At certain inquests at coroners' courts (see pp. 79-80) a jury is required to be present to return a verdict on how, when and where a deceased person died. The jury in this instance consists of not fewer than seven and not more than eleven jurors. A jury is also required at an inquest held by a coroner to decide whether objects of gold or silver found in the ground are 'treasure trove' (see p. 80).

Law of Evidence

The law of evidence (evidence being all the legal means, exclusive of mere argument, which tend to prove or disprove any matter of fact, the truth of which is submitted to judicial investigation) is, in general, the same in criminal and in civil trials; but, because of the peculiar nature of a criminal trial—the gravity of the issue, the extent to which the public interest is involved and the penalty to which the prisoner may be subjected—some of the rules, as they relate to the proof of the case against the prisoner, are applied with greater rigour and severity in the course

of criminal than in the course of civil proceedings. Thus, although the uncorroborated evidence of one witness is, as a matter of English law, sufficient, a conviction solely on the evidence of an accomplice (or accomplices) is, in practice, never allowed, unless the judge has warned the jury of the dangers of convicting without corroboration. In Scotland, apart from a few statutory exceptions, no person can be convicted unless there is evidence of at least two witnesses implicating him in the commission of the crime with which he is charged.

Evidence of admissions of guilt by an accused person are accepted in a criminal trial only subject to certain strict conditions designed to ensure that the prisoner fully understood that his confession might be used in evidence, and that it was a voluntary confession, not obtained from the prisoner either by fear of prejudice or hope of advantage. Nor may the previous history of the prisoner be used against him unless he has either expressly set up his own virtuous character as an argument for his innocence, or attacked a witness or the prosecutor (or given evidence against a co-defendant), in which case he may, should he choose to give evidence himself, be asked questions about his own previous convictions provided that they are relevant and not too remote in time. And finally, a witness must not, as a general rule, repeat in court statements made by a third party; first, because to admit such evidence would be to accept the statement of a person not on oath, and secondly, because that person cannot be cross-examined.

THE COURTS

The courts that apply the law in the United Kingdom are broadly speaking divided into civil and criminal courts, although, since the distinction is a comparatively modern one, no hard and fast line can be drawn. Quite a number of civil cases are, in fact, heard in criminal courts; while occasionally a criminal case may be heard in what is primarily a civil court.

Civil Courts in England and Wales

The more important of the civil courts in England and Wales are:

The County Courts

The County Courts are so arranged that there is no part of the country more than a reasonable distance from one of them. These courts may be regarded as 'popular tribunals'; nearly three-quarters of a million cases are entered in them every year, although comparatively few ever reach the stage of trial, many being settled out of court. County courts are presided over by a paid judge, who usually sits alone, although he may sit with a jury. Eighty county court judges may be appointed (see p. 82).

Most of the county courts (of which there are over 400) do not sit continuously, so that one judge can preside over several courts. If pressure of business is so great, however, as to cause delays in the administration of justice in any district, the Lord Chancellor may, on representations made to him by the judge of the district, appoint a person (who must previously have held office as a judge or have been a barrister of at least seven years' standing) to act for the judge at any sitting of the court.

The general jurisdiction of the county court covers all common law actions, (though some claims, e.g., for libel, can only be tried there in exceptional circumstances) where the personal reputation of the defendant is involved, provided that the amount claimed does not exceed £400. Actions which may involve awards in excess of this sum may be transferred to the High Court by order of the presiding

judge on application by the plaintiff. Cases which fall under the specific jurisdiction of the county courts, e.g., those connected with agricultural holdings, rent restrictions, hire purchase agreements and other matters governed by statute or ministerial order, are tried irrespective of the amount involved.

In addition to the ordinary county courts, there are still a few local courts, with somewhat similar jurisdiction. Most of these are survivals from the medieval borough courts, and some of them have little or no work to do at the present time. Two or three, such as the Liverpool Court of Passage, the Salford Hundred Court and the Bristol Tolzey Court, are still comparatively well used.

The Mayor's and City of London Court

This court, which is the County Court for the City of London, is the amalgamation of two courts, the Mayor's Court, with a jurisdiction unlimited as to amount, and the City of London Court, a court for small cases. It is usually presided over by a judge appointed by the City of London.

The High Court of Justice

The High Court of Justice forms part of the Supreme Court of Judicature. The Supreme Court of Judicature largely took its present form in 1873. It is composed of the High Court and the Court of Appeal.

The High Court sits in three divisions: the Queen's Bench Division, the Chancery Division, and the Probate, Divorce and Admiralty Division. These divisions derive from the old courts of the same names which existed before 1873, and cases are distributed between them as tradition and convenience dictate.

The Queen's Bench Division is staffed by the Lord Chief Justice and 25 puisne judges, i.e. judges without special office of their own. These judges are mainly concerned with ordinary civil actions, e.g., debt cases, actions for damages, revenue cases, insurance cases and commercial cases; but they also hear criminal cases at assizes (see p. 78).

The Chancery Division is officially headed by the Lord Chancellor; but most of the work is done by seven puisne judges who remain in London all the time. The jurisdiction of the Chancery Division derives from the equity system (see p. 72), and its work covers actions for the administration of the estates of deceased persons, partnership actions, actions connected with trusts and mortgages, some tax cases, the care of infants' estates, and company and bankruptcy matters.

The Probate, Divorce and Admiralty Division deals, as its name implies, with the proof of wills; with Admiralty and shipping cases; and with divorce cases, many of which are heard (at present) either before judges or before specially appointed commissioners—often county court judges.

Appellate Courts

There are two Appellate Courts in civil law actions—the Court of Appeal, which is part of the Supreme Court of Judicature (see above), and the House of Lords.

There are several *ex officio* members of the Court of Appeal, but its effective head is a judge called the Master of the Rolls, who is assisted by eight Lords Justices of Appeal. Appeals lie to the Court of Appeal from the county courts, the Mayor's and City of London Court and the civil side of the High Court. The Court of Appeal generally sits in two or three divisions, with three judges to a division.

From the Court of Appeal, a further appeal is possible to the House of Lords, with the leave of the House of Lords or of the Court of Appeal. Such appeals are

usually heard by five of the nine Lords of Appeal in Ordinary, who are paid professional judges with peerages for life. In addition, the Lord Chancellor and any peers who have held 'high judicial office' are entitled to sit. The House of Lords is the supreme court of appeal in civil cases in the whole of the United Kingdom.

Civil Courts in Scotland

Sheriff Courts

Sheriff Courts in their civil capacity correspond roughly to county courts in England and Wales, but they have a wider jurisdiction unlimited by the value of the case. They also have power to try (summarily or by indictment) all but the most serious crimes and offences. Scotland is divided into 12 Sheriffdoms, each provided with a Sheriff and a number of Sheriffs-Substitute. The work of the sheriff court is normally done by a Sheriff-Substitute, against whose judgment an appeal may be made to the Sheriff or directly to the Court of Session.

Minor civil matters (actions not exceeding £5 in value) may be tried by justices of the peace.

The Court of Session

The Court of Session is the supreme civil court in Scotland. It was established in 1532 and consists at present of 15 judges. The court is divided into two parts—the Inner House, which is mainly an appeal Court, and the Outer House, a court of first instance, where, *inter alia*, all actions for divorce are taken. The Inner House is divided into two divisions of equal status, each consisting of four judges; the First Division being presided over by the Lord President, and the Second Division by the Lord Justice Clerk. From the Inner House, an appeal may lie to the House of Lords.

The Scottish Land Court

This is a special court in Scotland for dealing with certain agricultural matters. The court is presided over by a legal chairman, who has the rank and dignity of a judge of the Court of Session.

Criminal Courts in England and Wales

The criminal courts in England and Wales include:

Petty Sessional or Magistrates' Courts

Magistrates' courts are courts of summary jurisdiction where persons accused of all kinds of minor offences and a large number of the less serious indictable offences may be tried without a jury (see pp. 73-74). These courts are also used for committal proceedings, i.e. the public conduct, by magistrates, of preliminary inquiries into indictable offences to determine whether or not an accused person should be committed for trial in a higher court. In 1956, over 97 per cent of all persons convicted were convicted at magistrates' courts.

The majority of magistrates' courts consist of two or more unpaid 'lay' magistrates or justices of the peace, who are appointed, in each county and for each borough which has its own commission of the peace, by the Lord Chancellor, who is advised as to a county by the Lord Lieutenant¹ with the assistance of an advisory committee, and as to boroughs by separate advisory committees. There are also a few persons who are authorized by statute to act as justices, by virtue of holding

¹ The office of Lord Lieutenant in the county was first created in the sixteenth century. Its holder was chief among the county justices and commander of the county militia.

some other public office, e.g., mayors of county and non-county boroughs and chairmen of county councils.

In central London, the courts consist of a paid metropolitan magistrate sitting alone; some of the larger towns also have stipendiary magistrates.

Juvenile Courts in England and Wales are specially constituted magistrates' courts which deal with those of under 17 years of age who are charged with any offence except homicide, or are brought before the courts as being in need of care or protection or beyond control, or persistent truants. Juvenile courts also deal with most applications for the adoption of children.

Outside the London magistrates' courts area the justices for each petty sessional division elect from their number a panel of justices specially qualified to deal with juvenile cases. The panel for the London area is appointed by the Home Secretary.

A juvenile court consists of not more than three justices drawn from the panel and must, except in special circumstances, include a man and a woman. A juvenile court must sit either in a different room or building from that in which other courts are sitting, or on a different day. Only persons within certain specified categories are admitted and only limited publicity is allowed.

Domestic Proceedings are also tried by not more than three justices, of whom one should be a man and one a woman. The hearing of domestic proceedings is separated from other business and, as in juvenile courts, the public is excluded.

Courts of Quarter Session

There are two different kinds of Quarter Sessions—county sessions and borough sessions; both are normally held four times a year, although additional sittings may be held, when necessary, by way of adjournment.

Each of the 65 courts of county quarter sessions is presided over by a legally qualified chairman or deputy chairman, who may or may not draw a salary, sitting with a number of the magistrates of the county. In London and Middlesex, where the courts have continuous sittings, the chairman and deputy chairman normally preside alone. In the 96 boroughs, which hold separate quarter sessions, the courts, which do not sit continuously, are presided over by a Recorder (usually a part-time judicial officer), who is a salaried barrister, as sole judge. Trial by jury applies at both borough and county sessions.

The jurisdiction of quarter sessions covers all but the most serious indictable offences; the courts are debarred, for example, from trying any crime that carries the death sentence or (subject to certain exceptions) imprisonment for life (see page 85).

Assizes

The Courts of Assize are branches of the High Court of Justice. They are held in the county towns and in certain big cities three times a year, a Queen's Bench judge or a Commissioner of Assize (who may be a barrister commissioned to act as a judge) presiding. The assize judges work on circuits covering England and Wales, and travel from one county town to another in the course of their duties. They can try any indictable offence committed in the county.

At the winter and summer assizes, civil business as well as criminal may be taken, but except in a few large towns the autumn assize is confined to criminal cases.

The Crown Courts

The Crown Courts are new courts established at Liverpool and Manchester by provision of the Criminal Justice Administration Act, 1956, to act as courts of

assize in and for the West Derby Division of Lancashire and the Salford Division of Lancashire. They also act as courts of quarter sessions for the cities of Liverpool and Manchester. The Crown Courts are presided over by the Recorders of Liverpool and Manchester, who are whole-time judicial officers.

The Central Criminal Court

The Central Criminal Court at the Old Bailey acts as the court of assize for the criminal business of London, Middlesex and parts of the Home Counties. The judges include: a judge, chosen from the Queen's Bench Division in rotation, for each monthly session of the court; the Recorder of London; the Common Serjeant; and two additional judges of the Mayor's and City of London Court.

Criminal Appeals

Appeals may be made direct from the magistrates' court to the High Court on a point of law; but the more usual kind of appeal is the appeal of a convicted person against his conviction or his sentence. Appeals of this kind from a magistrates' court are heard in the counties by the Appeal Committee of Quarter Sessions, consisting of between three and twelve magistrates, and in the boroughs by the Recorder; in neither case is a jury required.

Appeals against convictions or sentences by quarter sessions, assizes or Crown courts go to the *Court of Criminal Appeal*. Appeals may be made on any point of law, and also, by leave, on a point of fact.

The Court of Criminal Appeal consists of the Lord Chief Justice and a number of Queen's Bench judges; three in session is the usual number.

A further appeal from the Court of Criminal Appeal to the House of Lords on a point of law can be made if the Attorney-General grants a certificate affirming that the appeal is of 'exceptional public importance and that it is desirable in the public interest that a further appeal should be brought'. Appeals of this kind are very rare.

Criminal Courts in Scotland

The bulk of the criminal prosecutions in Scotland are dealt with in the sheriff courts (see p. 77), and only minor offences are tried in police courts in burghs and in justice of the peace courts in counties. Cases involving serious crime are taken in the *High Court of Justiciary*, which is the supreme criminal court of first instance. It also functions as an appeal court from inferior criminal courts. It consists of the Lord Justice General (who is also the Lord President of the Court of Session), the Lord Justice Clerk and thirteen Lords Commissioners of Justiciary who are also judges of the Court of Session. The seat of the court is in Edinburgh, but the judges go on circuit to preside at trials in other towns. Appeals to the High Court are heard by three or more judges; there is no further appeal to the House of Lords.

Courts in Northern Ireland

Both civil and criminal courts in Northern Ireland are similar to those in England and Wales with some minor modifications to suit a smaller community. The main difference is that all petty sessional cases are dealt with by resident magistrates, who correspond to the metropolitan or stipendiary magistrates of England and Wales. The inferior courts, that is to say the courts where the less serious cases are tried, are administered by the Parliament of Northern Ireland; the administration of the superior courts has been reserved to the Parliament of the United Kingdom.

Coroners' Courts

Where a person appears to have died a violent or unnatural death, or a sudden death of which the cause is unknown, or in certain other circumstances, the death

must be reported to a coroner (who may be a barrister, a solicitor, or a medical practitioner of not less than five years' standing, appointed by a county or a county borough council), within whose jurisdiction the body is lying. When a death is reported to a coroner, he inquires how, when, and where the deceased died. A coroner may hold an inquest in court for this purpose and he must hold an inquest if he has reasonable cause to believe that the deceased has died a violent or unnatural death or has died in prison or in circumstances for which an Act of Parliament provides that an inquest must be held. A jury must be summoned if there is reason to suspect that the deceased came by his death by murder, manslaughter, or infanticide, or from an accident arising out of the use of a vehicle in a street or public highway, or in certain other special circumstances. If the jury returns a verdict of murder, manslaughter or infanticide by a particular person, the coroner commits that person for trial at assizes. If the death is merely a sudden death of which the cause is unknown, the coroner need not hold an inquest but may order a post-mortem examination to ascertain the cause of death.

Any person finding objects of gold or silver hidden in the soil or in buildings, the original owner of which cannot be traced, must report the find to a coroner. The coroner then holds an inquest with a jury to inquire whether the objects are 'treasure trove' and who was the finder thereof. If it is decided that the objects are treasure trove, then, though the law is that treasure trove vests in the Crown, the declared finder will either receive them back or be paid their full market value.

In Scotland, the office of coroner does not exist. The Procurator Fiscal inquires privately into all sudden and suspicious deaths in his district and may report the results of his inquiries to the Crown Agent in order that Crown Counsel may consider what proceedings, if any, are required.

Ecclesiastical Courts

The established Church of England has its own ecclesiastical courts, which constitute a graduated hierarchy. They include the Court of the Archdeacon, the Consistory Court of the Bishop of each diocese and the provincial courts of the Archbishops of Canterbury and of York.

The ecclesiastical courts, which are still courts in the full sense of the word, have jurisdiction only in matters of purely ecclesiastical concern, such as questions of doctrine and ritual, ordination, consecration, and the celebration of divine service (see also p. 401).

Administrative Tribunals

A number of administrative tribunals¹ exist in various parts of the United Kingdom for the exercise of special judicial functions; broadly speaking they fall into three groups:

- (1) those which deal with a class of dispute in which a Government Department or public authority is almost always interested, e.g., Local Valuation Courts (rating), Pensions Appeal Tribunals, General and Special Commissioners of Inland Revenue (income tax);
- (2) those which deal with a class of dispute where specialized knowledge or experience on the part of the tribunal is required, e.g., the Lands Tribunal (assessment of values of interest in land), and Rent Tribunals (assessment of fair rents for furnished premises);

¹ In 1957, a committee, appointed to inquire into the practice and procedure of administrative tribunals, issued its report, which is now being considered by the Government.

- (3) those which enforce professional discipline, e.g., the General Medical Council (doctors), and the Disciplinary Committee of the Law Society (solicitors).

Appeals from these tribunals normally lie to the appropriate minister (if there is one) or, on a point of law, to the superior courts of England and Wales, Scotland or Northern Ireland, as the case may be.

Military Courts

The jurisdiction of military courts or courts martial is exclusively over persons subject to military law, and appeals lie to the Courts-Martial Appeal Court, set up by the Courts-Martial (Appeals) Act, 1951. The powers of courts martial are limited to those conferred on them by statute, and if these powers are exceeded, the person injured has his remedy in the High Court.

THE JUDICIARY

The judiciary of the United Kingdom is independent. That is to say, it is free to administer the law under the protection of the law without fear or favour. All judges, from those of the House of Lords and the superior courts to the 'lay' magistrates or justices of the peace, must not only be, but must appear to be, completely impartial, for it is of fundamental importance that 'justice should not only be done, but should manifestly and undoubtedly be seen to be done'.

The courts of the United Kingdom are the Queen's Courts in that 'all jurisdiction of the courts is either indirectly or immediately derived from the Crown',¹ but since the end of the seventeenth century it has been established that the executive cannot disturb or delay the course of common justice, attempt to force the judges to act otherwise than impartially, or use the prerogative powers of the Crown to create courts to administer any system of law other than common law.

The independence of the judiciary *vis-à-vis* the legislature is likewise strictly observed. Originally laid down by the Act of Settlement, 1701, the law governing the matter was re-enacted in the Supreme Court of Judicature (Consolidation) Act, 1925, which provides that all judges of the High Court and the Court of Appeal, with the exception of the Lord Chancellor (who is a member of the Cabinet), shall hold their offices during good behaviour subject to a power of removal by the Sovereign on an address presented by both Houses of Parliament. During the centuries that have passed since 1701, only one such address has been moved (against a judge convicted of misappropriation of funds, in the nineteenth century); and it can be stated with confidence that Parliament would never interfere in this way with judicial independence. Similarly, although no court in the United Kingdom would ever question the validity of an Act of Parliament which had been duly passed by both Houses of Parliament and duly promulgated and published by the proper authority, it might, through its interpretation of the statute, come to a decision contrary to the policy of the Government which introduced the Act. In such a case, it would be open to the Government to persuade Parliament to clarify or amend the statute, or to pass a new Act. It would not be open to it to penalize the judge or to try to influence the court in any other way.

Administration of the Judicial System

There is no Minister of Justice in the United Kingdom. The central responsibility for the administration of the judicial system in England and Wales lies partly

¹ *Blackstone's Commentaries.*

with the Lord Chancellor and partly with the Home Secretary. The Prime Minister is also concerned in that he is responsible for recommending to the Crown the appointment of the Lord Justices of Appeal and that of the Lords of Appeal in Ordinary (see pp. 76-77).

Apart from the appointment of the Lord Justices of Appeal, Crown appointments to the High Court bench are made on the recommendation of the Lord Chancellor, who appoints justices of the peace and is also responsible for recommending to the Crown the appointment of county court judges (except in Lancashire where they are nominated by the Chancellor of the Duchy of Lancaster), Recorders of boroughs and metropolitan and stipendiary magistrates. The administrative business of the Supreme Court of Judicature and the appointment of court officials is partly in the hands of the Lord Chancellor and partly in the hands of the appropriate judges. The Lord Chancellor is a member of the Rule Committee which makes the rules of the Supreme Court; he also appoints the County Court Rule Committee and has power to alter or to disallow the rules made by it. In addition, responsibility for initiating proposals for judicial reform, save in the field of criminal law, lies with the Lord Chancellor, who is advised in this matter by the Law Reform Committee and the Private International Law Committee, both established in 1952.

The Home Secretary is responsible for approving appointments of clerks to justices throughout England and Wales, and for the general administration of magistrates' courts, except in relation to their judicial functions in which they can be controlled only by the Queen's Bench Division of the High Court. The local responsibility for the administration of magistrates' courts lies with the magistrates' courts committees, of which there is one for each county and county borough.

In Scotland, the Prime Minister makes recommendations for the appointment of the Lord President and Lord Justice General and also of the Lord Justice Clerk (see p. 79). Power of submission for appointment of all other judges lies with the Secretary of State for Scotland on the nomination of the Lord Advocate. The High Court of Justiciary and the Court of Session are administered by the Clerk of the Justiciary and his staff and the Principal Clerk of Session and his staff respectively. Powers of appointment and removal of justices of the peace, formerly held by the Lord Chancellor, were transferred in 1955 to the Secretary of State for Scotland.

THE LEGAL PROFESSION

The legal profession of England and Wales is strictly divided into two classes of lawyers—barristers and solicitors. The distinction, which is due mainly to historical causes, is found also in Northern Ireland, Scotland and certain parts of the Commonwealth.

No hard and fast line can be drawn between the work of the solicitor and the work of the barrister, since there are many barristers who do little advocacy, and there are solicitors who do little else, and who have made considerable reputations for themselves in the courts in which they are permitted to appear. In general, however, it may be said that solicitors are professional men who undertake legal business for lay clients; while barristers advise on legal problems submitted through solicitors, and conduct legal proceedings in the higher courts.

A barrister is required to have reached an accepted educational standard, to have passed the legal examinations conducted by the Council of Legal Education and to have become a member of one of the four Inns of Court—Gray's Inn, Lincoln's Inn, the Middle Temple and the Inner Temple. A barrister with a substantial junior practice may apply to the Lord Chancellor for a patent appointing him

Queen's Counsel—a proceeding that is known as 'taking silk'. The highest appointments in the legal profession, including those of Attorney-General, Solicitor-General, and other Law Officers of the Crown, are usually, though not necessarily, made from among barristers who have become Queen's Counsel. The professional conduct of a barrister is subject to the scrutiny of the General Council of the Bar; but disciplinary powers are vested exclusively in the Benchers of the Inns of Court.

A prospective solicitor must be considered suitable by the appropriate Committee of the Law Society, the professional organization of solicitors, and he must enter into 'Articles of Clerkship' with a practising solicitor of not less than five years' standing before he can begin his professional career. The term of articles lasts for three or five years, depending upon the educational qualifications of the student. An articulated clerk must pass the necessary examinations held by the Law Society and, unless he has been a barrister or is a law graduate of a university, he is generally required to attend a course of studies at a recognized law school. Once a solicitor is qualified, he may also become a member of the Law Society.

In Scotland, the conditions for admission as, and the standing of, advocates and solicitors are much the same as those applying in the case of barristers and solicitors in England and Wales.

LEGAL AID

Schemes for free legal assistance to persons of slender means and resources have existed in some courts and to a limited extent for centuries in England and Wales and in Scotland. The schemes were revised in 1949 when the Legal Aid and Advice Act and the Legal Aid and Solicitors (Scotland) Act received Royal Assent. These Acts were introduced to improve and extend the existing arrangements in civil proceedings so that no one would be financially unable to prosecute a just and reasonable claim or to defend a legal right, and to make the facilities already available in criminal proceedings more easily accessible to those who needed them. The Acts also provided that solicitors and barristers acting for persons receiving legal aid should no longer be required to act gratuitously in civil cases, but should be remunerated for their services from public funds.

The Acts, and in particular the provisions relating to free legal advice (as distinct from assistance in the conduct of litigation), are not yet fully in operation.

Legal Aid in Civil Cases

Legal aid in civil cases is now available to persons whose income, computed in accordance with rules applied by the National Assistance Board, does not exceed £420 a year, and whose capital, as so computed, does not exceed £500. Where an assisted person can afford to make a contribution to the costs of his case, he is required, as a condition of receiving legal aid, to pay an amount which is settled with due regard to his financial resources.

In England and Wales, legal aid in civil cases is already available in connection with proceedings in the High Court, in the Court of Appeal, in county courts and in certain local courts of similar standing. Eventually the scheme will cover representation in courts of all types, from magistrates' courts up to the House of Lords. The scheme is operated through the Law Society under the general guidance of the Lord Chancellor. The cost is met from a Legal Aid Fund, drawn from three sources: contributions from assisted persons; costs recovered from opposite parties in litigation; and a grant from the Exchequer.

For the purposes of the scheme, England and Wales are divided into twelve areas. In each area a committee of solicitors and barristers, known as an area committee,

is responsible for the scheme's initial organization and subsequent administration. These committees are responsible for setting up legal aid centres to which anyone seeking legal aid may apply. Committees hear the facts, and if they consider that there is a *prima facie* case they give it their support. The person who wishes to bring the action is then allowed to select from a panel a solicitor and, if necessary, a barrister, to conduct his case. Certain types of action, including breach of promise to marry, and libel and slander, are excluded from the scheme.

In Scotland, the legal aid scheme is administered by the Law Society of Scotland through a supervisory Central Committee, a Supreme Court Committee and twenty-one local committees. Legal aid is at present available for civil proceedings in the Court of Session and the sheriff courts. An applicant for legal aid in Scotland is required to show a 'probable cause' and produce in support of his application a statement corroborated according to the requirements of Scottish law.

Legal Aid in Criminal Courts

Free legal aid is already available in the criminal courts in England and Wales under the Poor Prisoners' Defence Act, 1930, and, in case of appeal, under the Criminal Appeal Act, 1907, and the Summary Jurisdiction (Appeals) Act, 1933. The Legal Aid and Advice Act, 1949, makes certain procedural changes in the system and, when fully implemented, will transfer financial responsibility for paying for free legal aid from local to central funds. It also lays down the principle of allowing fair remuneration according to the work actually and reasonably done.

Under the Costs in Criminal Cases Act, 1952, the courts also have power, in the case of an indictable offence, to order the reasonable costs of the defence to be paid out of local funds when the accused has been discharged by the magistrates' court or acquitted. A magistrates' court has power under the Act, if it dismisses an information on summary trial, to order such costs to be paid to the accused by the prosecutor as it considers just and reasonable.

Pending the full implementation of the Legal Aid and Solicitors (Scotland) Act, legal aid in criminal cases is afforded to poor persons in Scotland under the Poor's Roll system, which is administered on a voluntary basis by the legal profession.

In Northern Ireland, free legal aid in criminal cases is afforded to poor persons under the Criminal Justice (Northern Ireland) Act, 1945. The cost of providing free legal aid is met out of public funds.

TREATMENT OF OFFENDERS

The chief aims of the penal system of the United Kingdom are deterrence and reformation. The principle underlying the system is that its effectiveness depends less on the punitive treatment of the detected offender than in its total impact—fear of detection, public trial and conviction and the possibility of punishment, whether by imprisonment or otherwise. The treatment of offenders is therefore based as far as possible upon measures for the social rehabilitation of the offender rather than upon measures intended simply to punish the offender for his crime.

The penalties which may be imposed by the courts according to the law depend on the circumstances of the offence and the offender, and although maximum penalties are prescribed by law, the courts have discretion (within the limits provided) in imposing sentence. In general, the courts have power to impose either imprisonment or a fine for serious offences, and, in certain cases, both; while most minor offences are punishable by a fine only, with the alternative of imprisonment if the fine is not paid. Moreover, it is at the discretion of the court, instead of sentencing an offender, to discharge him absolutely, or, in England and Wales only, to

discharge him conditionally (i.e. subject to the condition that he commits no offence during a specified period not exceeding twelve months), or to place him on probation (see p. 91). There are special provisions governing the treatment of young offenders (see pp. 89-91). The Criminal Justice Act, 1948, and the Criminal Justice (Scotland) Act, 1949, provide that courts shall not sentence a person under 21 years of age to imprisonment unless they consider that no other method of dealing with him is appropriate.

The death penalty is now imposed, under the Homicide Act, 1957, only for those forms of murder (to be known as 'capital murder') which strike most directly at the maintenance of law and order and the public peace, i.e. any murder done in the course or furtherance of theft, any murder by shooting or by causing an explosion, any murder committed to escape lawful arrest or to effect or assist escape or rescue from lawful custody, or any murder of a police officer (or person assisting him) or of a prison officer, acting in the execution of his duty. The penalty for murder not in these categories is imprisonment for life,¹ except that the death penalty continues to apply where a person who is convicted of murder has previously been convicted of another murder committed on a different occasion. Persons under the age of 18 years at the time that the crime was committed are not sentenced to death or to life imprisonment, but 'to be detained at Her Majesty's pleasure'. Persons suffering from such abnormality of mind as substantially impairs their mental responsibility cannot be convicted of murder; a conviction of manslaughter is substituted in such cases. The Act maintains the long-established practice for the Home Secretary or the Secretary of State for Scotland to review every capital case before the law is allowed to take its course and to consider whether there are grounds for advising the Crown to exercise the Prerogative of Mercy.² Where a reprieve is recommended, the sentence of death is commuted to one of imprisonment for life.

Two special types of treatment have been devised to deal with the persistent offender. Offenders of 21 years of age or over may be sentenced to corrective training if they are convicted of an offence punishable with imprisonment for a term of two years or more and have been convicted on at least two previous occasions since attaining the age of 17 of offences punishable with such a sentence. Corrective training is imposed for not less than two or not more than four years (seven years in Northern Ireland), as the court decides.

Persons who are not less than 30 years of age and are convicted of offences punishable with imprisonment for a term of two years or more and have been convicted on at least three previous occasions since attaining the age of 17 of offences punishable with such a sentence and have been sentenced to borstal training, imprisonment or corrective training on at least two of these occasions, may be sentenced to preventive detention. Preventive detention is primarily for the protection of the public, and the sentence runs for not less than five years (three in Northern Ireland) or more than 14 years, as the court decides.

¹ A sentence of imprisonment for life is never carried out literally. The periods are determined by the Home Secretary in accordance with the circumstances of the individual case, each case being reviewed at least every four years. Under present practice, almost no one serves more than fifteen years—the normal is much less than that—and it is by no means uncommon, where circumstances of the crime are pathetic and there is no need to keep the prisoner in custody for a long period, for life-sentence prisoners to be granted an early release.

² In Northern Ireland, the Governor acts for the Crown in this matter on the advice of the Cabinet.

Administrative Authorities

In England and Wales, general responsibility for all institutions for the treatment of offenders is vested in the Home Secretary. His statutory powers and duties in this connection include the making of rules for the governance of such institutions, the recommendation of persons for appointment by the Crown as Prison Commissioners, and the appointment of Boards of Visitors.

In the discharge of his duties relating to the treatment of offenders, the Home Secretary is advised by an Advisory Council on the Treatment of Offenders, which also acts as the National Working Group for the Economic and Social Council of the United Nations, and as the National Committee of the International Penal and Penitentiary Commission.

Responsibility to the Home Secretary for the administration of prisons, borstal institutions and detention centres in England and Wales lies with the Prison Commission, assisted by inspectors and by a professional and technical staff. The Prison Commission consists of not more than five Commissioners, who are appointed by the Crown, including the chairman, who is appointed to that office by the Home Secretary. There are also a number of Assistant Commissioners who are inspectors under the Prison Acts.

The oversight of each of these institutions is the responsibility of either Visiting Committees appointed by the justices for those prisons to which convicted persons are committed direct from their courts, or Boards of Visitors appointed by the Home Secretary for the other prisons and institutions. The main functions of the committees and boards are: to act as the superior disciplinary authority of the prison or institution; to constitute an independent judicial body to which any prisoner or inmate may make a complaint or request; and to report direct to the Home Secretary, both by formal annual report and as occasion may require, on every aspect of the administration of the prison. In borstal institutions and preventive detention prisons, the boards also advise the Prison Commissioners on the release of the inmates on licence.

The prison systems of Scotland and Northern Ireland are the responsibility of the Secretary of State for Scotland and of the Minister for Home Affairs respectively, and are administered by the Home Departments in Edinburgh and in Belfast.

Prisons

Prisons in England and Wales are of the following types: local prisons (of the ordinary type which receive all classes of prisoners direct from the courts, and of a special type, which may be open or walled, for short-sentence prisoners, chiefly first offenders); regional training prisons, some of which are open, for first offenders and trainable prisoners of other categories; corrective training prisons; and central prisons for long-term recidivists, preventive detention prisoners and long-term prisoners of the 'Star' class¹—one for the latter class is an open prison.

In Northern Ireland, with its smaller population, the necessity for several kinds of prison for the separation of various classes of prisoners does not arise to the same extent as in England and Wales. The Scottish system of classification of prisoners is broadly the same as that of England and Wales; but each prison in Scotland accommodates more than one classification group.

Full-time prison officers of all ranks, except chaplains, are permanent civil servants. At the end of 1956, prison staff of all grades in England and Wales numbered about 7,300. Some 8 per cent of this number were women.

¹ 'Star' class prisoners are those who have not previously been convicted of serious crime and are not of habitually criminal or depraved habits.



An English village: Aylesford, Kent, on the River Medway.



The Scottish capital: the City of Edinburgh.



A Welsh harbour: Tenby, Pembrokeshire.



Northern Ireland: a view of the Mountains of Mourne.

Classification of Prisoners

Every person committed to prison is first received in the local prison serving the court from which he is committed. Subsequently, he may either serve his whole sentence at the local prison or he may be sent to another institution, depending on his age, the length and nature of his sentence, and his personal history and character.

The object of classification is first to ensure the separation of the sexes, of young persons from adults, of untried prisoners from convicted prisoners and of civil prisoners from criminal prisoners; secondly to prevent contamination, among convicted prisoners, of the better by the worse; and thirdly to provide training appropriate to their needs for those among convicted prisoners who seem likely to benefit therefrom.

Training

The main elements of prison training (including corrective training) have been defined as (1) the provision of work which will, so far as is practicable, help to fit prisoners to earn their living after release, with technical training in skilled trades for suitable persons, (2) the provision of suitable educational facilities, and (3) the provision of every opportunity for the development of a sense of personal responsibility, including (for suitable persons) training in open conditions.

Full training can be given only in prisons set aside for the purpose, which provide vocational training courses, based on a Ministry of Labour and National Service syllabus, at which prisoners may receive a theoretical and practical training in a number of skilled trades. The principles on which training is based, however, hold good for all prisons and are applied as far as individual conditions permit.

Employment

Prison industries are organized under the control of a Director of Industries, who has a head office staff of technical officers and supervisors, including a supervisor of farms and gardens, and industrial managers at the prisons.

Except in local prisons, where the hours are shorter, prisoners in England and Wales spend at present about 40 hours a week in the workshops or in other employment such as building, farm work, domestic work and gardening, in company with their fellow prisoners, and conversation is allowed. In most of the Scottish and Northern Ireland prisons, prisoners are also employed for nearly 40 hours a week.

All prisoners are entitled to earn a limited amount from the first day of their sentence; in England, Wales and Scotland, these amounts may be increased for satisfactory output after a specified lapse of time. In Northern Ireland, there is a progressive system of earnings, which are not related to output or to work done.

Education

Educational schemes are provided in prisons in England, Wales, and Scotland by the local education authorities with the advice of the Government Departments responsible for education in their respective countries, and in Northern Ireland by the Ministry of Home Affairs. The local authorities are reimbursed for the full cost of their services, and the work in England and Wales is under the organizational control of the Assistant Commissioner for Education in the Prison Commission. Evening Institutes have been established; and a wide range of correspondence courses is made available for those who have a serious desire to improve their education and qualifications.

Educational schemes are supplemented by periodical lectures, film displays, concerts, and dramatic performances. Prisoners may also use the prison library, which in most cases is now stocked by the county, city or borough library committee.

Religion and Welfare

A chaplain of the Church of England (in Scotland of the Church of Scotland and in Northern Ireland, of the Church of Ireland, and Presbyterian Church) and a Roman Catholic priest are appointed to every prison. Ministers of the Methodist Church and of other denominations are either appointed or specially called in as required. The chaplain is generally responsible for welfare in the prison to which he is appointed. Regular services are held, and chaplains and other ministers may visit prisoners in their cells.

Prisoners may also be visited by their relatives and friends at specified intervals and, in England and Wales, by recognized prison visitors asked to serve in this field by the Prison Commissioners. The voluntary work of these visitors is co-ordinated and guided by the National Association of Prison Visitors.

Remission of Sentence

On reception under sentence, all prisoners, except those sentenced to imprisonment for life, are credited with remission of one-third of their sentence (one-fourth in Northern Ireland), provided that this does not reduce their sentence below 31 days. The Home Secretary may at any time, if he thinks fit, release on licence anyone sentenced to life imprisonment (see footnote 1, p. 85). A prisoner sentenced to corrective training becomes eligible for release on licence after serving two-thirds of his sentence. A prisoner sentenced to preventive detention becomes eligible for release on licence after serving two-thirds or five-sixths of his sentence according to an assessment of his character, conduct and prospects, which is made after he has served a substantial part of his sentence. In addition, at successive stages of a prisoner's sentence, he becomes entitled to additional privileges; for example, he is allowed to have meals and recreation with his fellow prisoners and to have some of his personal belongings in his cell.

For breaches of discipline in prison, the Governor or the Visiting Committee or the Board of Visitors have power to order forfeiture of remission (or postponement of the date of release) and forfeiture of privileges.

After-Care of Prisoners

Prisoners from local prisons are assisted on discharge by Discharged Prisoners' Aid Societies, which are local and voluntary bodies supported partly by private and partly by public funds. The work of the local societies is co-ordinated by the National Associations of Discharged Prisoners' Aid Societies for England and Wales and for Scotland, both of which depend on a grant from public funds for their administrative expenses. For persons discharged from other prisons and from borstal institutions, after-care in England and Wales is in the hands of the Central After-Care Association, a voluntary body financed from public funds and governed by a council appointed by the Home Secretary, which includes in its membership representatives of the Ministry of Labour and National Service, of the National Assistance Board and of the Probation Service. The Secretary of State for Scotland appoints an After-Care Council to carry out similar duties in Scotland.

In England and Wales, the Association works through local associates, usually probation officers, who, since the passing of the Criminal Justice Act, have added after-care to their other duties, and, in Scotland, through voluntary guardians. These officers make all arrangements for the reception of the prisoner after his discharge, and will advise, assist and befriend him for as long as is necessary or required by statute.

In Northern Ireland, the after-care of all prisoners is carried out by the Discharged Prisoners' Aid Societies with the help of probation officers.

Treatment of Young Offenders

Under the English and Scottish legal systems, a child under the age of eight cannot be charged with an offence, and a child over eight but under fourteen years old charged with an offence other than homicide must be dealt with in a juvenile court. In England and Wales, a young person between fourteen and seventeen years of age charged with an indictable offence (see p. 73) may be dealt with summarily (as is usually the case) or committed for trial by jury. In certain cases young persons may claim to be tried by jury, though this right is rarely exercised. In Scotland and Northern Ireland, all young persons up to the age of 17 years of age charged with offences must be dealt with in juvenile courts, unless they have been charged in conjunction with adult offenders.

The following methods of treatment are available in law for dealing with children and young persons who have been found guilty of committing an offence: absolute discharge; conditional discharge (in England and Wales only); fines (imposed upon the offender or, in certain circumstances, upon his parents); probation (see p. 91); committal to the care of a fit person (normally the appropriate local authority) until the age of 18; or a period of detention in one of the different types of institution which are available when institutional treatment is considered necessary.

Remand Homes

In England, Wales and Scotland, remand homes are provided by local authorities for the safe custody of boys and girls under the age of 17 before their appearance in court, or between court appearances (while inquiries are made as to the best method of treatment for them), while they are awaiting vacancies in approved schools, or for a short period (up to a month) of punitive detention. There are facilities for observation, and valuable reports can be provided as a result of the stay in a remand home.

In Northern Ireland, the responsibility for providing or arranging for the provision of remand homes rests with the Minister of Home Affairs.

Approved Schools

Approved schools are residential schools approved by the Home Secretary under the Children and Young Persons Act, 1933, by the Secretary of State for Scotland (working through the Scottish Education Department) under the similar Scottish Act of 1937, and by the Minister of Home Affairs in Northern Ireland under the similar Northern Ireland Act of 1950, for the education and training of young offenders and children committed to them by the courts as in need of care or protection. Approved schools may be provided by local authorities, by voluntary organizations concerned with the welfare of children on a national scale, or by local committees formed for the purpose by people interested in such work. The number of approved schools in England and Wales at the end of 1956 was 119. There are 23 approved schools in Scotland and five, known as training schools, in Northern Ireland.

The schools are for boys only or for girls only. They are formally classified according to the ages of the children on admission, and include separate schools for Roman Catholic children. The assignment of a child to a school in the appropriate age group is determined by a variety of considerations, including the location of the school in relation to the child's home, the type of training provided, and the probable reaction of a child to the individual personalities of the staff. In general, the education follows the lines of that given in ordinary schools, with vocational training for older boys and girls; the emphasis is on character building, and close attention is given to after-care.

The period for which a child or young person may be detained in an approved school is determined by law. In Great Britain it is three years, except for children under the age of 12 years and 4 months at the time of committal, who may be kept until the age of 15 years and 4 months, and those over the age of 16 on committal, who can be detained only up to the age of 19, or 19½ if they have been found guilty of absconding or of serious misconduct in an approved school. Managers of all approved schools are under an obligation to review the progress of each child in their school towards the end of the first year of detention and thereafter at least quarterly, with a view to granting a release on licence as soon as the situation warrants it.

Statutory responsibility for after-care rests on the school managers. A boy or girl on release remains under the care of the managers during the periods of licence and supervision. The period of licence lasts until the expiry of the time for which the boy or girl might have been legally detained in the school. The period of supervision lasts for three years more, or until the boy or girl reaches the age of 21, whichever is the shorter period. Managers are assisted in their after-care work by welfare officers and social service organizations.

Attendance Centres

Attendance centres have been established in England and Wales in some 36 towns to deal with boys between the ages of 12 and 17 found guilty of offences for which an adult can be sentenced to imprisonment. This form of treatment, started in 1950, is designed to teach young offenders a respect for the law and to give them some instruction in the proper use of leisure. Boys ordered to attend must do so during their spare time on Saturday mornings or afternoons; they may be required to attend for up to three hours on any one occasion and for not more than twelve hours in all. The activities include a period of instruction in handicrafts, or a lecture (e.g., on first aid) and a period of physical training or disciplinary tasks, under supervision. Efforts are made at the centres to induce the boys to join a youth club or other suitable organization.

Detention Centres

Detention centres are designed to provide a 'short sharp shock' for those who have not yet developed a definitely anti-social attitude, but who need to be taught that the law cannot be defied with impunity. The offender is normally sent to the centre for three months, though in certain circumstances the courts have power to commit for a shorter or longer term up to a maximum of six months. The regime is designed to deprive the boy of his liberty and of all the elements of what he thinks of as a 'good time', and to oblige him to live a brisk, disciplined life, maintaining the highest possible standards at the highest possible tempo. Each boy in a detention centre must be alert, punctual and tidy, and emphasis is placed on the inculcation of obedience, cleanliness and good manners. The routine provides a normal working week of 44 hours, including one hour daily devoted to physical training. Boys of compulsory school age receive full-time education, and classes of further education are provided for others in the evenings. In 1956 there were three detention centres in England and Wales—two junior centres for boys over 14 and under 17, accommodating about 70 and 60 boys respectively, and a senior centre for boys over 17 and under 21, accommodating about 75 boys. A second senior centre was opened in 1957.

Borstal Institutions

There are various types of borstal institution, which aim to provide suitable conditions and training courses for different types of young offenders between the

ages of 16 and 21 years. For boys in England and Wales there are three borstal allocation centres, and 13 training borstals, one correction centre and one recall centre; and there are two training borstals and one recall centre for girls. In Scotland, there are four borstals for boys and two for girls; and in Northern Ireland, one for boys and one for girls. The period of the sentence is in effect four years (three years in Scotland and Northern Ireland); it is divided between training in a borstal institution and controlled freedom under supervision. In Scotland the supervision period is for one year from the date of release from the institution or until the expiration of three years from the date of sentence, whichever is the shorter. The system of training seeks the all-round development of character and capacities, and is based on progressive trust demanding increasing personal decision, responsibility and self-control. There is much freedom of movement, and many borstals are conducted in open conditions. An initial period of classification ensures that each boy or girl is sent to the institution best suited to his or her requirements.

Probation

The probation system is designed to secure the rehabilitation of an offender while he remains at work or at school in the community under the supervision of a probation officer, whose duty it is to advise, assist and befriend him. A cardinal feature of the system is that it relies on the co-operation of the offender. Before making a probation order, the court must explain its effects to the person concerned and inform him that if he fails to comply with its requirements he will be liable to be dealt with for the original offence. A probation order cannot be made without the consent of the person concerned unless (in England, Wales and Northern Ireland only) he is under 14 years of age. The order usually requires the probationer to keep in regular touch with the probation officer, to be of good behaviour and to lead an industrious life. It may also require him to live in a specified place, or to submit to treatment for his mental condition. A probation order is made for not less than one year and not more than three years.

Every magistrates' court and superior criminal court must have available the services of probation officers of both sexes. At the end of 1956 the total numbers were: 1,297 whole-time and 69 part-time probation officers in England and Wales, 14 whole-time and one part-time in Northern Ireland, and 120 whole-time and 34 part-time in Scotland. In London, the appointment of probation officers is the responsibility of the Home Secretary; elsewhere it is the responsibility of probation committees appointed by magistrates in England and Wales, and by local authorities in Scotland (except for certain *ex officio* members), but all appointments are subject to confirmation by the Home Secretary, the Secretary of State for Scotland and the Minister of Home Affairs in Northern Ireland, respectively. Training facilities in England and Wales are provided by the Home Office on the advice of the Probation Advisory and Training Board and are made available, by arrangement, to Northern Ireland officers. In Scotland training is provided during the first year of appointment and before the officer is allowed to make probation work his permanent career.

THE POLICE SERVICE

The police service of Great Britain is organized and controlled on a local basis under the guidance of those Ministers of the Crown who are responsible for the maintenance of law and order in their respective countries. In England and Wales the responsible Minister is the Secretary of State for the Home Department (the Home Secretary); in Scotland, the Secretary of State for Scotland. In Northern

Ireland the police force (see p. 95) is controlled by an Inspector-General, who is responsible to Northern Ireland's Minister of Home Affairs.

POLICE IN GREAT BRITAIN

Police Forces

There are 126 separate, independent police forces in England and Wales, defined according to area of responsibility as county forces, borough forces, combined forces (which are forces whose area of responsibility extends over neighbouring counties or boroughs), the Metropolitan Police Force (which is responsible for the county of London, the county of Middlesex, parts of adjoining counties and three county boroughs) and the City of London force. In Scotland there are 33 forces, including county forces, burgh forces and combined forces.

In England and Wales and Scotland, police forces vary considerably in size according to the area and population which they serve. Thus, in 1957, the Metropolitan Police Force had a strength of 16,419, while that of the smallest force in Scotland was 16.

The strength of the regular police force in Great Britain at the end of 1956 was approximately 66,000 men and 2,200 women.

In addition to the regular police forces, there are the police of certain public services, e.g., the British Transport Commission Police, the Civil Aviation Constabulary, the Port of London Authority Police and other dock and harbour forces (who, although not subject to the supervision of the Home Secretary or the Secretary of State for Scotland, have duties and powers analogous to those of ordinary constables but limited to the premises and immediate neighbourhoods of their employers), the police of the Service Departments, i.e. the Admiralty Constabulary, the War Department Constabulary, which guards War Office lands and military property, the Royal Marine Police, who are employed chiefly in dockyards, and the Air Ministry Constabulary.

Police Authorities

In the counties of England and Wales the police authority is the Standing Joint Committee, half of whose members are members of the county council while the other half are justices of the peace. In the boroughs the police authority is known as the Watch Committee and is elected by the council from its members. The police authority of a combined force is made up of representatives of the constituent areas as prescribed in the scheme under which they combine.

In the Metropolitan Police District the Home Secretary is the police authority. In the City of London the Common Council is the police authority, although it usually appoints a standing committee to deal with all police matters on its behalf.

In Scotland the police authority for the counties is the county or joint county council; in the large burghs it is the town council; where there are combined forces there is a joint police committee.

It is the statutory duty of the police authorities to establish and maintain efficient police forces for their areas. They are also responsible for the appointment of the chief officer of police in their areas, subject to the approval of the Home Secretary in the provinces of England and Wales, to the approval of the Crown in the City of London, and to the approval of the Secretary of State for Scotland in Scotland. In the Metropolitan Police District the chief officer of police and his immediate subordinates are appointed by the Crown on the recommendation of the Home Secretary.

Central Authority

Co-ordination and a certain measure of central control are exercised through detailed police regulations which are issued for their respective countries by the Home Secretary and the Secretary of State for Scotland, who are required by the Police Act, 1919, 'to act in consultation one with another' in this connection. The police regulations cover such matters as discipline, mutual aid, pay, allowances, pensions, clothing, expenses and conditions of service of the members of all police forces to which the Act applies.

The Secretaries of State are advised on questions relating to the conditions of service of the police by the Police Council for Great Britain, a negotiating body, representative on the one side of all ranks of the police service and on the other of the police authorities, which was established in 1953. In their supervisory responsibilities they are assisted by Her Majesty's Inspectors of Constabulary, who inspect each force (except the Metropolitan Police Force) at least once a year. At the end of 1956 there were four inspectors in England and Wales and one in Scotland.

Central control also derives from the fact that all police authorities receive a Government grant equal to half their net expenditure reckoned in accordance with the provisions of Orders made under the Miscellaneous Financial Provisions Act, 1950 (as regards England and Wales), and the Police (Scotland) Act, 1956 (as regards Scotland). These Orders empower the Home Secretary and the Secretary of State for Scotland to withhold the grant in whole or in part, permanently or for such time as they may determine, if they are not satisfied that a police area is efficiently policed, that a force is properly maintained and administered, or that the rates of pay or allowances are as prescribed or approved by them.

Centrally Run Services

During recent years a number of common services have been established to supplement those provided by the police authorities for their own use. In England and Wales such services include a training service, which provides a number of residential district training centres and a central police college; an installation and maintenance service of wireless equipment for the police; and a forensic service, which provides laboratories for the use of regional groups of forces. In Scotland there is a central police college, which provides training courses for recruits and courses of higher training; but the installation and maintenance of wireless equipment is a direct charge upon the police authorities concerned and there is no centrally run forensic science service. The Glasgow police force, however, operates an extensive laboratory, the service of which is available to the whole of the Scottish police, and the universities of Aberdeen, Edinburgh, Glasgow and St. Andrews render assistance when required.

A number of national services are provided by the Metropolitan Police Force, whose functions in this respect include: (1) the maintenance of the central Criminal Record Office, which is a national registry of criminals and crime, containing a Central Fingerprint Bureau, the services of which are available to all police forces of the United Kingdom and certain foreign forces; (2) the publication of the *Police Gazette*,¹ which contains particulars of people wanted for crime and details of stolen property, and is supplied without charge to the police forces of the United Kingdom and to certain Commonwealth and foreign forces; (3) the organization and control of the Special Branch of the Criminal Investigation Department at New Scotland Yard, whose duties include the protection of Royalty, Ministers of

¹ A Scottish *Police Gazette* is published by the City of Glasgow Police Force.

the Crown, and distinguished foreign visitors; and (4) the carrying out of extradition orders made by the courts. For certain of these services, the Metropolitan Police Force receives an additional Exchequer grant.

Police Officers

There are several different kinds of police officer in Great Britain: regular police officers who usually serve for 25 years or more and thereafter retire on pension; members of the first police reserve, which is composed almost entirely of police pensioners or men with previous police experience who are prepared to give whole-time paid service to a particular force in an emergency, whether national or local; members of the Special Constabulary, which consists of volunteers who perform short periods of duty without pay in their spare time from their normal occupations.¹

In general, entry to the regular police force is open to men between the ages of 19 and 30, although an exception may be made in the case of ex-regular Navy, Army and Air Force men of over 30 years of age. Women entrants in England and Wales must be between the ages of 20 and 35, and in Scotland between 20 and 30 years old. The standard police ranks in Great Britain, except in the Metropolitan Police District, are: chief constable, superintendent, inspector, sergeant and constable. The following intermediate ranks may also be adopted where the field of operations renders them necessary: assistant chief constable, chief superintendent, chief inspector and, in England and Wales only, station inspector, station sergeant and acting sergeant. In the Metropolitan Police District the chief officer is the Commissioner of Police of the Metropolis. He is assisted by a Deputy Commissioner and four Assistant Commissioners. Next in rank are commanders, then deputy commanders; thereafter (i.e. from chief superintendent downwards) the ranks are the same as in the rest of the country. In the City of London the ranks are the same as in the provinces except that the chief officer is called the Commissioner of Police and the second in command is an Assistant Commissioner.

No member of the police service may belong to a trade union, since it is a basic principle of the service that its members must not only be free from political bias, but must also be seen to be free of it (see p. 284). The Police Act, 1919, however, laid it down that the police should have a statutory representative organization of their own. This is known in England and Wales as the Police Federation and in Scotland as the Scottish Police Federation and all constables, sergeants and inspectors belong to it. Any part of the organization can make representations to the individual police authority, to the individual chief officer of police, or, in England and Wales, to the Secretary of State for the Home Department and, in Scotland, to the Secretary of State for Scotland. Delegates from the Joint Central Committees of the two Federations sit on the Police Councils.

Police Duties

Every police officer in Great Britain is an independent holder of a public office. His powers as a constable, whether conferred by statute or by common law, are exercised by him by virtue of his office and cannot be exercised on the responsibility of any person but himself. Thus, unless acting in pursuance of a magistrate's warrant, a police officer is liable for any wrongful or mistaken action on his part, for he is not the servant of the police authority, and in discharging his duties must rely on his own discretion and his own knowledge of the law.

¹ In Scotland, the employment of special constables, other than in emergencies, is subject to strict limitations.

The manifold functions of a police officer as a constable range from road or street patrolling and traffic control to criminal investigation (all county and county borough police forces have their own criminal investigation departments) and arresting persons committing offences or, in certain cases, under suspicion of acting in an unlawful way. In England and Wales (although not in Scotland where the police investigate cases and report to the prosecutor) the police are responsible for initiating, and in most cases conducting, prosecutions, except those which must be dealt with by the Director of Public Prosecutions, i.e. if the offence is punishable by death; or when an offence is referred to him by a Government Department, subject to his discretion; or in any case which appears to the Director 'to be of importance or difficulty or which for any reason requires his intervention'.

In addition to their duties as constables, police officers may be required by the police authority to carry out other duties connected with the police, e.g., the licensing and inspection of hackney carriages, but such duties have latterly been considerably reduced.

Police Cadets

Many police forces offer training and employment in police offices and stations to boys between school-leaving age and the age at which they may be called up for National Service. Selection is limited to boys who are likely to become useful members of the Force. On completing their full-time National Service, or at the age of 19 years if deferment of National Service is granted, the cadets are eligible for appointment as constables. One police force has a cadet scheme for girls.

POLICE IN NORTHERN IRELAND

The Royal Ulster Constabulary

The general control of the Royal Ulster Constabulary, which is a State force, is vested in an Inspector-General, who is responsible to the Minister of Home Affairs. The cost of the force is met from the Northern Ireland Exchequer, the County Borough of Belfast contributing a token sum of £25,000 annually towards the cost of policing the City of Belfast.

The strength of the Royal Ulster Constabulary at the end of 1956 was 2,788 officers and men. Conditions of service and pay follow closely on the lines of the police service in Great Britain, the general duties pertaining to the tasks being similar in all respects.

In addition to the Royal Ulster Constabulary, there exists in Northern Ireland an auxiliary police force called the Ulster Special Constabulary, which is also under the general control and direction of the Inspector-General. In the main, this force is a part-time force and its duties cover training and assistance to the regular force on special occasions. If necessary, however, its part-time personnel may be mobilized for full-time duty and its duties extended to cover ordinary police duties. The strength of the Special Constabulary at the end of 1956 was 10,543 officers and men.

THE FIRE SERVICE

The fire services in Great Britain are organized on a local basis, subject to a measure of central control exercised by the Secretary of State for the Home Department (in England and Wales) and the Secretary of State for Scotland (in Scotland). The fire services in Northern Ireland are described on pp. 98-99. Every place throughout the United Kingdom is covered by a public fire brigade.

FIRE SERVICES IN GREAT BRITAIN

At the end of 1956 there were 135 local authority fire brigades in England and Wales and 11 in Scotland.

Fire Authorities

The responsibility for fire-fighting functions, which was vested in the two Secretaries of State on a national basis as an emergency measure during the second world war, was restored in 1948 to local government control under the Fire Services Act, 1947. The effect of the Act was to transform the National Fire Service (established in 1941) into separate fire brigades administered, in England and Wales, by the county or county borough councils, who were created the fire authorities for their areas and were given powers and duties which they exercise either separately or as combined authorities where neighbouring councils care to make such arrangements to increase the efficiency of the service. The Act provides that each fire authority which is a county council (except London) must establish a fire brigade committee, consisting of both county council members and representatives of the county district councils in the county, to deal on the county council's behalf with matters concerning fire prevention and control. In Scotland, the local authorities are grouped in eleven areas each with a single brigade; with the exception of Glasgow, where the town council of the city is the responsible authority, each area is administered by a joint committee representative of the councils of the counties and large burghs in the area.

Central Control

The Secretary of State for the Home Department and the Secretary of State for Scotland are empowered to make regulations prescribing such matters as conditions of service, standards of efficiency and the organization of training in the local fire brigades. In matters affecting the fire brigades as a whole (excluding regulations about conditions of service and similar matters) each Secretary of State is advised by a Central Fire Brigades Advisory Council, consisting of representatives of the local authority associations, representatives of the Chief Officers (Firemasters in Scotland) and other members of the brigades, and other persons having special qualifications for the purpose. The Advisory Councils are not concerned with the conditions of service of members of the brigades. On these subjects the Secretaries of State are advised by the National Joint Council for Local Authorities' Fire Brigades in Great Britain and the National Joint Council for Chief Officers of Local Authorities' Fire Brigades in Great Britain.

Central control is also exercised through the Inspectors of Fire Services, whose duties include advising the Secretaries of State on technical matters. At the end of 1956 there were 11 inspectors and assistant inspectors in England and Wales and one inspector and an assistant inspector in Scotland.

Establishment Schemes

Each fire authority is required to draw up a scheme showing the establishment of officers and other ranks (both whole-time and part-time), the number and location of fire stations and the number and type of vehicles and appliances considered necessary for the provision of an all-over cover of its area. Details of establishment schemes, which must be approved by each Secretary of State for his own country, vary considerably according to the fire risks in the area concerned; but in an English county of about 500,000 acres and a mixed urban and rural population of some 750,000, for example, there might be 30 whole-time and part-time fire stations

equipped with 150 vehicles and appliances and served by a whole-time force of approximately 250 and a part-time force of approximately 400 officers and men.

It is the duty of each fire authority to purchase such vehicles and equipment as are required under the establishment scheme. Equipment is standardized, and appliances are bought by fire authorities to requirement specifications which ensure that essential standards are maintained, and yet allow sufficient freedom of design to meet local requirements and further developments.

Operational Methods

Each fire authority is required to appoint a chief officer (firemaster in Scotland) to be the chief administrative and executive officer for the fire services in its area. The appointment must be ratified in England and Wales by the Secretary of State for the Home Department and in Scotland by the Secretary of State for Scotland. The chief officer or firemaster is responsible to the fire authority for seeing that both the fire brigade and the fire department (which is the administrative centre and staff headquarters for the fire brigade) are organized and managed in accordance with policy laid down.

Operational control is centralized at headquarters; but it is generally exercised on a more local basis by divisional officers, in charge of geographical divisions into which most areas are divided for the purpose. Each divisional officer has at his disposal a small staff of whole-time, and a varying number of part-time, officers and men; and he is responsible for mobilizing this force in the strength necessary for dealing with any outbreaks of fire in his division. Constant communication is maintained between divisional and brigade headquarters; and if at any time an outbreak of fire should grow beyond the capabilities of a divisional force, help is sent from one or more neighbouring divisions in its area, or even from the area of another fire authority. Under arrangements for mutual help made by all fire authorities the nearest available force is sent to the scene of a fire, regardless of area boundaries.

Firemen

Firemen in Great Britain include: whole-time firemen; part-time firemen—either 'retained' firemen, who undertake, in return for a small retaining fee, to attend fires if they are called upon to do so, or 'volunteer' firemen, who receive no remuneration; auxiliary firemen, who are enrolled as part of the local authority civil defence organization as members of individual brigades under the command of chief officers or firemasters, and whose activities are restricted (except in a war emergency) to such duties as are desirable for training; and members of fire-fighting organizations with specialized functions, which are outside the scope of the 1947 Act, e.g., those maintained by the War Office, the Air Ministry, the Ministry of Transport and Civil Aviation and by some of the more important industrial and commercial concerns.

Ranks in the fire services (for men) are chief officer, assistant chief officer (firemaster and assistant firemaster in Scotland), divisional officer, assistant divisional officer, station officer, sub-officer, leading fireman and fireman. Ranks in the women's branch, which is mainly concerned with controls, administrative duties and duties of a clerical nature, are (for Great Britain as a whole) group officer, assistant group officer, senior leading firewoman, leading firewoman, and firewoman. Promotion in the lower ranks of the fire-fighting forces is by examination and by merit, and in the higher ranks by merit only.

Training for full-time firemen in England and Wales includes practical and theoretical instruction given to recruits at a training school, which is run either by

the fire authority itself or by a neighbouring authority, and refresher courses for firemen, arranged by fire departments. The training of recruits and junior ranks in Scotland is carried out at a central training school which is the responsibility of the Scottish Home Department. Courses for officers and potential officers of fire authority brigades are held at the Fire Service College, at Wotton House, near Dorking, Surrey, which is maintained by the Home Office and the Scottish Home Department as the central training institution for the fire services.

Finance

Every fire authority is required to submit to the Home Secretary or to the Secretary of State for Scotland an annual statement showing its expenditure and income in connection with the provision of fire services during the preceding year. The Government pays a grant of 25 per cent of the net expenditure approved by the Home Office or the Scottish Home Department, less an annual contribution towards the expenses of the Fire Service College (and in Scotland a contribution towards the Scottish Central Training School); the rest of the money is raised from local authority funds.

Research

The principal means by which research on fire prevention and fire-fighting is carried on is the Joint Fire Research Organization, the cost of which is shared equally between the Government and the Fire Offices' Committee (a committee of the insurance companies dealing in fire risks). The Organization makes continuing research into all aspects of fire prevention and fire-fighting and controls a Fire Research Station at which practical tests are carried out.

FIRE SERVICES IN NORTHERN IRELAND

The fire authorities in Northern Ireland, as established by the Fire Services (Amendment) Act (Northern Ireland), 1950, are the Belfast Corporation, which controls the Belfast Fire Brigade and is responsible for the area inside the city boundary, and the Northern Ireland Fire Authority, which covers the rest of the country outside Belfast.

The Belfast Fire Brigade maintains five whole-time stations and has an establishment of 190 officers and men manning 12 appliances, while the Northern Ireland Fire Authority has one whole-time station in Londonderry and 42 other stations throughout the remainder of the area, and an establishment of 89 whole-time officers and men and 681 part-time firemen, manning 68 appliances.

Ranks of Firemen

The ranks of firemen in Northern Ireland are: for the Northern Ireland Fire Authority—fire force commander, divisional officer, assistant divisional officer, senior company officer, company officer, section leader (retained brigades only), leading fireman and fireman; and for the Belfast Fire Brigade—chief officer, divisional officer grade 2, divisional officer grade 3, assistant divisional officer, station officer, sub-officer, leading fireman and fireman. There are only a few women in the Northern Ireland fire services, all of the rank of firewoman.

Finance

The Fire Services (Amendment) Act (Northern Ireland), 1956, provides that the amount of fire service grant payable to the Northern Ireland Fire Authority should be 50 per cent of the loan charges in respect of capital expenditure which

do not exceed £60,000, and 25 per cent of the amount (if any) by which the loan charges exceed £60,000, together with 50 per cent of the first £150,000 of other net expenditure and 25 per cent of the excess over that amount. Expenditure in excess of the fire service grant is apportioned among the constituent local authorities. Under the Fire Services Acts the Belfast Fire Brigade cannot qualify for the payment of fire service grant.

III. DEFENCE

THE DEFENCE SYSTEM

An adequate general survey of the principles which govern United Kingdom defence policy is possible only in the wider context of the United Kingdom's international relationships, its place in the Commonwealth and in world affairs, and its responsibilities towards British dependent and protected territories—subjects which, as explained in the Introduction, fall outside the scope of this handbook. This chapter, therefore, can attempt little more than an outline of the present pattern of development of Britain's armed forces.

DEFENCE POLICY

The national defence policy has been increasingly based on the realization that, with the formidable new weapons of mass destruction, no country can protect itself in isolation and the defence of Britain is possible only as part of a system of collective defence arrangements. Policy is therefore determined largely by Britain's obligations to contribute to the collective defence organizations of which it is a member—the North Atlantic Treaty Organization and Western European Union, the Bagdad Pact, the SEATO and ANZAM defence systems in South-East Asia—as well as to discharge its own special responsibilities in many parts of the world: and defence planning is carried out in close co-operation with Britain's partners in these organizations with the aim of creating integrated allied forces.

Close liaison is maintained with other Commonwealth countries, between whose forces there is considerable standardization of equipment, weapons and training techniques and interchange of personnel; regular Service conferences are held and there is intimate co-operation over regional planning and strategy.

At the same time the United Kingdom continues to work for the attainment of international agreement on the control of all forms of armaments.

Machinery of Higher Defence Planning

The Queen is the titular head of all the armed forces. Decisions on broad lines of defence policy are matters for the Cabinet as a whole. The Minister of Defence determines the shape and size of the defence forces necessary to put this policy into effect. Under the general direction of the Prime Minister and the Cabinet, of which he is a member, the Minister is answerable for the 'formulation and general application of a unified policy relating to the armed forces of the Crown as a whole and their requirements'. Supreme control is in the hands of Parliament, which makes annual financial provision for defence needs. By limiting provision to the current year, Parliament ensures an annual review of the state of each Service.

The Minister of Defence answers for all matters of policy common to the three fighting Services—the Royal Navy, the Army and the Royal Air Force—and their supply. He is responsible for the apportionment of available resources between them and for seeing that the composition and balance of forces within each Service

accord with strategic policy. Each of the three Service Ministers—the First Lord of the Admiralty, the Secretary of State for War (who deals with the Army), and the Secretary of State for Air—is responsible to Parliament for the administration of his own Service; and the Minister of Supply is similarly responsible for the Service supplies procured by his Department. The Chiefs of Staff Committee, which comprises the professional heads of the three Services with a chairman who is Chief of Staff to the Minister of Defence, is responsible for preparing and advising upon strategic plans and policy for consideration by the Minister of Defence and the Cabinet. Policy within each Service is controlled by an administrative directorate: the Board of Admiralty, the Army Council and the Air Council, each headed by the responsible Minister.

In addition to his co-ordinating functions, the Minister of Defence also has responsibility for certain inter-Service organizations such as Amphibious Warfare Headquarters, the Joint Intelligence Bureau, the Joint Services Staff College, and the Imperial Defence College.

Britain's defence policy is reviewed in the annual Statement on Defence presented each spring to Parliament by the Minister of Defence immediately before the detailed Estimates of the Service Departments. The statement outlines the programmes of the three Services for the ensuing year and summarizes the proposed defence budget.

In 1957, in place of the usual annual Statement, a White Paper *Defence: Outline of Future Policy, Cmd. 124*, set out a five-year plan for the reshaping of the defence forces in the light of changes in the international situation, the rapid progress in military technology, and the need to relieve the burden which defence requirements had been imposing on the country's financial and economic strength. This programme, described as involving 'the biggest change in military policy ever made in normal times' is now being put into effect. Details of its application to the individual Services are still being worked out and the changes will come into effect gradually. A Defence Administration Committee, composed of the Permanent Secretaries of the Ministry of Defence, the Ministry of Supply and the three Service Departments, together with Service members of the Board of Admiralty and of the Army and Air Councils, has been set up to carry out a comprehensive review of the administrative machinery and to eliminate overlapping between the Services.

The Long-term Plan

Britain's armed forces, the 1957 White Paper stated, must be able to perform two main tasks:

- (1) 'to play their part with the forces of allied countries in deterring and resisting aggression;
- (2) 'to defend British colonies and protected territories against local attack, and undertake limited operations in overseas emergencies.

'The aim must be to provide well-equipped forces sufficient to carry out these duties, while making no greater demands than are absolutely necessary upon manpower, money, and other national resources.'

The new plan provides for smaller, highly trained, mobile all-regular forces equipped with the most modern weapons and organized on up-to-date lines. To permit reductions in the numbers of men maintained in all the various places overseas where Britain has defence responsibilities, there will be a central reserve and the means, including airlift, of transporting it rapidly to the scene of any trouble. Since 'the over-riding principle must be to prevent war rather than prepare for



it', priority is given to the production of deterrents—nuclear weapons and the means to deliver them—though it is emphasized that conventional forces armed with conventional weapons will still be essential. It is not the intention to rely exclusively on nuclear weapons for all purposes.

The intention is that there should be no further call-up of men for National Service (see pp. 103–5) after the end of 1960 and that by the end of 1962 the armed forces should become wholly regular and nearly halved. If, however, voluntary recruiting fails to produce the numbers required it may be necessary to have some limited form of compulsory service after 1962. During the year ending April 1958, the adult male strength is being reduced from 690,000 to about 625,000.¹ The rate of run-down in later years will depend on the international situation and the requirements of the regional defence organizations of which Britain is a member. The aim is to stabilize at a strength of about 375,000 adult males by the end of 1962.

DEFENCE AND THE ECONOMY

The shape of the defence forces as they existed at the time of the 1957 White Paper was the result largely of the rearmament programme launched at the time of the Korean war in 1950. After the end of the second world war the strength of the armed forces had been drastically reduced. It was not until growing world tension made it inevitable that this trend was first halted and then reversed. Following the outbreak of war in Korea, the United Kingdom embarked on a programme for building up its defence forces, which originally envisaged the spending of £4,700 million over three years.

Between 1950 and 1953 annual defence expenditure was nearly doubled, rising to some £1,400 million in 1952–53, and over the same period the total strength of the active forces increased from just under 700,000 to a peak of about 875,000 at the beginning of 1953. With the end of hostilities in Korea, the programme was revised to meet the changed conditions and to keep it within the limits of the country's economic resources in the face of rising costs. In place of a short rearmament spurt there was substituted the policy of the 'long haul'; the programme was slowed down and spread over a longer period, and some further modifications were made in subsequent annual reviews.

Nevertheless the burden on the economy continued heavy. Over the five years 1952–56, defence absorbed on average 10 per cent of Britain's gross national product. In 1956, some 7 per cent of the working population were either in the Services or supporting them, and one-eighth of the output of the metal-using industries—vital to the economy as a main source of exports—was devoted to defence. The very heavy cost of maintaining large British forces abroad (which in 1956 involved expenditure of some £178 million in foreign currency) placed a severe strain on the balance of payments. The total net defence budget, at £1,500 million in 1956–57 (after allowing for receipts from United States aid under the Mutual Security Programme and German contributions to the cost of British forces stationed on the Continent as part of the NATO forces), equalled one-third of total Central Government current ordinary expenditure.

Current Defence Budget

The gross estimates for 1957–58 totalled £1,483 million (as against about £1,600 million for 1956–57, which would have risen to about £1,700 million for 1957–58 had the programme been allowed to continue unchanged). From this total must

¹ Excluding Colonial troops and other forces enlisted overseas, amounting in 1957 to about 60,000.



Hospital nurse.



Apprentice and craftsman.

BRITAIN'S PEOPLE



Scientist.



Shepherd.

Steelworker.

SOME TYPICAL PORTRAITS

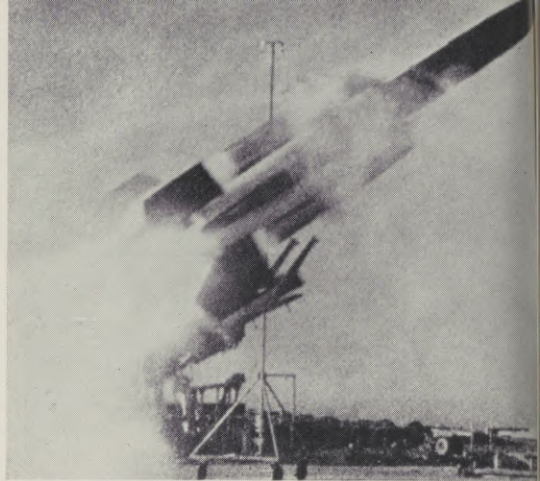
Fisherman.



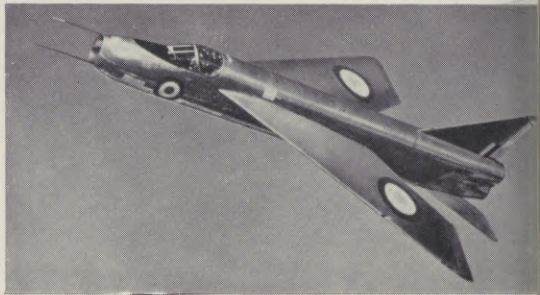


One of the thermo-nuclear weapon tests carried out in the Pacific in May 1957.

The high-speed submarine HMS *Explorer*.



The *Bloodhound* ground-to-air guided missile.



The *Pr* supersonic jet fighter.



The *Sea Slug* ship-to-air guided missile fired from HMS *Girdle Ness*.

be deducted the German contribution towards the United Kingdom forces stationed on the Continent and United States defence aid, which were expected to be about £50 million and £13 million respectively, giving a net estimate of about £1,420 million. Taking into account the reduced receipts expected from the United States and Germany the reduction in net cost compared with 1956-57 is £78½ million. Because of the increasing complication of modern weapons and equipment and the higher cost per man of regular forces, expenditure in later years will not show a reduction proportionate to that in the manpower strength.

The allocation of finance between the various Services is shown in Table 5.

TABLE 5
NET DEFENCE ESTIMATES, 1957-58

£ million						<i>After allowing receipts from U.S.A. and Germany</i>
						<i>Total</i>
Admiralty	..	..	..	..	..	316·15
War Office	..	..	..	..	..	445·50
Air Ministry	..	..	..	..	..	506·15
Ministry of Supply	..	..	..	..	..	197·60
Ministry of Defence	..	..	..	..	..	17·63
						1,483·03
						1,420·28

The Ministry of Defence estimate consists mainly of contributions to international defence organizations, including contributions to the NATO common infrastructure programmes.¹

Defence expenditure by civil Departments in 1957-58 (including loan expenditure by the Post Office) was estimated at £21·9 million.

MANPOWER

Each of the three fighting Services is at present made up of a combination of voluntary recruited regulars and men called up for National Service, and each includes a corps of women volunteers who form part of the regular forces. An analysis of the strength of the forces in April 1957, with estimates for 1958, is given in Table 6.

In addition, reserve and auxiliary forces with training liability (volunteers and part-time National Service men) totalled 596,500 at 1st April, 1957.

Arrangements for recruitment and training of regulars are summarized for each Service separately later in this chapter. An increase in regular recruiting, especially for the Army, will be necessary to achieve an all-regular footing by 1962. Steps are being taken to improve the conditions of Service life. A Regular Forces Resettlement Service has been set up by the Minister of Labour to assist Regular officers and other ranks to find civilian employment on leaving the forces.

National Service

Compulsory military service in peace time was first introduced in Britain in 1939, shortly before the outbreak of the second world war. Under the National

¹ 'NATO common infrastructure' has been defined as capital investment in basic facilities, such as airfields, signals systems, headquarters, etc., designed for common use. By March 1957, shared expenditure under the infrastructure programmes amounted to about £400 million and further programmes had been agreed for implementation by 1961 which, it was estimated, would bring the total to about £1,000 million. The United Kingdom is contributing 11½ per cent of the cost of the programmes.

TABLE 6
ACTIVE STRENGTH OF THE ARMED FORCES, 1957-58

Thousands

	1st April, 1957				1st April, 1958 (estimate)			
	Navy	Army	RAF	Total	Navy	Army	RAF	Total
Regular (male) ..	102.7	194.5	153.9	451.1	100.0	328.8	205.4	639.7
National Service ..	9.6	174.2	68.7	252.5	5.5			
Women (including nurses)	3.7	6.3	5.4	15.4	3.5	6.2	4.9	14.6
TOTAL ..	116.0	375.0	228.0	719.0	109.0	335.0	210.3	654.3

Note: (1) Figures for the Navy include the Royal Marines.

(2) The estimated strength figures of the Army and R.A.F. at 1st April, 1958, cannot as yet be divided between Regulars and National Service men.

Service Acts, 1948-50, fit male British subjects between the ages of 18 and 26 ordinarily resident in Great Britain are liable (with certain limited exceptions) to serve for two years in one of the armed forces.¹ After this period of full-time service they must serve for a period of 3½ years with one of the reserve forces, giving in all 5½ years of whole-time and part-time service. During the latter period they may be called upon to undergo up to 60 days' training in all, if required, but not more than 21 days in any year. In addition, National Service men called up before 31st December, 1953, remain statutorily liable, on completion of their 5½ years' National Service liability, to recall as reservists up to 30th June, 1959, but are not required to carry out training during this latter period of reserve liability.

Men employed in certain occupations are granted deferment of National Service, in the national interest, for as long as they are engaged in those occupations. This provision applies to men in certain coalmining occupations, merchant seamen, sea-going fishermen who are members of the Royal Naval Reserve (Patrol Service), regular whole-time agricultural workers whose call-up would mean a loss in food production, crofters, some graduate teachers, a small number of highly skilled scientists and engineers engaged on work of high priority or on fundamental research, a very small number of shale oil underground workers, and a limited number of police cadets.

Deferment for a limited period is granted to students and apprentices to enable them to undertake or complete approved courses of full-time studies or training. Postponement of call-up may also be granted on ground of exceptional domestic, business or other hardship.

Men registering as conscientious objectors are subject to the decisions of local tribunals of impartial persons appointed by the Minister of Labour and National Service, with the right of appeal to an appellate tribunal.

The Ministry of Labour and National Service calls up the men from civil life for registration and medical inspection, and allots them to the Services. The Army is by far the biggest user of National Service men. In 1957 nearly half the Army's

¹ The upper age limit may be extended, under the National Service Act, 1955, in the case of men absent from Great Britain in the last year of their liability. The National Service Acts operate for a limited period and they do not apply to men born after 1940.

active male strength was provided by National Service men as against about 30 per cent of the Royal Air Force and less than 9 per cent of the Royal Navy.

In October 1955, the Government announced its decision to reduce the size of the active forces (then nearly 800,000) to about 700,000 by March 1958, by slowing down the rate of call-up for National Service and allowing the general age of call-up to rise from 18 to 19 years. It was also stated that, in general, it would not be necessary to require National Service men, who have a maximum liability for 60 days' training during their 3½ years' part-time service, to do more than 20 days' training in all. In the spring of 1957, the decision was taken to plan on the basis that the reduced manpower required under the new defence plan could be obtained by voluntary recruitment and that there would be no further call-up for National Service after the end of 1960. The last National Service men will therefore be due to complete their full-time service by the end of 1962.

During the run-down period not all those men liable for service will be required, and the intake will be diminished by further slowing down the rate of call-up. It is intended to rely as far as possible on men in the age-groups already called up who had been granted deferment to enable them to complete training or studies; they will be called up after completing their courses and will be supplemented by younger men, mainly those not eligible for deferment. Men born after the third quarter of 1939 are unlikely to be called up.

Commissioned Ranks

The following are the main commissioned ranks in the three fighting Services; each rank is shown parallel to its equivalent in the other Services.

<i>Royal Navy</i>	<i>Army</i>	<i>Royal Air Force</i>
Admiral of the Fleet	Field-Marshal	Marshal of the RAF
Admiral	General	Air Chief Marshal
Vice-Admiral	Lieutenant-General	Air Marshal
Rear-Admiral	Major-General	Air Vice-Marshal
Commodore (1st and 2nd Class)	Brigadier	Air Commodore
Captain	Colonel	Group Captain
Commander	Lieutenant-Colonel	Wing Commander
Lieutenant-Commander	Major	Squadron Leader
Lieutenant	Captain	Flight Lieutenant
Sub-Lieutenant	Lieutenant	Flying Officer
	Second Lieutenant	Pilot Officer

Staff Colleges

Co-operation between the fighting Services is illustrated in the system of staff training for selected officers of the Navy, Army and Air Force. After about 10 years' service, they are sent to separate staff colleges at Greenwich (London), Camberley (Surrey), and Bracknell, Berkshire (or Andover, Hampshire), respectively, where they learn the elements of staff work. At a later stage in their careers selected officers from the three Services go to the Joint Services Staff College at Chesham, Buckinghamshire, where they live and work together and where particular attention is paid to the inter-Service aspects of staff work. This College caters for about a hundred and fifty students a year from the Navy, Army and Air Force, the Civil Service and the Commonwealth. Finally, there is the Imperial Defence College in London, which caters for a few specially selected and more senior officers from the Services, the Civil Service and the Commonwealth.

SUPPLY OF WEAPONS AND EQUIPMENT

The Ministry of Supply is responsible for the procurement of all weapons and equipment used by the Army and Air Force. It is also responsible for the procurement of aircraft, some guns and ammunition, guided weapons and a certain amount of miscellaneous equipment used by the Royal Navy. The Admiralty is responsible for the procurement of ships and associated equipment.

Production and Research

Production for the Services is carried out to a great extent by private industry on a contract basis, but also by the Royal Ordnance Factories, the Royal Dockyards and other establishments operated by the Ministry of Supply and the Admiralty. The Ministry of Supply's research establishments carry out research and development on behalf of the War Office and Air Ministry, and also for certain aspects of Admiralty requirements, in particular naval aviation. Among the most important of these establishments are: the Royal Aircraft Establishment, Farnborough; the Royal Radar Establishment, Malvern; the National Gas Turbine Establishment, Farnborough; and the Guided Weapons Establishment at Aberporth, Cardiganshire. The Admiralty has its own research establishments which carry out research on ships and maritime equipment and also on certain kinds of electronic equipment on behalf of all three Services. Current production and development programmes are summarized later in this chapter in the sections dealing with the three Services individually.

Production of and research on nuclear warheads to meet Service requirements are carried out by the Atomic Energy Authority (see pp. 414-6) under contract from the Ministry of Supply, which is responsible for the completed weapons. The Authority is also co-operating with the Admiralty in research on the development of nuclear propulsion (see p. 108).

Service officers attend courses at the Atomic Energy Research Establishment, Harwell, and have also been attached to industrial firms manufacturing guided weapons during the development stage.

Guided missiles are tested at the Ministry of Supply's research establishments and at the Woomera range set up in Australia under the Joint United Kingdom/Australia Guided Weapon Project. Service firing trials will be carried out at the Inter-Service Guided Weapon Establishment which is being established on South Uist in the Hebrides. There is close collaboration with the United States in the exchange of information and of visits by technical personnel.

Some military equipment, including guided weapons, aircraft and radar equipment, is being supplied to Britain by the United States under the Mutual Security Programme. Part of this equipment is manufactured in the United Kingdom and financed by the United States under the 'off-shore procurement' programme. Under this programme the United Kingdom is also making equipment for other NATO countries in Europe. The total value of such contracts placed in the United Kingdom to the end of 1956 was \$717 million.

Ships are also constructed for Commonwealth countries in the Royal Naval dockyards and some ships from the Royal Navy have been lent or sold to Commonwealth navies.

Nuclear Weapons

During the second world war, British research workers played an essential part in the allied project that led to the production of the first atomic bombs in the United States. After the war, an Act of the United States Congress¹ prohibited

¹ The Atomic Energy Act, 1946, known as the MacMahon Act.

the exchange of information on atomic weapons and the United Kingdom decided to develop its own independently. The first test explosion of a British atomic weapon was carried out in 1952 in the Monte Bello Islands off the north-west coast of Australia; further tests took place a year later near the Woomera rocket range in Central Australia, and early in 1954 it was announced that delivery of atomic weapons to the armed forces had begun. Two more series of tests were held in 1956, in the Monte Bello Islands and at the weapons proving ground at Maralinga in the South Australian Desert. Atomic bombs are now in steady production in Britain and the Royal Air Force holds a substantial number of them.

In February 1955, the Government announced its intention to begin the development and production of thermo-nuclear weapons. The first test explosions were successfully carried out in May and June 1957 near Christmas Island in the central Pacific.

The chief means of delivering these weapons are at present the RAF's medium bombers of the V-class; they will be supplemented by ballistic rockets.

THE FIGHTING SERVICES

THE ROYAL NAVY

The Royal Navy is governed by the Board of Admiralty. The First Lord of the Admiralty is the minister responsible to Parliament for the Navy. The other nine members of the Board are the First Sea Lord and Chief of Naval Staff, who is the professional head of the Service and is a member of the Chiefs of Staff Committee; the Second Sea Lord and Chief of Personnel; the Third Sea Lord and Controller of the Navy, responsible for engineering, equipment, ordnance, and research; the Fourth Sea Lord and Chief of Supplies and Transport; the Deputy Chief of Naval Staff and Fifth Sea Lord, responsible for air matters and for questions of tactics, technical policy and fighting efficiency; the Vice-Chief of Naval Staff, responsible for operations, intelligence and plans; the Parliamentary and Financial Secretary; the Civil Lord; and the Permanent Secretary, who is a civil servant and responsible for the general conduct of Admiralty business.

The Shape of the Fleet

When rearmament started in 1950, the Admiralty gave particular attention to the need to build up anti-submarine and minesweeping forces, and to expand the Fleet Air Arm; and priority was given to construction work which would show quick results. The building of aircraft carriers and 'Daring' Class escort ships already in hand was therefore pressed forward as quickly as possible, and a large programme of modernization and conversion of ships and a much increased building programme were started.

By the beginning of 1957 a strong force of new and modernized carriers was being built up; eight 'Daring' class escorts (larger and more heavily armed than the older destroyers) had joined the fleet; the frigate building programme had made good progress and the minesweeper building programme was almost completed; and several new submarines were in commission including Britain's first experimental high-speed submarine *Explorer* (see photograph facing p. 103).

The new defence plans envisage a Navy that is smaller than in the past but highly mobile. The main elements will be based on a small number of carrier groups, each composed of one aircraft carrier and a number of supporting ships. Apart from carriers, the number of large ships will be restricted to the minimum. Cruisers will in due course be replaced by ships of the 'Tiger' class, now under construction. For smaller vessels the policy will be to have fewer but more modern ships,

some of which will be equipped with guided missiles. Many ships in reserve, including battleships, are being disposed of.

The modern carriers are being equipped with the angled flight deck, the steam catapult, the automatic aircraft positioning device, and the mirror and 'Audio' landing aids (all British inventions), and the new arrester gear. A new carrier, *Hermes*, is under construction. In the spring of 1957 there were in the active Fleet four front-line carriers—*Ark Royal*, *Eagle*, *Albion* and *Bulwark*; a fifth, *Warrior*, was employed on special trials and a sixth, *Ocean*, on training. Two others, *Victorious* and *Centaur*, were being modernized.

The first 'Tiger' class cruisers, with fully automatic guns and latest control equipment, are expected to start trials early in 1959. Four new-design escort vessels larger than present types are on order and will be fitted with a ship-to-air guided missile, the *Sea Slug*.

Guided weapon trials have been carried out on the experimental ship *Girdle Ness*. One of the main purposes of the Reserve Fleet is to have ready, at short notice, ships to replace those in the Active Fleet which are damaged or withdrawn for refit or modernization. Under the new defence policy the Reserve Fleet is to be smaller than in the past but is being maintained at a higher state of readiness.

Afloat support to the Fleet for replenishment at sea, or in harbours or anchorages, is provided by the Royal Fleet Auxiliary Service, comprising tankers, store issuing ships, tugs and salvage vessels. These ships fly the Blue Ensign and are manned by Merchant Navy officers and seamen.

Research and Development

Among recent developments, important research has been carried out on guided missiles and on the application of nuclear propulsion both to submarines and to surface vessels; studies have been made of methods of protection of ships against nuclear attack; there have been advances with submarine detectors and locators; techniques for the detection and location of mines, and methods of sweeping them, have improved; and further progress has been made in the development of radio communications. Plans are in hand for the construction of a prototype nuclear propulsion submarine to be named the *Dreadnought*.

Stations

The Navy's commands in home waters are Portsmouth, Devonport, Chatham, Rosyth in Scotland and the Commander-in-Chief Home Fleet. Abroad, the command structure has been reorganized and several of the former stations have been merged with others. The Mediterranean station, with headquarters in Malta and with Gibraltar as a secondary base, covers the Red Sea (but not Aden) as well as the Mediterranean. The East Indies Station broadly covers the Indian Ocean. The Far East Fleet operates from Singapore, with a second base at Hong Kong. The former America and West Indies Station was abolished in 1957. In the North Atlantic, command arrangements were integrated with the North Atlantic Treaty Organization and the former Commander-in-Chief of this station was translated to the NATO post of Deputy Supreme Commander, Atlantic; United Kingdom possessions and interests in the Caribbean were covered by the creation of a smaller West Indies Station under a Senior Naval Officer who flies his pennant afloat; and a combined South Atlantic and South America Station was formed whose Commander-in-Chief, when not afloat, flies his flag at Cape Town.

The navies of other Commonwealth nations operate in their respective areas from their home bases, the use of which is made available to the Royal Navy at the discretion of their Governments.

Portsmouth, Devonport, Chatham, Rosyth, Gibraltar, Malta, Singapore, and Hong Kong are also dockyards for the Navy with major supply and repair facilities. There are also a number of naval air stations at home and abroad.

A programme to modernize the Royal Dockyards in the United Kingdom, and to reconstruct those damaged in the second world war, was put in hand in 1954-55 and was expected to extend over four or five years.

Fleet Air Arm

The Hawker *Sea Hawk* and the de Havilland *Sea Venom* provide the day and all-weather fighter strengths of the Fleet Air Arm, but they are shortly to be succeeded respectively by the *Scimitar* (N. 113), fitted with a 'flap-blowing' system to facilitate landing and take-off from carriers, and the *Sea Vixen* (DH 110), with armament which includes an air-to-air guided weapon, the *Firestreak*.

The anti-submarine turbo-prop Fairey *Gannet* has been in service since 1954. A new strike aircraft, the Blackburn *NA 39*, is being developed to replace the *Wyvern*; it has a greater range and speed and is able to carry an atomic bomb.

British-built helicopters, the *Whirlwind* and the *Widgeon*, are now in service with the Fleet Air Arm.

Royal Marines

The Corps of Royal Marines is a body of men trained for service on sea or land. Its official existence dates from 1664. The present-day functions of the Corps are:

1. To supply detachments for HM ships, which (a) man a proportion of the ships' armament, (b) provide emergency landing parties, and (c) carry out guard duties and the like.
2. To provide personnel for the Commando Brigade.
3. To provide crews for minor landing craft and certain other parties required for amphibious assault.

Women's Royal Naval Service

The Women's Royal Naval Service (WRNS) is an integral part of the Naval Service. Its members serve both at home and overseas. It has its own disciplinary code.

Recruitment and Training for the Regular Navy

The main entry for Naval officers is the cadet-entry. Cadetships are available to young men between the ages of approximately 17 and 19, and those selected, except Electrical Branch cadets, spend two years at the Britannia Royal Naval College, Dartmouth, after which they join the Fleet as Acting Sub-Lieutenants. Cadets training in electrical engineering spend one year at Dartmouth and then take a three-year course up to honours degree standard at a university.

Short service commissions as pilot or observer in the Fleet Air Arm are open to young men between the ages of 17 and 26, and those accepted have opportunities of obtaining a permanent commission. Doctors, dental surgeons and instructor officers all enter on short service commissions after completing their professional training, and permanent commissions are awarded to them according to vacancies available.

Commissions in the Royal Marines are gained through the same examination as are cadetships in the Royal Navy, and successful candidates are given a special training, part naval and part military, which lasts three years.

The age limits for entry as a rating in the Navy are as follows: seaman branch, 15½ to 23; artificer apprentices, 15 to 17; communications, engineering, naval airman, electrical, and supply and secretariat branches, 16½ to 23; sick berth branch,

17½ to 23; artificers (trained), 19½ to 28. The initial engagement is for a period of 9 years except for artificer apprentices, for whom it is 12 years. Age limits for entry into the ranks of the Royal Marines are: marines, 17 to 23; boy buglers, 15 to 15½; boy or recruit musicians, 14 to 18; musicians (trained), 17½ to 23. Women may enter the Women's Royal Naval Service between the ages of 18 and 28 and most WRNS officers are selected from serving ratings.

On entry, all Naval and WRNS ratings and Royal Marines other ranks are given a basic training at the appropriate school or shore establishment and are given 'refresher' courses at regular intervals during their time in the Service.

Reserve and Auxiliary Forces

The principal naval reserve forces are the *Royal Fleet Reserve* (RFR) composed of men who have completed their service as regulars; the *Royal Naval Reserve* (RNR), consisting of officers and men of the Merchant Navy who volunteer to serve in the Royal Navy in war; the *Royal Naval Volunteer Reserve* (RNVR), whose members voluntarily undertake part-time training for various aspects of naval service (its Air Divisions have been disbanded); the *Royal Naval Special Reserve* which includes most of the National Service men who are discharging their liability for part-time service; the *Royal Marines Forces Volunteer Reserve* (RMFVR) and the *Women's Royal Naval Volunteer Reserve* (WRNVR) which are the Royal Marines' and WRNS's counterparts of the RNVR. Behind these fully trained reserves, available to meet immediate needs on mobilization, is the vast background of officers and men with past war-time and peace-time service in the Royal Navy who are liable, if still fit for service, to recall in the event of war.

Royal Naval Minewatching Service

The RNMWS, a civilian organization composed of men and women volunteers, is responsible in time of war for manning posts around the coast and overlooking the main navigable waterways. Its object would be to spot mines dropped from aircraft, and to plot and report their positions.

Sea Cadet Corps

The Sea Cadet Corps, which is administered by the Navy League in conjunction with the Admiralty, is the oldest pre-Service movement for boys in Britain, its origin dating from the time of the Crimean War in the mid-nineteenth century. Its aim is to give technical training to, and instil naval tradition in, boys under the age of 18 who intend to serve in the Royal and Merchant Navies and also to those sea-minded boys who do not intend to follow a sea career but will, given this knowledge, form a valuable reserve for the Navy. It also aims to provide for the social and educational welfare of the cadets and to develop character and good citizenship.

THE ARMY

The control of the Army is vested in the Army Council, of which the Secretary of State for War is president. The other civilian members of the Council are the Parliamentary Under-Secretary of State for War and Financial Secretary of the War Office, who performs parliamentary duties, and the Permanent Under-Secretary of State for War, a civil servant who acts as secretary to the Council. The military members of the Army Council comprise the Chief of the Imperial General Staff; the Vice-Chief of the Imperial General Staff, who is responsible for strategic policy and plans, operations and intelligence; the Deputy Chief of the Imperial General Staff, responsible for war organization, equipment, weapons

and training; the Adjutant-General to the Forces, responsible for manpower, personnel, discipline, medical services, welfare, education, and the women's services; and the Quartermaster-General to the Forces, responsible for supplies, transport, and works services.

Organization of the Active Army

The Army is organized in thirty-one arms and services, which include the Household Cavalry, the Royal Horse Artillery, the Royal Armoured Corps (the historic Cavalry Regiments and the Royal Tank Regiment), the Royal Regiment of Artillery, the Corps of Royal Engineers, the Royal Corps of Signals (which provides land and wireless communications), the five regiments of Foot Guards (the Brigade of Guards), the Infantry of the Line (grouped into 14 brigades and the Parachute Regiment), the Royal Army Service Corps, responsible for the provision of food and fuel supplies and transport vehicles, the Royal Army Ordnance Corps, responsible for most other equipment and stores, the Corps of Royal Electrical and Mechanical Engineers, and the Royal Army Medical Corps.

The *Women's Royal Army Corps* (formerly the ATS) is a corps in the Regular Army, the officers and other ranks of which, with minor exceptions and modifications, are subject to the Army Act and Queen's Regulations to the same extent as members of any other corps.

The *Queen Alexandra's Royal Army Nursing Corps* is also a corps of the Regular Army and provides the nursing services within the Army.

Within the United Kingdom, the Army is organized into commands and districts as follows: Scottish, Northern, Southern, Eastern, Western, London District, and Northern Ireland District. There are three main commands overseas: Middle East Land Forces, Far East Land Forces, and the British Army of the Rhine (which forms part of Britain's contribution to the NATO forces).

The reduction which is taking place in the Army's manpower is involving a considerable reorganization which is not yet complete. Trials have been carried out in the British Army of the Rhine to determine what should in the future be the basic field formation in nuclear war and it is probable that this will take the form of flexible, self-contained infantry and armoured brigade groups, able to fight, to move and to maintain themselves under minimum direction from headquarters.

As the strengths of overseas garrisons are reduced, increased importance is being attached to the Central Reserve in the United Kingdom, which has been reconstituted and is organized for either limited or global war. Steps are being taken to ensure that elements of the central reserve can be moved overseas to any point of danger by air and at short notice.

Headquarters in the United Kingdom have been reduced in numbers and size and the Coast Artillery has been disbanded.

Equipment

By the end of the five-year programme initiated in 1957 the weapons of the 1939-45 war will have almost completely disappeared and the Army will be completely rearmed. With the development of nuclear weapons, attention is being given to the need to increase mobility without loss of fighting capacity and, in the interests of economy, the aim is to simplify the Army's equipment as much as possible and 'to produce a family of weapons with no overlapping members'.

The programme of rearmament launched in 1950 concentrated at first on the production of tanks and other armoured vehicles, infantry weapons, and modernized engineering and signal equipment. The Army was equipped with a complete new

range of wheeled vehicles and with large numbers of the *Centurion* medium tank, which proved outstandingly successful during the Korean war. Production was also begun of a heavy gun tank, the *Conqueror*, which by 1957 had undergone Service trials. The 1957-58 production programme also includes home production of the FN self-loading rifle, a weapon of Belgian origin adopted by the United Kingdom in the interests of standardization with other NATO forces, which is in service in large numbers and has fully come up to expectations; large-scale production of a new sub-machine gun to replace the Sten and the development of a possible replacement for the Vickers medium machine gun; a powerful armoured car, the *Saladin*; a versatile scout car, the *Ferret*; a new and lighter anti-tank weapon; a new light anti-aircraft gun, the L. 70, with improved radar fire control; and a new medium tank in an advanced state of design. A new range of radio equipment is reported to be giving a performance greatly superior to previous systems.

Progress is being made in the introduction of surface-to-surface guided weapons, the first of which are being supplied by the United States. The first guided weapon course was started at the Royal Military College of Science in Wiltshire as early as 1950. In 1955, groups of Army instructors began to receive training in the United States in the use of the *Corporal* guided missile; training in Britain is now given at the School of Artillery at Larkhill. Formation of the first guided missile regiment began in the spring of 1957 and it was planned to raise a second regiment in the course of the year. An anti-tank guided weapon is under development. For anti-aircraft protection for armies in the field, surface-to-air guided weapons are being developed and a production order has been placed for the English Electric *Thunderbird*, which will provide training with this type of weapon, and which can deal with targets at a wide range of altitudes.

Recruitment and Training for the Regular Army

The normal method of entry for a regular commission in the Army is through the Royal Military Academy, Sandhurst (Camberley, Surrey), where selected cadets undergo a course lasting two years before receiving their commissions. This course gives a general military and academic background for all arms and services, and young officers on leaving Sandhurst then attend special Arm Courses to prepare them for their own arm, some attending Technical Courses at the Royal Military College of Science (Shrivenham, Wiltshire) and at Cambridge University. Cadets may enter Sandhurst direct from school or after they have enlisted in the Army or been called up for National Service.

The War Office also maintains a boarding school, known as Welbeck College, at Worksop, Nottinghamshire, where 150 boys are educated for two years between the ages of 16 and 18 years. These boys pass into Sandhurst at the end of their school course and are normally commissioned into the Royal Corps of Signals, Royal Army Ordnance Corps or Corps of Royal Electrical and Mechanical Engineers. A few may be commissioned into the Royal Engineers.

University graduates may be accepted for direct regular commissions.

A small number of schoolboys are selected to take engineering or science degrees at the Royal Military College of Science as National Service officers and thereafter to be granted regular commissions. Regular commissions may also be granted to other officers already serving on National Service commissions or on Short Service commissions. Candidates for National Service commissions are trained at the Officer Cadet Schools, Eaton Hall, Chester, or Mons Barracks, Aldershot, depending on the arm or service for which they are selected. At these schools the course, which consists of purely military training, lasts for four months.

Men wishing to enlist in the ranks must be British subjects between the ages of 17½ and 30 years, of good character, medically fit and able to pass an intelligence test. Men with certain trade qualifications may be accepted up to the age of 33 years.

Men can sign on for 22 years (with the option of finishing their Colour Service at the end of 6 years or at the end of any consecutive period of 3 years thereafter, provided they give six months' notice in writing).

Men may choose the corps in which they wish to serve and their wishes regarding trade training are met as far as possible.

On entry into the Army, other ranks are trained at the Depots or with the Training Units of the arms or services for which they have been selected. This initial training consists of six weeks' basic military training common to all arms and services, and a further period of training which is special to the arm or service concerned. This latter training varies in length of time, depending on the arm or service, e.g. Infantry, four weeks; Royal Signals electronic technician, 22 weeks.

A boy can enlist in the Army as an Army apprentice tradesman, between the ages of 15 and 17; a junior leader, between the ages of 15 and 16½; and a drummer, band boy, tailor or piper, between the ages of 15 and 17½.

After the age of 18 years, boys who have enlisted as Army apprentice tradesmen and junior leaders in the Royal Army Service Corps, the Royal Army Ordnance Corps and the Corps of Royal Electrical and Mechanical Engineers serve nine years with the Active Army and three years in the Reserve. All other boys serve six or nine years in the Active Army and three years in the Reserve.

The object of the Junior Leaders' Units is to produce long-term Regular warrant officers and senior non-commissioned officers, and that of the Apprentice Schools is to produce WO and NCO tradesmen for the Regular Army, some of whom may become specialist commissioned officers.

Women may enlist into the Queen Alexandra's Royal Army Nursing Corps or into the Women's Royal Army Corps between the ages of 17½ and 33 years.

The Reserve Army

The Reserve Army includes the Army Emergency Reserve and the Territorial Army, both of which have been recently reorganized.

The *Territorial Army* consists of volunteer officers and other ranks (including women), National Service officers and men carrying out their statutory obligation of three and a half years' part-time service after completing their whole-time service with the Army, and the Territorial Army Reserve of Officers. With the end of National Service it will become a wholly volunteer force. Its main role in the event of war would be the defence of the United Kingdom, but some units might be needed overseas and all its members are liable for service in any part of the world when the army reserve is called out by proclamation. Volunteers are required to attend annual camp and to carry out a minimum number of training periods. While the military authorities are responsible for policy, training and discipline, local administration of the Territorial Army is carried out largely by county Territorial and Auxiliary Forces Associations.

The *Army Emergency Reserve* has as its main function to provide essential communications and the technical and administrative services required on mobilization by both the Regular and the Territorial Armies. It consists of specialist units and pools of skilled men—both volunteers and part-time National Service men—who can be called upon at short notice to fill gaps in Regular units. It also provides units of the Mobile Defence Corps (see p. 120).

Cadet Forces

The *Combined Cadet Force* and the *Army Cadet Force* provide training on Service lines for boys between the ages of 14 and 18 years. The Combined Cadet Force provides training in schools in which education is continued to the age of 17 or above. Cadets receive a general basic training and then specialized training in the Royal Navy, Army or Royal Air Force Sections. Contingents are affiliated to Regular units and establishments of the Services. The Army Cadet Force is recruited from schools which do not raise contingents of the Combined Cadet Force, and from boys who have left school.

THE ROYAL AIR FORCE

The Royal Air Force is administered by the Air Council, composed of eight members, including the Secretary of State for Air who is president. The Parliamentary Under-Secretary for Air is vice-president and the Permanent Under-Secretary of State for Air, who is a civil servant, is secretary of the Council. The Service members include the Chief of the Air Staff, who is responsible for strategic policy and the fighting efficiency of the RAF; the Vice-Chief of the Air Staff, responsible for inter-Service policy, operations, intelligence, liaison with other air forces, standardization and ground defence; the Deputy Chief of the Air Staff, responsible for the preparedness for war of the RAF, for command, staff and air training, and for policy regarding future aircraft and weapons; the Air Member for Personnel; and the Air Member for Supply and Organization.

Commands

The Royal Air Force is organized into Commands administered by the Air Council:

- At Home: Bomber, Fighter, Coastal, Transport, Flying Training, Technical Training, Maintenance and Home (formerly known as Reserve) Commands.
- Overseas: Second Tactical Air Force (stationed in Germany as part of Britain's contribution to the NATO forces), R.A.F. Malta, the Middle East Air Force (headquarters in Cyprus) and the Far East Air Force (headquarters at Changi, Singapore).

Commands are subdivided into groups and wings, a certain number of squadrons being allotted to each group or wing. Squadrons are subdivided into flights.

Aircraft and Equipment

The spearhead of the RAF is the force of four-engined jet bombers, which is building up steadily. The *Valiant* element is at full strength, *Vulcans* are already in service and their numbers will increase, and the *Victor* will enter service during 1957-58. Stocks of nuclear weapons are increasing together with Bomber Command's ability to carry them. Improved marks of the V-bombers will carry a powered guided bomb and will form for many years the foundation of Britain's deterrent power, though ballistic missiles will gradually play an increasing part.

The light bomber force in Bomber Command is equipped with the *Canberra* twin-engined bomber, which is being equipped to deliver nuclear weapons. This force is committed to NATO.

Manned fighters will continue in service for a considerable time, although in many roles they will eventually be superseded by guided missiles. The *Javelin* all-weather fighter is now well established in Fighter Command and day-fighter squadrons are being equipped with the latest mark of *Hunter*. A production order has been placed for the *P.1*, a supersonic fighter.

Air defences are being recast in order to concentrate on the defence of nuclear bases. In 1957, a new organization was set up in the Air Ministry to co-ordinate and speed up the introduction of defensive guided missiles and their associated radar, and to integrate them with the existing control and reporting and fighter defence systems.

The system of control and reporting, which has been built into a highly efficient organization, is closely linked with the radar systems of Continental allies. Great advances in the development of radar have been made in recent years. A reconstructed radar chain now covers the whole of the United Kingdom, and vital parts of the system have been put deep underground and protected by massive thicknesses of concrete. The high performance of the latest system makes it possible to have greatly improved cover with a smaller number of stations.

Full-scale Service trials of the RAF's first air-to-air guided missile, *Fireflash*, began in 1957 with *Swift* aircraft, for experimental work and training purposes. A more advanced missile, the *Firestreak* (also to be used by the Fleet Air Arm), will in due course be fitted to *Javelins* and *P.15s*.

The development of surface-to-air guided weapons is well advanced. The first RAF missile station is under construction at North Coates, Lincolnshire, and will be brought into use for service trials and training in 1958. Initially it will be equipped for the operation of ground-to-air missiles of the semi-active homing type known as *Bloodhound*. The *Thunderbird* is also on order for the RAF. More advanced types are being developed.

Coastal Command's long-range maritime reconnaissance force, which is committed to NATO, is now wholly equipped with *Shackleton* aircraft. An improved version—the *Shackleton Mark III*—is being introduced.

Transport Command is being re-equipped to provide increased mobility for the strategic reserves of both land and air forces. A *Comet II* squadron was formed in 1956—the first pure-jet transport squadron in any air force—and has proved very successful. *Britannia* aircraft are planned to come into service in 1958 for long-range transport; for short and medium ranges, use will still be made of piston-engined *Hastings*. The *Beverley* freighter, now in service, is a versatile aircraft which can lift large loads.

Increasing use is being made of helicopters for operations and for the Air/Sea Rescue Service. The *Sycamore* and *Whirlwind* helicopters have given good service, particularly in Malaya, and the Bristol 192 twin-engined helicopter is on order.

Following a decision by the Air Council to base initial flying training on jet aircraft, a substantial order has been placed for the *Jet Provost* trainer. The RAF is the first air force to adopt all-jet training.

In recent years there has been a great deal of airfield development in the United Kingdom to provide for the operation of the V-bombers and the new fighters, and a major programme of airfields, depots and technical facilities has also been carried out for units of the United States Air Force stationed in Britain.

Recruitment and Training for the Regular Air Force

The Royal Air Force College, Cranwell, Lincolnshire, trains cadets for permanent commissions as pilots and navigators, while technical cadets are trained at the Royal Air Force Technical College, Henlow, Bedfordshire. The training of some technical cadets includes a three-year honours degree course at a university. Royal Air Force Regiment cadets start at the Royal Air Force Regiment Depot at Catterick, Yorkshire, and then spend 18 months at the Royal Military Academy, Sandhurst (Camberley, Surrey).

It is the aim of the Air Council that all pilots and navigators shall be officers.

Most of them enter on direct commissions. Officers with direct commissions have the choice of serving for eight or twelve years on the active list and going out with a gratuity, or of staying in the Service until they qualify for pension. Flying training lasts for up to 18 months.

Officers in ground branches are usually found from people in civil life, some of whom already hold professional qualifications, who enter the Royal Air Force on short service commissions. Short service officers may be selected for permanent commissions while in the Royal Air Force.

Airmen are recruited from the age of 17½ and may enlist for three, four, five, nine, ten or twelve years in a wide variety of trades, for most of which they will be given training in the Service. After four years, they may apply for an engagement which can last until they are 55 years of age and qualifies them for a pension when they have served for 22 years. Airmen may be promoted either as non-commissioned officers or as technicians, and there are opportunities for them to obtain commissions. Boys can come into the Service as apprentices or boy entrants and be trained in a trade.

Women's Royal Air Force

Women play an important part in the work of the Royal Air Force and of its reserve and auxiliary formations. The WRAF is an integral part of the Royal Air Force and its members train with and work alongside airmen in the same trades, serving both in the United Kingdom and overseas. Nursing services are provided by *Princess Mary's Royal Air Force Nursing Service*.

Auxiliary and Reserve Forces

The *Royal Auxiliary Air Force* consists of fighter control and radar reporting units raised and maintained by Territorial and Auxiliary Forces Associations.

The *Royal Air Force Volunteer Reserve*, which is part of the Royal Air Force Reserve, provides a pool of officers, airmen and airwomen mainly with previous Air Force service, who, like the personnel of the Auxiliary Air Force, train on a part-time basis. It includes members of the university air squadrons.

Part-time National Service men serve in the *Royal Air Force Reserve of Officers* and *Class H of the Air Force Reserve*.

Royal Observer Corps

Over 17,000 men and women from all walks of life form the *Royal Observer Corps*, a voluntary civilian organization, administered by Fighter Command, devoted to the specialized tasks of identifying and reporting the movements of aircraft. The corps originated in the first world war to report the movements of German aircraft and zeppelins over Great Britain and was officially established in 1925. Recently it has undertaken the additional duty of measuring and reporting on radioactivity in the event of nuclear attack.

Air Training Corps

The Air Training Corps provides pre-Service training for boys between the ages of 14 and 18. Like the other pre-Service formations, it seeks to inculcate citizenship as well as training for the RAF.

HOME DEFENCE

The experience of the second world war showed the importance of having trained and organized bodies of men and women ready to mitigate the effects of enemy air attacks on the civil population; and the Civil Defence Act, 1948, recognized

that a permanent system of civil defence is essential to national safety. The development of nuclear weapons, while it has greatly intensified the problems of civil defence and has called for much replanning which is still in process, has not lessened the need for an efficient civil defence organization. This need has recently been endorsed in the 1957 White Paper on Defence, which recognized that civil defence 'must . . . play an essential part in the defence plan'.

In the event of nuclear attack, the problems of rescue, fire-fighting and welfare operations would be intensified by the presence of radioactivity, which would have to be detected and its extent and intensity measured. The first call would have to be met by the civilian services on the spot, but these, though vital and increasingly mobile, might not be sufficient, and support would be available from all the armed forces in the country at the time, whether regular or reserve, which were not immediately required for combat operations. The Minister of Defence is charged with planning the part which the armed forces would play in home defence, and with co-ordinating the plans of the military authorities with those of the civil authorities.

The country's economic capacity limits the effort which can be devoted to civil defence preparations; and the main defence objective must be the nuclear deterrent, which will serve not to prepare for war but to prevent it. In home defence the main task is to keep a local organization in being as a framework for expansion if necessary, to provide training equipment and to proceed with essential research. The Government has declared its conviction that, if the deterrent were to fail, countless lives could be saved by civil defence preparations made in advance.

Organization of Civil Defence

Civil defence planning in the United Kingdom is the responsibility of a number of ministers each of whom undertakes the duties which, in war time, would represent a natural extension of his peace-time functions. As the development of effective civil defence services involves much detailed planning at local level, the central Government has enlisted the assistance of local government authorities, of industry and commerce and of public bodies of many kinds, including voluntary organizations such as the Voluntary Aid Societies and the Women's Voluntary Services.

Under the Civil Defence Act, 1948, the Home Secretary is responsible for co-ordinating all the Government's civil defence preparations. The Secretary of State for Scotland is responsible for civil defence matters in Scotland.

In England and Wales, the Home Secretary is responsible for the civil defence activities of the police and fire services, and he administers the Civil Defence Corps and the Industrial Civil Defence Service as well as such matters as war-time lighting restrictions, air-raid shelter policy and the national air-raid and fall-out warning and monitoring system. The Civil Defence Department of the Home Office is under the charge of a Director-General of Civil Defence, appointed by the Home Secretary. Other Government Departments have direct responsibility for the civil defence applications of the services which they control; for example, the Ministry of Health is responsible for the hospital and first-aid services, and the Post Office for telecommunications.

In Scotland, the Scottish Home Department deals with questions corresponding to those dealt with by the Home Office in England and Wales, and the Department of Health for Scotland is responsible for such matters as the hospital and first-aid services.

In Northern Ireland, the Civil Defence (Northern Ireland) Act, 1950, places responsibility for civil defence matters on the Ministry of Home Affairs, which may arrange for other Departments to undertake some functions on its behalf.

The co-ordination of civil defence planning in Great Britain necessarily involves much work by interdepartmental committees, on which all Departments with civil defence responsibilities in Great Britain are represented, in order that plans and programmes may be constantly reviewed to take account of changes in the scale and nature of possible attacks.

England is divided into ten Civil Defence Regions in charge of Regional Directors of Civil Defence, appointed by the Home Office, and there is also a Director of Civil Defence for Wales. Their duties include liaison with the armed forces and the planning of combined exercises. There is no corresponding regional organization in Scotland, where planning is carried out centrally, although the country is divided into zones for operational purposes.

The Civil Defence Services

To provide the personnel required in war for civil defence tasks, the following services, in which in times of peace only part-time service is required, are raised in Great Britain¹ by voluntary recruitment of civilians, both men and women:

1. The Civil Defence Corps, which was created by the Secretary of State's Warrant in May 1949, to assist local and other authorities to carry out their civil defence functions.
2. The Industrial Civil Defence Service, which comprises civil defence units formed in industrial and commercial premises.
3. The Auxiliary Fire Service, to reinforce the fire services maintained by local authorities under the Fire Services Act, 1947. (The Fire Service would become a national organization in time of war.)
4. The National Hospital Service Reserve, limited at present to trained nurses and persons willing to be trained as nursing auxiliaries to reinforce the National Hospital Services in England and Wales. In Scotland, there is also an Ambulance Section to provide the additional manpower for the war-time operation of the Scottish Ambulance Service.

Subject to restrictions regarding age and obligation to serve in the armed forces, recruits for all formations are drawn from men and women who are willing to serve as long as they are able and who will undertake to train regularly. The Government does not pay the volunteers for their services but reasonable out-of-pocket expenses are reimbursed.

Strengths in Great Britain at 31st March, 1957, were:

Civil Defence Corps	.. .. .	353,137
Industrial Civil Defence Service (at 31st October, 1956)		209,539
Auxiliary Fire Service	.. .. .	20,331
National Hospital Service Reserve	.. .. .	52,756

The Civil Defence Corps is recruited and organized by certain local authorities (mainly the councils of counties and county boroughs in England and Wales, or

¹ In Northern Ireland there are three main services: the Civil Defence Corps (Headquarters, Warden and Welfare Sections), the Auxiliary Fire and Rescue Service, and the Hospital Service Reserve.

large burghs in Scotland) in local divisions. The local divisions are subdivided into five sections¹ as follows:

- Headquarters: control of civil defence operations, communications, reconnaissance (including the identification of toxic agents).
- Wardens: assistance and advice to the public, reporting the effects of air attack, organization of street and village parties, movement of the homeless.
- Rescue: rescue of trapped persons and rendering first aid to them.
- Ambulance and Casualty: first aid, conveyance of casualties to hospital, and the organization of stretcher-bearers.
- Collecting:
- Welfare: escort and welfare of homeless and evacuees, assistance with billeting, rest centres, supervision and welfare of public in shelters, emergency cooking and feeding, public information centres.

Training

Members of the Civil Defence Corps are required to undertake the training necessary to enable them to carry out the duties of an ordinary member of the section of the Corps to which they belong, and thereafter to undertake a few hours' refresher training, including exercises, each year. If they wish to increase their knowledge they may undertake courses of additional and advanced training.

Civil defence instructors (except instructors in first aid) are trained either at one of the three central training schools or locally, under arrangements made by local authorities, in accordance with directions given by the Home Office or Scottish Home Department. Courses and studies for senior officials concerned with civil defence are held at the Civil Defence Staff College at Sunningdale, Berkshire.

In 1955, a Fire Service Tactical Training Centre was opened at Reigate, Surrey. Here experiments were conducted in the use of new emergency appliances and equipment, particularly in mobile formations; and courses of instruction in these matters have been given to officers and men of regular brigades.

The Police

In time of war the police would continue to be responsible for the maintenance of law and order and the control of traffic, and they would also be responsible for certain additional war-time and civil defence tasks. In all these duties they would have the aid of the Special Constabulary.

Role of the Armed Forces

The Services have a vital role to play in civil defence; all armed forces, whether regular or reserve, in the country at the outbreak of war will have to be prepared to assist in the struggle for survival. The armed forces are in no sense a substitute for civil administration; the aim will be to support the civil authorities by all possible means.

¹ Four in Scotland, where there is no Ambulance and Casualty Collecting section, ambulance services being provided by the Hospital Service, and casualty collecting being a warden duty. In Northern Ireland, the Civil Defence Corps is organized directly by the Ministry of Home Affairs and not by the local authorities. As in Scotland, it consists of four sections only, the Ambulance Service being a part of the Hospital Service.

All units of the Regular and Reserve Armies are trained in peace-time for the civil defence tasks they may be expected to perform in war. The Reserve Army includes the *Mobile Defence Corps* (MDC), specifically raised for civil defence tasks, consisting of volunteers and selected Army National Service men trained in rescue and casualty evacuation at one of the MDC Training Centres at Epsom (Surrey) or Millom (Cumberland). The Mobile Defence Corps will normally act as the spear-head of the military assistance for the civil authorities provided by the armed forces. The Royal Air Force does not take part in MDC activities, but RAF National Service men are given special fire-fighting training at the Home Office Centres at Washington Hall, Chorley (Lancashire) and at Moreton-in-Marsh (Gloucestershire) as potential reinforcements to the national fire service.

The United Kingdom Commanders-in-Chief Committee, under the chairmanship of the Commander-in-Chief United Kingdom Land Forces, is responsible to the Chiefs of Staff for co-ordinating Service plans for home defence, including Service assistance to civil authorities both for civil defence and for national recovery. While fulfilling those functions the Committee will maintain close liaison with the Director-General of Civil Defence.

There is close liaison in peace time between the civil and military authorities at all levels. Joint exercises are continually being held and everything possible is being done to align the civil and military chains of command. As a result, the functions which the military authorities could undertake in support of the civil authorities have been more clearly defined: there is also a growing understanding among the civil authorities of the part that the military authorities can best play.

There are two main ways in which the fighting Services can render assistance: by assisting the civil authorities to maintain control; and by the direct employment of units on various tasks such as aid to the police in the maintenance of law and order and traffic control, aid to the fire service, assisting in the reception and care of the homeless, treatment and evacuation of casualties and in the clearance of radioactive fall-out zones, the provision of guards, the maintenance of road, rail and water communications, light rescue, reconnaissance and the provision and running of camps.

IV. THE NATIONAL ECONOMY

BACKGROUND

The United Kingdom ranks about 75th in size among the countries of the world, with about 0.18 per cent of the world's land area. In population, with about 2 per cent of the world's inhabitants, it ranks ninth. In density of population it is fourth: of the major countries, only Japan, Belgium and the Netherlands are more crowded; and there are eleven times as many people to the square mile in the United Kingdom as in the United States. In world trade, it ranks second. It takes about a fifth of the world's exports of primary products, and provides about a fifth of its exports of manufactured goods.

The United Kingdom, from its own soil, provides only half of the food it needs; and—apart from coal and some low-grade iron ore—it has few natural resources; so it is the world's largest importer of wheat, for instance, and of meat, butter, fodder grains, citrus fruits, tea, and tobacco; also of wool, iron and steel scrap, and hard timber. In return, it is one of the world's largest exporters of ships, aircraft, locomotives, motor vehicles, electrical equipment, textiles and most types of machinery. Few countries in the world have such a high proportion of the population living in towns (80 per cent) or such a small proportion of the working population engaged in agriculture (less than 5 per cent).

The United Kingdom is also the central banker of the Sterling Area (see p. 330), an area with a quarter of the world's population. Many countries outside the sterling area use sterling in their international transactions, and it has been estimated that about half the world's trade is conducted in sterling. By its membership of the European Payments Union of the Organization for European Economic Co-operation, the United Kingdom provides a payments link between the sterling area and the countries of Western Europe.

The short section on the national economy which follows gives a brief description of its development up to the second world war; an account of the losses suffered in the war; a short account of the main economic developments since the end of the war; and, finally, a set of tables from the National Income statistics illustrating the structure of the economy.

The Economy before 1939

During the nineteenth century Britain secured a leading position as world manufacturer, merchant, carrier, banker, and investor and so was able to support a rapidly increasing population at a rising standard of living. It was Britain's commerce in cotton goods, above all, which gave it the leading position in world trade; cotton cloth provided 40 per cent of its exports in 1851. It was in this period also that the country became so largely dependent on imports: it has been estimated¹ that retained imports, which were only 12 per cent of net national income at factor cost (i.e. cost after discounting the effect of indirect taxes and subsidies), in 1820, rose to 28 per cent in 1870. (The 1956 figure was 23 per cent.)

¹ Prof. E. A. G. Robinson, *Economic Journal*, September 1954, p. 458.

The period from 1870 to 1890 was the high-water mark of British industrial expansion as compared with that of other countries. Between 1890 and 1914 growing industrial competition from Europe and North America began to make itself felt, but its effects on Britain's staple export industries, particularly cotton textiles and coal, were offset by the general rise in world trade, by the continued demand for British textiles from India and other eastern countries, and by the continued high level of overseas investment.

The new problems confronting British industry and trade in the twentieth century became apparent after the first world war. Textiles from India and Japan, where labour costs were lower, established themselves firmly in the large eastern markets, to a great extent replacing the higher-priced and often higher quality British product. The extension of the world demand for coal was slowed down by the increasing use of oil, while coal from the new European mines competed severely with British coal.

In the old-established branches of the vehicles and engineering group of industries (e.g., locomotives, ships and textile machinery) world demand fell away after a brief post-war boom, and Britain failed at first to gain a compensating share of the expanding world trade in the new types of engineering products (e.g., cars and electrical goods). Most countries were tending towards self-sufficiency, and some sought deliberately to protect nascent and even established industries by sheltering them behind tariffs and (later) quotas and exchange restrictions.

Income from overseas investments and a substantial improvement in the terms of trade (the price of exports relative to the price of imports) cushioned the effect of a fall in the volume of exports, and imports remained high. The loss of export markets led, however, to a contraction of Britain's staple industries—coal, cotton, iron and steel, and the older branches of engineering. The result was heavy unemployment, the general rate of which averaged 14 per cent in the years 1921–39, reaching a peak of 22 per cent in 1932, when the slump in world trade was at its worst. In districts relying mainly on one of the staple industries, the rate was much higher.

After 1932 an improvement in the levels of production and employment took place, stimulated by an increase in home investment, by some revival in world trade and, after 1935, by the armament programme.

Effects of the Second World War

The second world war is estimated to have run down British domestic capital by about £3,000 million, through shipping losses, bomb damage, and arrears of industrial maintenance and replacements. It also resulted in a considerable alteration in Britain's financial and trading position, which may be summarized thus:

1. *Loss of overseas assets.* Over £1,000 million worth of overseas investments—including £428 million in North America—were sold to pay for war supplies. The income from these assets had paid for a substantial part of pre-war imports into the United Kingdom.
2. *New overseas debts.* New external debts, totalling £3,000 million, were accumulated.
3. *Terms of trade.* The price of imported raw materials rose sharply after the war, and by 1948 about one-fifth more goods had to be exported than in 1938 to bring in the same quantity of imports.
4. *Reduced exports.* By 1944, exports, curtailed as part of the war effort, had fallen to less than one-third of their 1938 volume.

5. *Smaller reserves.* The real value of the gold and dollar reserves was reduced to about half the pre-war level.
6. *World dollar shortage.* The physical destruction of the war led to an increased dependence on the part of Britain, the rest of the sterling area and many other countries on supplies of all kinds from North America. Dollar earnings by non-dollar countries were inadequate to pay for these supplies.

Post-War Developments

Since the war, the economy of the United Kingdom has experienced a period of almost uninterrupted prosperity with a constantly increasing supply of goods and services and a virtual absence of unemployment. The post-war years have, at the same time, been an era of marked technical advance, notably in the development of nuclear power and in the aircraft industry. In the initial post-war years, external assistance in the form of Marshall Aid and loans from the United States and Canada overcame a serious deficit in the balance of payments, and, more recently, the rapid recovery of Britain's export trade has enabled an appreciable payments surplus to be achieved, although still insufficient to supply in full the requirements of overseas countries for investment capital. The demands upon resources have, however, imposed at times a heavy strain on the economy and, as in most other countries, prices in Britain have shown a steady upward trend.

The Balance of Payments

The loss of income from overseas investments as a result of the war, an adverse movement in the terms of trade, and an increased demand for imports caused by the expansion of industry, together created an over-riding problem—the need to secure a large increase in British exports. In 1944, at the peak of the war effort, the volume of exports had fallen to less than one-third of the level of 1938, but by 1950 it was already two-thirds higher. Then a switch of industry to defence needs and a period of stronger competition in overseas markets, especially from countries unaffected by rearmament, such as Germany and Japan, led to a pause in the upward trend until 1953; in the following years the annual increase in the volume of exports averaged 5 per cent. Imports increased more slowly, partly because of controls in the early post-war years, and did not reach 1938 volume until 1955.

In 1950, a current surplus of £300 million indicated that equilibrium had once more been restored. The necessity for the diversion of resources to rearmament on a large scale following the outbreak of war in Korea and a swift rise in the cost of imports caused a setback, and the adverse balance in the year 1951 alone totalled £403 million. With the improvement in the balance of payments in the previous year, it had been intended to dispense with financial assistance from the United States, but the additional burdens imposed by the Korean war necessitated direct aid being retained for a further year.

Monetary and fiscal measures were introduced to correct the situation, and surpluses on current account were recorded in the following three years—1952 to 1954. A marked increase in internal investment and consumption led to a deficit in 1955, but a policy of disinflation was quickly effective and, in the following year, 1956, the balance of payments was again in surplus despite the disturbances caused to international trade by the Suez crisis. In the five years 1952–1956, there was an average surplus of £160 million on current account, including £70 million received from the United States in the form of Defence Aid.

This margin, however, is not large enough to allow the United Kingdom to meet its extensive international and Commonwealth responsibilities. It was fully absorbed

INDEX OF PRODUCTION

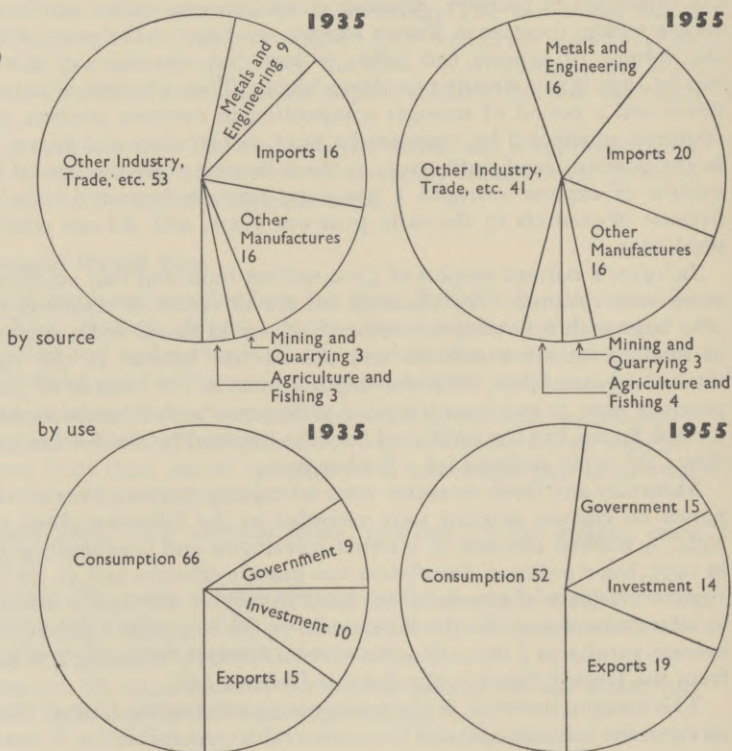
PRODUCTION AND NATIONAL INCOME TRENDS 1900 - 56

INDEX OF NATIONAL INCOME



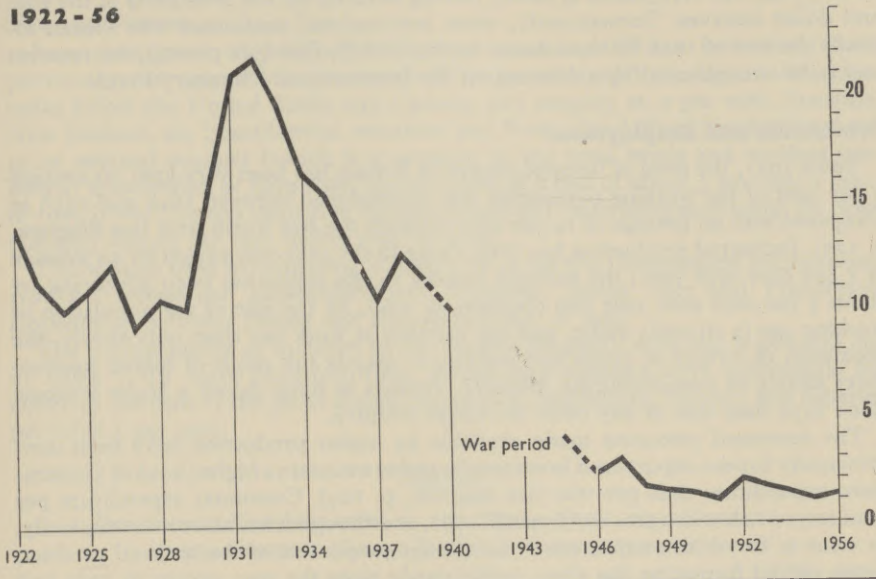
SUPPLY OF GOODS AND SERVICES IN 1935 AND 1955

Percentage composition at current factor cost



**UNEMPLOYMENT RATES
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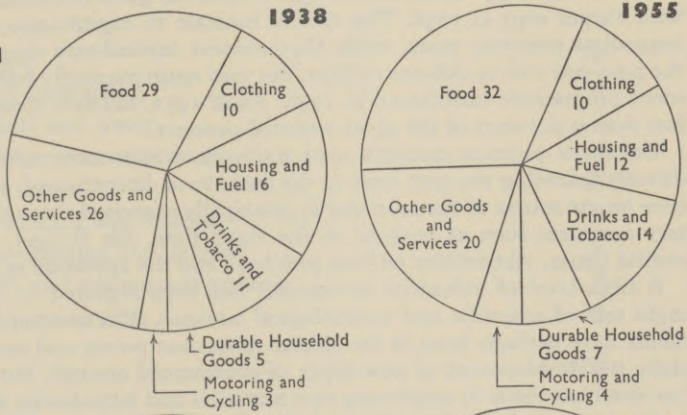
PERCENTAGE OF
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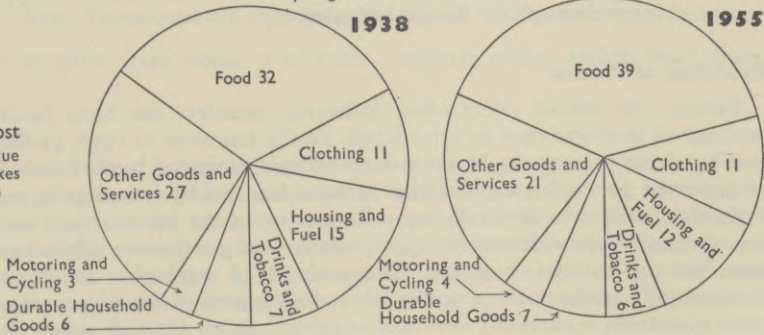
**PERSONAL CONSUMPTION
IN 1938
AND 1955**

Percentage distributions

At market prices



At factor cost
(deducting value
of indirect taxes
less subsidies)



by the provision of long-term capital for investment abroad, the reduction in sterling balances and the repayment of debts, leaving nothing for the rebuilding of the gold and dollar reserves. Consequently, when international confidence was shaken towards the end of 1956 by the tension in the Middle East (see p. 123), the reserves had to be strengthened by a drawing on the International Monetary Fund.

Production and Employment

Since 1941, the level of unemployment in Britain has been very low; on average 2 per cent of the working population was unemployed between 1948 and 1956 as compared with an average of 14 per cent between the two world wars (see diagram, p. 125). Industrial production has been rising in the post-war period by an average of 5 per cent each year; the national income in real terms has been advancing by about 3 per cent each year (see diagram, p. 124). As the size of the population of working age is virtually static, and the number at work has risen only slowly, the expansion of output of goods and services is mainly the result of higher productivity which, in manufacturing industry, appears to have shown a larger increase since 1938 than that of any other European country.

The increased resources made available by higher production have been used principally to raise exports and investments and to maintain a higher level of Government expenditure than pre-war (see diagram, p. 124). Consumer expenditure per head stayed below the pre-war level till 1952, and though it has since risen markedly, its value at factor cost continues to be a lower proportion of the national product. Gross capital formation has risen continuously since the war, except in 1950 and in 1952, and in 1956 it absorbed 16 per cent of the gross national product compared with 12 per cent in 1938. The rate of increase in exports was most rapid in the immediate post-war years, while Government expenditure dropped as a result of the post-war cuts in defence outlays, but rose again markedly following the rearmament programme introduced in 1950. Since 1952, defence spending has taken no less than 9 per cent of the gross national product.

Extensive physical controls over industry, which were retained in the years directly following the war, have in the main been discontinued. Government influence on the course of the economy is principally exercised through fiscal and monetary measures such as changes in the Bank Rate, the Budget, control over new capital issues, restrictions on hire purchase and the operation of exchange control.

A high level of industrial investment has been required to make possible the rapid rate of scientific and technological advance. The most spectacular achievements have perhaps been in the sphere of nuclear power and aerodynamics, especially the development of new types of commercial aircraft, but notable progress has also been made in employing new materials and introducing new types of plant and machinery throughout British industry.

Problem of Prices

Britain, like almost every other industrial country, has been faced with the problem of post-war rises in price levels. In the ten years to 1956, prices in Britain rose by about 50 per cent. In some degree this is explained by the increase in prices of imported goods, by the abolition of subsidies and by increases in purchase tax and other taxes, but the main immediate cause of the increase has been the tendency for all types of income—wages, salaries and profits—to advance at a higher rate than the increase in output. The problem of combating inflationary trends has been one of the most pressing issues facing post-war governments and, as in other countries, is currently the most important factor shaping economic policy.

THE NATIONAL INCOME 1948-1956

Size and Source

In a comparison of national income per head in different countries (which provides a very approximate measure of living standards) the United Kingdom ranks below the United States and Canada, and roughly on a par with Australia, New Zealand, the Scandinavian countries and Switzerland. From 1948 to 1956 the gross national product (which is a measure of the total goods and services produced) is estimated to have risen in real terms at a rate of about 3 per cent a year: in 1956 it was £18,002 million at current prices and (with allowance made for price changes) was 25 per cent higher than in 1948.

The sources used in compiling Tables 7 to 13 are the Government publications, *National Income and Expenditure 1956*, *Economic Survey 1957* and *Preliminary Estimates of National Income and Expenditure 1951 to 1956*.

The predominance of industry in the United Kingdom economy is brought out in Table 7. In 1956, manufacturing, mining and building were responsible for about 47 per cent of the gross domestic product; agriculture, forestry and fisheries provided 5 per cent.

TABLE 7

PERCENTAGE CONTRIBUTION TO THE TOTAL OUTPUT OF GOODS
AND SERVICES (GROSS DOMESTIC PRODUCT) IN 1956

	%
Agriculture, forestry and fisheries	5
Mining and quarrying	3
Manufacturing	38
Building and contracting	6
Gas, electricity and water	2
Transport and communications	8
Distributive trades	13
Insurance, banking and finance	3
Public administration and defence	6
Public health and educational services	3
Other goods and services	12
	100

Note: Percentages are rounded to the nearest whole number.

To these supplies from home production, imports added rather more than one-fifth.

Distribution

Out of the total supply of goods and services (including imports), rather over a half has been going into personal consumption, and a fifth into exports. Investment took about an eighth of the total, and current expenditure by central Government and local authorities took about a seventh. Comparison with earlier years shows that there has been a decrease in the proportion of supplies taken by consumer expenditure and an increase in the proportion taken by investment. The figures are set out in Table 8.

TABLE 8

DISTRIBUTION OF TOTAL SUPPLIES OF GOODS AND SERVICES

	<i>Percentages</i>		
	1948	1954	1956
Personal consumption	58	53	52
Public authorities' current expenditure ..	14	16	15
Investment, fixed and in stocks	12	13	14
Exports of goods and services	16	18	19
	100	100	100

There has been a significant change in the distribution of personal incomes (see Table 9). The income of employees has increased more than the income of any other group. In 1938, employees' incomes were 60 per cent of the total of personal incomes; by 1956 the share had risen to 72 per cent. In contrast, personal incomes from rent, dividends and interest had fallen to 11 per cent from the 1938 figure of 22 per cent.

TABLE 9

DISTRIBUTION OF PERSONAL INCOMES BY TYPES OF INCOME

Type of Income	Percentage			£ million
	1938	1948	1956*	1956*
<i>Employees</i> (wages and salaries, pay and allowances of Armed Forces, employers' insurance contributions) ..	60	67	72	12,201
<i>Self-employed persons</i> (professional persons, farmers, other sole traders and partnerships)	13	14	10	1,695
<i>Rent, dividends and interest</i> (received by persons)	22	12	11	1,880
<i>Grants from public authorities</i> (National Insurance benefits, etc.)	5	7	7	1,194
TOTAL PERSONAL INCOME	100	100	100	16,970

* Figures for 1956 are provisional.

The redistributive effects of taxation and the general increase in incomes have resulted in concentrating the bulk of personal income after tax in the ranges of income of £250 to £1,000 a year and, compared with 1938, greatly reducing the share taken by the highest incomes (see Table 10). The latest figures available are for 1955.

TABLE 10

DISTRIBUTION OF PERSONAL INCOMES AFTER PAYMENT OF INCOME TAX AND SURTAX

<i>Calendar Year 1938</i>			
Ranges of income before tax	Number of incomes (a) (thousands)	Percentage of total number of incomes	Percentage distribution of aggregate income after tax (b)
Under £125	16,700 (c)	63	35
£125-£249	7,083	27	29
£250-£499	1,890	7	15
£500-£999	539	2	8
£1,000-£1,999	183	1	5
Over £2,000	106	—	8
<i>Calendar Year 1955</i>			
Under £250	8,000	31	12
£250-£499	7,900	30	26
£500-£749	6,510	25	32
£750-£999	2,350	9	15
£1,000-£1,999	1,115	4	10
£2,000-£2,999	170	} 1	2.5
£3,000-£4,999	104		} 2.5
£5,000 and over	61		

(a) Income of a married couple is counted as one income.

(b) More specifically, the percentage distribution by ranges of personal income before tax of the sum total of all personal incomes which can be allocated to ranges of income, after income tax and surtax have been deducted. Certain personal income which cannot be allocated to an income range is omitted from this total.

(c) Approximate figure, comprising all married couples and single persons over 14 years of age not included in the higher ranges. It includes those without income but not seeking remunerative work (chiefly single women and students). A comparable figure for 1954, for example, was 10.5 million persons.

Both total personal incomes and total consumer expenditure have been increasing rapidly in recent years and, even after discounting the effect of rising prices, the increase in personal consumption from 1948 to 1956 was about 16 per cent. Expenditure on consumption, however, has formed a decreasing proportion of personal outlay, while a much increased proportion has certainly been devoted to saving, though estimates of saving are subject to a large margin of error. Table 11 shows how personal incomes were apportioned in 1948-51 and in 1956.

TABLE 11
PERSONAL OUTLAY
(percentage shares)

	1948-51 <i>averages</i>	1956
Taxes on income (including National Insurance contributions)	14	12
Savings	1½	9
Personal consumption	84½*	79*

* Of this, about 15 per cent in 1948-51 and about 17 per cent in 1956 went in indirect taxes, less subsidies.

The way in which personal consumption was divided between different kinds of commodities and services in 1956 is shown in Table 12.

TABLE 12
DISTRIBUTION OF PERSONAL CONSUMPTION IN 1956

Food	33
Drink and tobacco	14
Rent, rates, fuel and light	13
Household goods	7
Clothing	10
Private motoring and cycling	4
Other goods and services	20
	100

Note: Percentages are rounded to the nearest whole number.

The distribution of personal expenditure is influenced by the incidence of indirect taxes, particularly the very heavy taxes on drink and tobacco. If the effects of the latter taxes were excluded, the proportion spent on food would be about 40 per cent and that spent on drink and tobacco about 6 per cent of the total (see diagram, p. 125, which shows the proportions in 1955).

Government Income and Expenditure

The Government's share in the total supplies available in 1956 has been given in Table 8 as 15 per cent. But the percentage of total incomes which the Government takes is higher, since public authorities raise a considerable part of their income, not to spend it on goods and services, but to redistribute it as pensions and other personal payments, or as subsidies. If the total income of the central Government,

local authorities and the National Insurance Fund is compared with the total income received by everyone (including companies) for work done, the percentage is about 37.

Table 13 gives a summary of the way in which public authorities—the central Government, local authorities, and the National Insurance Fund—collected and spent their incomes in 1956.

TABLE 13

COMBINED REVENUE ACCOUNTS OF PUBLIC AUTHORITIES IN 1956

Revenue	%	£ million	Expenditure	%	£ million
Taxes on income and capital	37	2,498	Defence	25	1,634
Taxes on outlay—alcohol, petrol, purchase tax, enter- tainments, betting, etc. . .	34	2,271	Grants to persons—pen- sions, subsidies, national insurance, etc.	23	1,563
National Insurance contri- butions	10	643	Local authorities' current expenditure on goods and services	14	950
Rates	8	551	Interest on national and local debt	14	904
Profits and other income from property	10	676	National Health Service	8	550
Grants from overseas . . .	1	23	Other expenditure	8	546
			Surplus	8	515
TOTALS	100	6,662	TOTALS	100	6,662

V. INDUSTRY

ORGANIZATION AND PRODUCTION

The United Kingdom was the first country in the world to become highly industrialized. Eleven people work in mining, manufacturing and building for every one in agriculture. The United Kingdom is one of the world's largest exporters of manufactured goods per head of population and the range of its industrial manufactures reflects its position as an outstanding workshop of the world.

Location

The factors that have influenced the location of industry in Britain are many and various. During the rapid industrialization of the nineteenth century, one of the most important influences was the proximity of coal, then the major source of power, particularly when it was associated with ease of access to other raw materials such as iron ore in the West Midlands and salt (for chemicals) in Cheshire, and to the coast which in turn offered easy access to imported raw materials and a quick outlet for exports. In the course of the past hundred years, the pull exercised by coal has been progressively weakened as improved means of communication and an alternative source of power in electricity have been developed and have enabled advantage to be taken of other sites—e.g., those near to big consumer markets and plentiful supplies of labour. During the inter-war period there was a tendency for the 'new' industries such as those manufacturing motor vehicles, electrical goods and rubber products to develop rapidly in the South (especially in and around Greater London) and the Midlands. On the other hand, this period was one of acute depression and mass unemployment for the older industrial areas which specialized in the great staple industries—coalmining, steel, shipbuilding, marine engineering and cotton manufactures. These conditions prompted official action which, since the second world war, has aimed at encouraging new industrial development and diversification in the areas concerned where labour and other resources are to be found, and discouraging further industrialization in congested areas such as Greater London and Greater Birmingham.

Although industry is today widely dispersed, the main areas of industrial concentration are still, with one exception (London), the areas which saw the beginning of Britain's industrial greatness and which, with two exceptions (London and Northern Ireland), are on or near coalfields. These areas and their main industries are listed below (see also map, pp. 142–3). Four of them—Lancashire, South Wales, Tyneside, and Central Scotland—contain Development Areas (see p. 134) where, as in Northern Ireland, considerable success has been achieved by Government action to diversify the industrial structure at the same time as prosperity has returned to their staple industries.

Greater London. London is the main centre in Britain of the clothing and food and drink industries, of printing, of the manufacture of furniture, of materials for the arts, of film production, of precision instruments and of many other specialized goods. Small firms predominate in all these industries, and the average size of manufacturing firms in London is well below the national average. London is also

an important centre for light engineering and chemicals, and has some heavy engineering plants. Indeed, London is so large and its industries so diverse that it is a main centre for many of the broad groups of manufacturing industries, with the notable exception of textiles and metal manufacture.

Midlands. The main Midland industrial area consists of the great conurbation centred on Birmingham and Wolverhampton which includes portions of Staffordshire, Worcestershire and Warwickshire, where there is a wide variety of industry, including notably the manufacture of metals, electrical and engineering goods and vehicles, and also jewellery, rubber products and domestic metalware. The smaller adjacent conurbation of North Staffordshire, centred on Stoke-on-Trent, may be considered as a separate industrial area and is devoted chiefly to the manufacture of pottery and china and to the mining of coal. Leicester, Coventry, Rugby, Derby and Nottingham are the principal industrial towns in the rest of the Midland area. One of the richest coalfields in the country is situated in the north-east of the area and continues into Yorkshire.

Yorkshire. The West Riding of Yorkshire still contains much the bigger section of the British woollen and worsted industry, though Leeds is now more concerned with clothing and a variety of steel and engineering products. The modern woollen and worsted industry lies farther west, at Bradford, Halifax (which also specializes in carpets), Huddersfield and neighbouring towns. York is an important centre for chocolate and sugar confectionery. The city of Sheffield, in the extreme south of Yorkshire, is famous for its high-quality steel manufacture, its cutlery, plate and tool industry and its heavy engineering. There are extensive coalfields in the West Riding of Yorkshire. Hull is one of the world's largest fishing ports.

South-east Lancashire. Manchester is the commercial centre of the cotton textile industry. Most cotton yarn is spun in towns within a ten-mile radius of Manchester, but weaving is mainly carried on somewhat farther to the north, in the Preston, Burnley, Nelson, Blackburn and Colne areas. Manchester itself, besides having the variety of industry typical of a large city, is one of Britain's chief centres of electrical and heavy engineering and dyestuffs. There are also coalfields in the Manchester area. The Manchester Ship Canal, which carries a substantial volume of overseas trade, links Manchester with Merseyside. It passes through important industrial towns such as Warrington with its metal industries, Widnes with its chemicals, and Ellesmere Port with its oil refinery installations, before reaching the Mersey estuary. Liverpool is one of Britain's main ports and commercial centres and, after London, the greatest centre of foodstuffs processing. Among its older industries is ship repairing: shipbuilding is a major industry across the river at Birkenhead. In recent years many new industries, including electrical engineering and other heavy industrial equipment, have been rapidly assuming a place of importance in the Liverpool area.

South Wales. Coalmining, including the production of such special coals as steam coal and anthracite, has been and remains the chief industry of South Wales. The other basic industry is steel, including tinplate, in which extensive modernization is in progress. Since 1934, new manufacturing industries have been introduced into Wales to ensure diversity of employment, and these now provide capital and consumer goods on an extensive scale. The new industries include the manufacture of plastics, chemicals, textiles, aircraft and electrical and radio equipment.

Tyneside and Tees-side. In Northumberland and Durham, but not in north Yorkshire, coalmining is the principal industry. The region is also a centre for the iron and steel industry, the chemical and engineering industries and is of increasing

importance for lighter industries; it is second only to Clydeside as a shipbuilding and ship-repairing area. Most of the shipyards are on the lower reaches of the rivers Tyne, Wear and Tees.

Central Scotland. The largest shipbuilding centre in Britain is on Clydeside. It has a marine engineering industry and important neighbouring coalfields in the Lothians, Fife and Lanark, although activity in this last-named field is now declining as the seams become worked out. There is also a flourishing iron and steel industry. The commercial importance of Glasgow and the size and varied appointments of the great ships built on Clydeside have assured for this area a variety of manufactures. The whole of the central lowlands of Scotland from the Clyde to the Forth is industrialized.

Belfast. Another important shipbuilding area is Belfast, in Northern Ireland, even though it has no local supplies of coal and iron. It has also an engineering industry, primarily marine engineering, and there is a growing aircraft assembly industry. The traditional industries of Belfast are linen, rope and tobacco.

Distribution of Industry Policy

Government policy is particularly concerned with the distribution of industry. The Government cannot direct a firm to go to any particular area or site, but the Board of Trade has statutory powers under the Town and Country Planning Acts, 1947, to ensure that new industrial development throughout Great Britain is carried out consistently with the proper distribution of industry. A certificate to this effect from the Board of Trade is necessary before planning consent may be given by a local planning authority for a new industrial building or extension with an area exceeding 5,000 square feet. One use of these powers has been to discourage the expansion of industry in congested areas such as Greater London or Birmingham.

Moreover, areas in Great Britain where there is likely to be a special danger of unemployment may be scheduled by the Board of Trade as 'Development Areas' under the Distribution of Industry Act, 1945. The purpose of this Act, and of the Distribution of Industry Act, 1950, is to promote the growth of new industry and the expansion of existing industry in the Development Areas. The main advantages which these Acts give to Development Areas are that the Board of Trade may build factories for letting to suitable industries and the Treasury may help by making loans or grants to undertakings which are unable to secure finance through normal channels. The Board of Trade factories are built and managed by Industrial Estate Companies. The directors of these companies are unpaid and are appointed by the Board of Trade, and their capital is provided from Government sources. The companies include North-Western Industrial Estates Ltd., North-Eastern Trading Estates Ltd., Scottish Industrial Estates Ltd., Wales and Monmouthshire Industrial Estates Ltd., and the West Cumberland Industrial Development Company Ltd.

There are Development Areas in the following parts of England and Wales: the mining and coastal areas of Northumberland and Durham; West Cumberland; South Wales and Monmouthshire; Wrexham; South Lancashire; Merseyside; and North-East Lancashire, which became a Development Area in March 1953. In Scotland, the industrial area in and around the Clyde Valley, the Dundee area, and part of the Highlands have been scheduled as the Scottish Development Area.

New industrial buildings and extensions of over 5,000 square feet completed in Great Britain between the beginning of 1945 and the end of 1956 totalled over 300 million square feet. Of this total, about 30 per cent was in the Development Areas which have, by contrast, some 18 per cent of the country's insured workers in manufacturing industry.

Government assistance is not limited to Development Areas: the Board of Trade gives attention to the needs of other areas of persistent unemployment and tries to steer suitable new industry to them. In some of these places, and in new towns or expanded towns (intended to receive population and industry moving from London, Glasgow and other congested centres) factories may be built by local authorities. In rural and fishing areas (for example, the Buckie-Peterhead Area in north-east Scotland) which need a small amount of manufacturing industry, the Development Commission has agreed to consider sympathetically requests for financial help in building small factories for industrialists who are prepared to go there. In Scotland, the services of the Scottish Industrial Estates Ltd. are available for the construction of such factories.

The Distribution of Industry Acts do not apply to Northern Ireland because, under the Northern Ireland constitution, the matters they deal with are the concern of the Northern Ireland Parliament, which has passed its own legislation to encourage industrial expansion and diversification. The Northern Ireland Government builds factories and provides grants and loans for new industrial undertakings, and the Board of Trade gives Northern Ireland priority as if it were a Development Area for the purposes of encouraging and guiding new industrial development. As a result, over 115 firms have started production for the first time in Northern Ireland and 82 schemes of expansion have been put into effect since 1945. These new firms and expansion schemes are already providing employment for 27,000 people. The United Kingdom Government also gives manufacturers in Northern Ireland, as in Development Areas in Great Britain, some preference in the matter of placing Government contracts.

The Structure of Industry

The pattern of ownership and organization in industry is varied. Personal, corporate, co-operative and public enterprise all assume a number of different forms, and all play an important part in the economy. Industrial enterprises vary in scale from the many small workshops to vast organizations such as the National Coal Board, a public corporation with some 700,000 employees; Imperial Chemical Industries Ltd., a limited liability company which, with its subsidiaries, employs some 115,000 persons in the United Kingdom; and the Co-operative Wholesale Society Ltd., a co-operative society with some 50,000 employees.

Role of Public Enterprise

Throughout the first half of the twentieth century, the public sector tended to grow relatively to the private sector. This tendency is connected largely with the increasing concern of Government with such matters as health, education and housing. But up to 1950, and particularly in the decade 1940-50, there was also an increase in the State's direct participation in productive economic activities, although since 1951 this increase has been checked, and in two instances—steel and road transport—the return of ownership to private enterprise has almost been completed. State participation is effected mainly through special statutory bodies set up to deal with a particular activity. Such bodies, though not part of a Government Department, are under a considerable but varying degree of public control (see pp. 144-5). The most important of these statutory bodies have been the public corporations which operate major industries and services in the public interest.

The public corporation in its twentieth-century form is, generally speaking, a public body having a clearly defined and specific task. Its board of directors and its staff are chosen for their experience and competence in a particular field; they are not civil servants, and although they are accountable to Parliament for their

actions in a variety of ways, they are free from full and continuous ministerial control. Certain of the corporations are self-supporting. Others receive Exchequer grants to help them in carrying out the duties with which they have been charged.

Before the second world war, a number of public corporations were established,¹ designed to reorganize and to operate for the public benefit some service that required co-ordination on a national scale or required control by a body responsible for the public interest. Their constitutions had no standard pattern and their governing bodies differed in the method of appointment and in composition.

Immediately after the second world war, the Nationalization Acts set up public corporations to run certain major industries and services, including coalmining, inland transport, gas supply, electricity generation and supply, and civil air transport. These post-war corporations are less varied in the structure of their governing bodies, which are appointed by the responsible Minister, who has full powers of dismissal.

The following corporations are now operating or controlling industries or services:

- The Bank of England (see pp. 308-9).
- The British Broadcasting Corporation (see pp. 439-40).
- Cable & Wireless Limited (see p. 268).
- The British Transport Commission (see pp. 238-40).
- The Ulster Transport Authority (see p. 251).
- The British Overseas Airways Corporation (see pp. 253-4 and 255-7).
- British European Airways (see pp. 253-4 and 257-9).
- The National Coal Board (see pp. 182-3).
- The Gas Council and Area Gas Boards (see pp. 195-6).
- The Central Electricity Authority (see pp. 188-90).
- The Electricity Board for Northern Ireland (see p. 190).
- The North of Scotland Hydro-Electric Board (see p. 190).
- The South of Scotland Electricity Board (see p. 190).
- The United Kingdom Atomic Energy Authority (see pp. 414-16).

Under the Iron and Steel Act of 1949 most of the undertakings engaged in the iron and steel industry were brought under public ownership, but the process was reversed by subsequent legislation and nearly all have now been returned to private ownership (see pp. 206-7).

¹ The principal corporations appointed before the second world war were: (1) the Central Electricity Board, established by the Electricity Supply Act, 1926, to rationalize electricity generation and build and operate a main transmission system; (2) the British Broadcasting Corporation, established in 1927 by Royal Charter to provide a national broadcasting service; (3) the Electricity Board for Northern Ireland, established by the Electricity (Supply) Act (Northern Ireland), 1931, to develop electricity supplies in Northern Ireland outside the two County Boroughs, Belfast and Londonderry; (4) the London Passenger Transport Board, established by Act of Parliament in 1933, to operate the public transport system of the London Metropolitan area; (5) the Northern Ireland Road Transport Board, established by the Road and Rail Transport Act (Northern Ireland), 1935, to acquire public road transport services in Northern Ireland outside the County Boroughs; (6) the British Overseas Airways Corporation, established by the British Overseas Airways Act, 1939, to take over the operation of the two main existing air transport companies—Imperial Airways and British Airways.

The greater part of the road haulage services which were taken over by the British Transport Commission from private operators have also been returned to private ownership (see pp. 246-7).

Mining and Quarrying

Much the most important of the British extractive industries is coalmining. The coalmining industry of Great Britain is operated as a single co-ordinated enterprise under the direction of the National Coal Board. For an account of the coal industry see pp. 182-6.

All other mining and quarrying (e.g., iron ore, sand, gravel, chalk, limestone, salt, tin, slate, oil shale and china clay) is undertaken by private enterprise, usually owned and operated by limited liability companies. About 80,000 workers are employed in the mining industry other than coalmining.

Manufacturing

Most manufacturing is in the hands of private enterprise. Some exceptions are locomotives and rolling-stock for use on British Railways, mostly built in workshops owned and operated by the British Transport Commission, a considerable quantity of arms and military equipment made in Royal Ordnance factories and other factories operated by the Ministry of Supply, and some fighting ships built in naval dockyards operated by the Admiralty. Some printing and book-binding is undertaken by staffs of the Stationery Office, while the repair, and to a limited extent the construction, of Post Office equipment is carried on in factories run by the Post Office.

Surveys of the size of all manufacturing establishments employing more than 10 persons are made periodically by the Ministry of Labour and National Service; the results of the surveys, based on returns rendered by employers in December 1955, are shown in Table 14.

About a third of all employees in manufacturing industries are in establishments employing from 100 to 500 persons. A high proportion of the biggest establishments are in the heavy industries, while the average size of establishments in industries making consumer goods is smaller than in manufacturing industries as a whole. Comparisons with results obtained in earlier surveys on similar lines suggest that there is a slow but significant trend towards an increase in the average size of manufacturing establishments: in December 1955, establishments with 1,000 or more employees were found to employ 2,640,000 persons, over ten per cent more than two years previously and more than twice as many as in 1935.

The size of establishments is not in itself an indication of the size of manufacturing firms, as a single firm may own several establishments. There are no general surveys of the size of manufacturing firms comparable with the survey of establishments. It is known, however, that in a few industries a small number of big companies are responsible for most of the total production. Shares in these companies are usually distributed among a great number of holders and it is unusual for a few large holders to have a controlling interest.

The way in which the work of production is divided within and between different firms varies from industry to industry. In the cotton industry, for example, it is usual for different firms to undertake the various main processes of production (spinning, weaving, finishing), while in the woollen section of the wool textile industry all these processes are commonly undertaken within the same firm. Some of the leading establishments in the vehicles group of industries are primarily engaged on the assembly of parts, many of which have been built for them under contract by specialist firms.

TABLE 14
DISTRIBUTION BY SIZE OF MANUFACTURING ESTABLISHMENTS IN TERMS OF NUMBERS EMPLOYED AT DECEMBER 1955*—GREAT BRITAIN

Industry Group	A. NUMBER OF ESTABLISHMENTS					2,000 or more Employees	1,000-1,999 Employees	500-999 Employees	100-499 Employees	25-99 Employees	11-24 Employees	Total
	11-24 Employees	25-99 Employees	100-499 Employees	500-999 Employees	1,000-1,999 Employees							
	A. NUMBER OF ESTABLISHMENTS											
Treatment of non-ferrous mining products other than coal	2,611
Chemicals and allied trades	..	585	1,330	601	65	10	20	111	42	28	2,239	
Metal manufacture	..	528	923	607	111	28	42	111	42	28	2,239	
Engineering, shipbuilding and electrical goods	..	314	751	581	148	53	68	581	148	53	1,915	
Vehicles	..	2,210	3,772	2,089	436	131	248	2,089	436	131	8,886	
Precision instruments and other metal goods	..	2,099	2,522	716	140	99	96	716	140	99	5,672	
Textiles	..	1,665	2,742	1,091	154	12	44	1,091	154	12	5,708	
Leather, leather goods and fur	..	1,002	2,770	2,197	183	15	43	2,197	183	15	6,210	
Clothing	..	316	466	143	4	—	1	316	466	143	930	
Food, drink and tobacco	..	1,823	3,156	1,154	99	2	20	1,154	99	2	6,254	
Paper and printing	..	1,990	2,670	1,182	133	25	70	1,182	133	25	6,070	
Manufactures of wood and cork and miscellaneous manufacturing industries	..	1,273	1,995	899	113	15	39	899	113	15	4,334	
	..	1,704	2,733	918	80	17	32	918	80	17	5,484	
TOTAL	15,509	25,830	12,178	1,666	723	407	56,313					
	B. NUMBER OF EMPLOYEES (thousands)											
Treatment of non-ferrous mining products other than coal	..	10	66	126	44	28	30	126	44	28	304	
Chemicals and allied trades	..	9	48	130	78	111	60	130	78	111	436	
Metal manufacture	..	5	39	135	102	177	94	135	102	177	552	
Engineering, shipbuilding and electrical goods	..	39	189	457	306	351	351	457	306	351	1,856	
Vehicles	..	36	117	147	100	141	141	147	100	141	1,034	
Precision instruments and other metal goods	..	29	135	220	106	58	58	220	106	58	580	
Textiles	..	18	149	464	121	60	60	464	121	60	862	
Leather, leather goods and fur	..	6	23	24	2	—	1	24	2	—	56	
Clothing	..	32	157	226	67	27	27	226	67	27	517	
Food, drink and tobacco	..	34	130	248	94	99	99	248	94	99	704	
Paper and printing	..	22	97	187	79	51	51	187	79	51	481	
Manufactures of wood and cork and miscellaneous manufacturing industries	..	30	135	179	51	41	41	179	51	41	506	
TOTAL	270	1,285	2,543	1,150	1,013	1,627	7,888					

* Establishments in manufacturing industries with more than ten employees from which returns were received in December 1955. The analysis follows the Orders of the Standard Industrial Classification.

Source: Ministry of Labour and National Service.

An account of some of the principal manufacturing industries is given on pp. 205-27.

Building and Civil Engineering

In building and civil engineering large-scale work is usually carried out by private contractors. Since the end of the second world war, most new houses have been built by firms under contract to local authorities, but an increasing number are now built under contract to persons or companies, or for sale. A few local authorities employ some direct labour in the construction of new houses, while the majority employ some labour for repair and maintenance work.

Building firms may be divided into those undertaking general building and civil engineering work and those concerned with highly specialized work, many of which operate outside as well as inside the building industry. Building is an industry of small firms; more than half of the firms employ fewer than twenty employees. For a fuller account of the building and civil engineering industries see pp. 202-5.

Industrial Association

From the middle of the nineteenth century private industrial undertakings have increasingly entered into voluntary association for a number of different purposes. Some of the more important of these purposes may be classified as follows:

1. The provision of common services, the exchange of information, liaison with Government, and representation of their members' point of view.
2. The regulation of trading practices. Under the Restrictive Trade Practices Act of 1956, restrictive trading arrangements (as defined in the Act) must be registered with the Registrar of Restrictive Trading Agreements (see pp. 145-6).
3. Negotiation with trade unions on wages and conditions of work.

Associations for the first and third of these purposes cover, with varying completeness, most of British industry but there are wide sectors of industry where there is no collective agreement to regulate trading practices. Associations which deal with labour matters usually consist of firms engaged in the same type of manufacturing process. Organizations mainly concerned with representations to Government, provision of common services or the regulation of prices are built up round a product or an allied group of products. In an industrial sector concerned wholly with an allied group of products, a single association may undertake all the required functions.

There are about 270 national federations and probably about 1,600 other employers' organizations (mostly regional or local, and members or branches of the national federations) all concerned with negotiation of wages and conditions of work. Most of the national federations are in turn affiliated to the *British Employers' Confederation*, the national body representing employers on labour questions affecting industry generally (see p. 282).

The number of manufacturers' associations concerned with providing common services and regulating prices and trading methods is not known precisely, but according to a survey carried out by Political and Economic Planning between 1953 and 1956, some 1,300 are in existence, varying greatly in importance, structure and activities. There are about 300 national organizations affiliated to the *Federation of British Industries* (FBI), the national body recognized as the spokesman for British industry on economic, commercial and production (as distinct from labour) matters. The FBI has offices in the main industrial centres in the United Kingdom and is very widely represented abroad.

A number of the organizations affiliated to the FBI also deal with labour matters and are affiliated to the British Employers' Confederation. The two organizations work closely together on matters of common interest.

Other important national associations of employers are the *National Union of Manufacturers* (NUM) and the *Association of British Chambers of Commerce*. The members of NUM are over 5,000 manufacturing firms, mainly small or medium sized, and some 70 trade associations are affiliated to it. Like the FBI it has regional branches. The Association of British Chambers of Commerce is the central organization to which about 100 local Chambers of Commerce are affiliated. In Scotland, there is also a central organization, the Council of Scottish Chambers of Commerce. These bodies are open to all kinds of producers and traders and exist for promoting the interests of local industry and commerce. The FBI, the NUM and the Chambers of Commerce often act jointly in matters of common concern.

In Scotland, the *Scottish Council (Development and Industry)*, with a wide membership including local authorities, trade associations, trade unions, Chambers of Commerce, co-operative societies and banks, is concerned with the economic development of Scotland. It assists the expansion of existing industry, fosters the growth of new industries especially in areas requiring development, encourages exports, organizes exhibitions and publicizes Scottish trade and industry.

An *Advisory Development Council for Northern Ireland* was established in 1955 to study means of encouraging economic development, to attract the settlement of industry in the area, to make more widely known the facilities offered by Northern Ireland and to advise the Government of Northern Ireland on the use of funds made available for these purposes.

Relations with Government

The Government is able to exercise influence on the course of industry in a number of ways—through fiscal and monetary policy, by means of physical controls and inducements, as well as by providing information and advice.

A system has grown up whereby a particular Government Department acts as the main point of contact, a 'production department' for each major industry.

The Department through which the Government's relations with trade and industry are chiefly conducted is the Board of Trade, and the Board's responsibilities cover a wide range of industries and materials. Certain industries and services, however, are the responsibility of other Departments, as production departments:

Ministry of Supply	Aircraft, radio and light metal industries and explosives. (The primary task of the Ministry is to supply the Armed Forces.)
Admiralty	Shipbuilding and ship-repairing.
Ministry of Agriculture, Fisheries and Food	Farming, horticulture, agricultural machinery, fisheries, and food processing.
Ministry of Power	Coal, oil, gas, electricity (including nuclear power), iron and steel.
Ministry of Transport and Civil Aviation	Transport services (including civil aviation), roadmaking, and certain sections of the quarrying industry.
Ministry of Works	Building, civil engineering and building materials.

Ministry of Housing and Local Government House-building.

Ministry of Health Medical and surgical goods.

The Treasury is responsible for overall economic policy, and specifically for fiscal and monetary policy through which it is able to influence the level of economic activity and the utilization of the nation's resources, in particular the volume of investment. The Ministry of Labour and National Service is the channel through which manpower policy is conducted, for example, the measures taken to attract workers into key jobs.

During and after the second world war, many operations of industry and commerce were subject to Government control. Most of these controls have been relaxed, but some remain. Thus, the consent of the Treasury is required for the issue of large amounts of fresh capital; and that of the Board of Trade for the import or export of certain goods. The Board of Trade also has certain powers to influence the location of industry (see pp. 134-5), and the Ministry of Housing and Local Government, acting through local planning authorities, has powers to control the use of land (see pp. 391-7).






The Central Statistical Office, which is attached to the Cabinet Office, was established in 1940 to provide a comprehensive statistical service to assist the authorities in framing economic and financial policy. Although Departments themselves compile statistics relating to their particular responsibilities, and may publish them in their own standard publications; the comprehensive publications, the *Monthly Digest of Statistics* and the *Annual Abstract of Statistics* are prepared by the Central Statistical Office. It is also the source of the annual estimates of national income and expenditure published in the annual *Economic Survey* of the United Kingdom, issued before the Budget statement.

All Departments which are production authorities, and some others, have a responsibility for promoting increased productivity and efficiency in industry. Production authorities, for example, encourage the establishment, within each industry and within individual undertakings, of joint councils and committees in which representatives of employers and of workers discuss together improvements in methods and technique. They also work with and through various statutory and voluntary bodies concerned with the same ends, and make grants to them in appropriate cases. Such bodies include employers' associations (see pp. 139-40) and trade unions (see pp. 282-4); the British Productivity Council (see p. 147), a voluntary body representing employers and trade unions; the various management and professional associations including the British Institute of Management (see p. 148), the Council of Industrial Design (see p. 427), and the *Development Councils* which may be set up under the provisions of the Industrial Organization and Development Act, 1947, by Departments responsible for the industry concerned. The purpose of the Development Councils is to provide firms in an industry with those services (research, design, statistics, and personnel training) which individual firms cannot afford out of their own resources. There are at present Development Councils for the cotton industry (*The Cotton Board*), and for the furniture industry. The Department of Scientific and Industrial Research (see p. 412), whose chief purpose is to promote the researches which are the main basis of the long-term growth of efficiency, is also concerned with direct productivity research and with the provision of a technical advisory service. The national standards organization is the *British Standards Institution*, a voluntary non-profit-making body, incorporated by Royal Charter. It seeks to promote industrial efficiency by voluntary standardization and simplification, i.e. by getting manufacturers to agree to substitute a defined number








Location of Industry

KEY TO MAP




NATURAL RESOURCES

- Hydro-electric Stations 
- Coal 
- Iron Ore 
- Tin 
- China Clay 


METALS & ENGINEERING

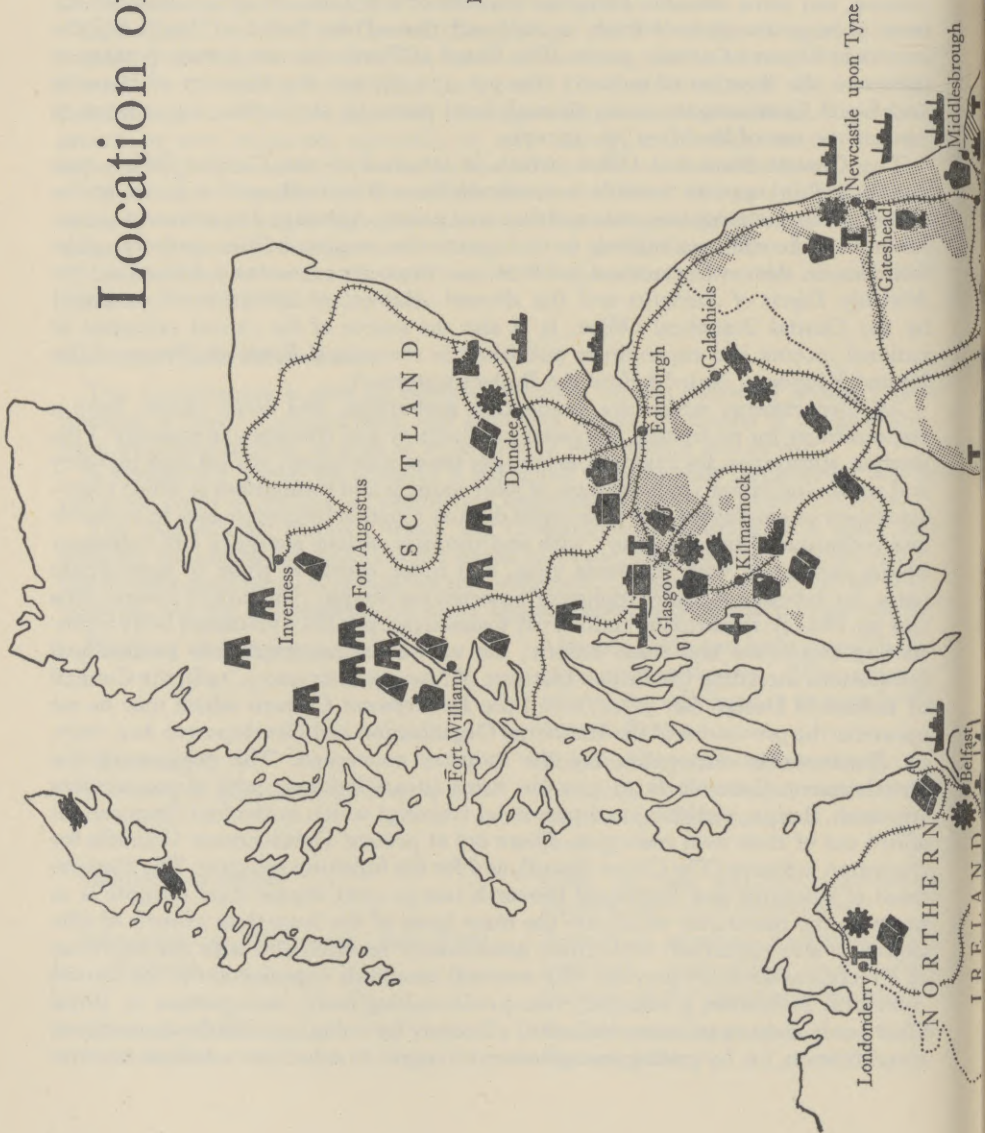
- Iron & Steel 
- Aluminium 
- Heavy Engineering 
- Light Engineering 
- Aircraft 
- Vehicles 
- Shipbuilding 

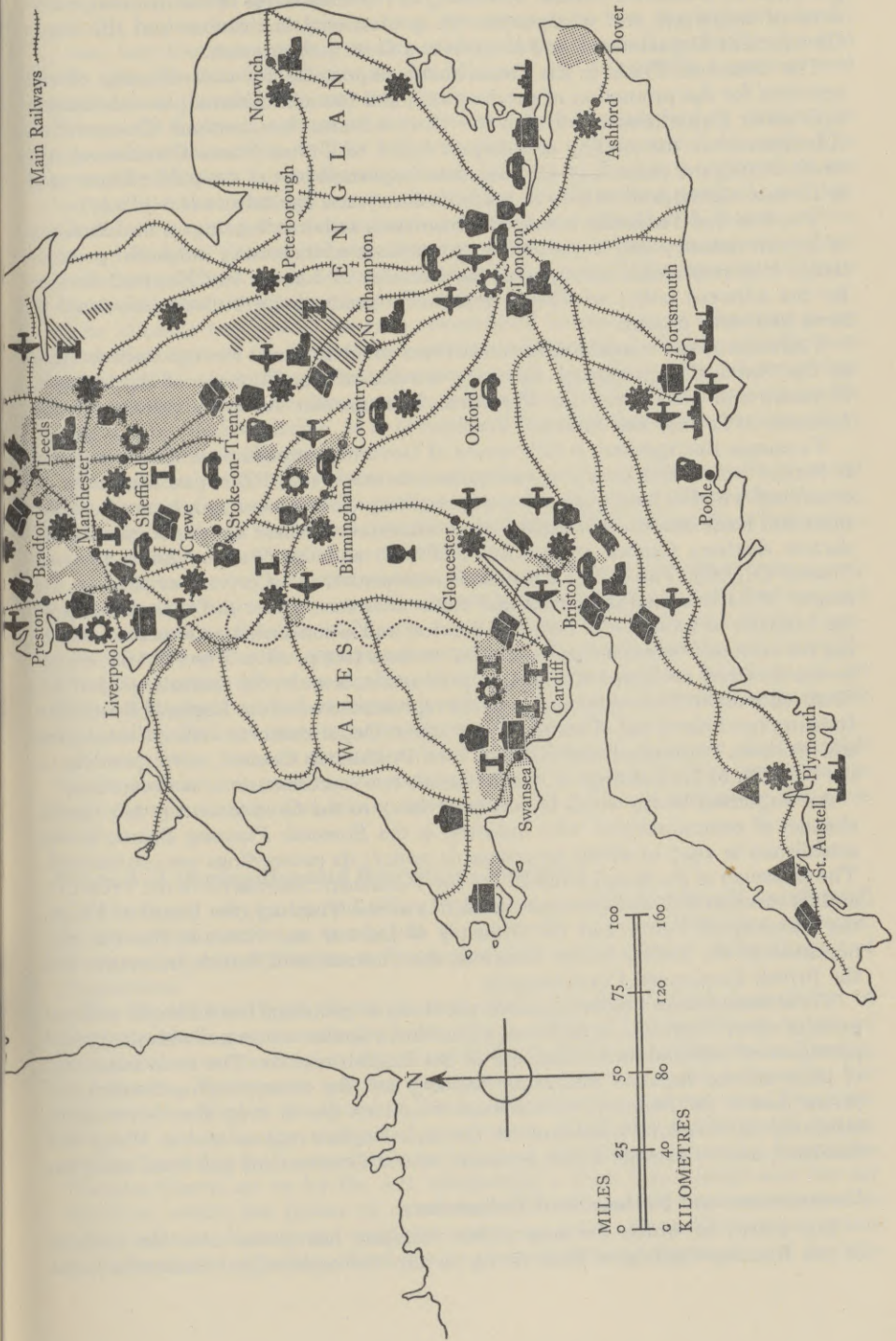
TEXTILES

- Cotton 
- Woolen 
- Other (jute, linen, and man-made fibres) 

OTHER INDUSTRIES

- Chemicals 





of sizes and qualities of a product where there exists an unnecessary variety. It is governed by a General Council consisting of representatives of the main organizations of employers and workpeople, the professional institutions and the larger Government Departments, and it receives a Government grant.

The Board of Trade is the Department responsible for co-ordinating official activities for the promotion of productivity, and has administered, in consultation with other Departments and with the United States International Co-operation Administration, the sterling counterpart funds of United States Conditional Aid which during the years 1953-56 formed an important part of the public funds used to further higher productivity in trade, industry and agriculture (see p. 147).

The Board of Trade also conducts information activities bearing on the efficiency of British industry and in particular on methods of increasing industrial productivity. It is responsible jointly with the Ministry of Labour and National Service for the editorial policy of *Target*, a monthly productivity bulletin circulated to firms and trade unions.

Technical advice is available for those firms which ask for it through such services as the National Agricultural Advisory Service of the Ministry of Agriculture, Fisheries and Food, and the Personnel Management Advisory Service of the Ministry of Labour and National Service.

To ensure that industry is fully aware of Government policy and also that policy is framed with a full knowledge of industry's needs and difficulties, a number of consultative bodies have been set up representing Government, employers' associations and trade unions. Among the more important of these are the *National Production Advisory Council on Industry* (NPACI) and the *National Joint Advisory Council* (NJAC). The NJAC consists of representatives of private employers, the boards of nationalized industries and trade unionists, under the chairmanship of the Minister of Labour and National Service, and is concerned with matters affecting the relations between employers and workers (see p. 286). The NPACI, which covers the wider problems of industrial production, is under the chairmanship of the Chancellor of the Exchequer and includes representatives of the Regional Boards for Industry (see below) and of certain Government Departments as well as of employers and workers. Northern Ireland has its own Production Council, corresponding to the NPACI, to the meetings of which it sends two representatives as observers.

An important body, which is purely advisory to the Government rather than a channel of communication with industry, is the *Economic Planning Board*. It was established in 1947 to advise on economic policy; its proceedings are confidential. The chairman of the Board is one of the two Permanent Secretaries to the Treasury, and its membership includes representatives of the Treasury, the Board of Trade, the Ministry of Power and the Ministry of Labour and National Service, and nominees of the Trades Union Congress, the Federation of British Industries and the British Employers' Confederation.

These consultative bodies approach the study of problems from a broad national point of view. There are, in addition, consultative bodies concerned with the special problems of Scotland and Wales and of the English regions. The most important of these are the *Regional Boards for Industry* and the corresponding *Scottish and Welsh Boards for Industry*, whose main functions are to keep the Government informed on industrial conditions in the nine English regions and in Wales and Scotland, and to provide a link between central Government and local industry.

Government and Nationalized Industries

The extent to which the responsible Minister has power over the working of the Boards, which have been set up to run the nationalized industries varies

from industry to industry, but two features are common to almost all of them. First, the Minister appoints the chairman and members of each Board, and secondly, he has power to give general directions as to how the industry should be run, but does not interfere in day-to-day management. It is usually also laid down that the Board shall give to the Minister any information, statistics and financial accounts which he may require.

The usual financial arrangement is that the Board is required to conduct its business so that receipts at least balance outgoings over a period of years. The responsible Minister is usually empowered (subject to Treasury approval) to say what shall be done with any surplus should the Boards make a profit. A new procedure for financing the nationalized industries was introduced as part of the 1956-57 Budget. The capital requirements of these industries are now met from the Exchequer, bank advances being used only for normal requirements of short-term capital once outstanding loans have been repaid.

The Minister responsible for each nationalized industry must take steps to see that the interests of the industry's customers are protected. This is usually done by the establishment of representative consumers' councils to consider complaints and suggestions made to them, and to advise the Board or the Minister on the changes they think desirable. It is recognized that these arrangements are still to a great extent experimental.

Government policy towards the nationalized industries is subject to the approval of Parliament. Opportunities for parliamentary discussion are afforded by debates, including debates on the annual reports and accounts of the nationalized industries, and by answers to parliamentary questions.

In order to ensure that parliamentary discussion of the nationalized industries is informed and effective, a House of Commons Select Committee on the Nationalized Industries was established in March 1957. The terms of reference of the Committee are to examine the reports and accounts of the nationalized industries established by statute, whose controlling Boards are appointed by Ministers of the Crown and whose annual receipts are not wholly or mainly derived from money provided by Parliament or advanced by the Exchequer.

In most other respects the nationalized industries have the same relations with the Departments responsible for them as do the private industries; they look to them for sponsorship and advice on productivity, and are subject to the same controls.

Control of Monopolies and Restrictive Practices

Competition may be limited either by agreements (whether formal or informal) among several parties or as a result of monopoly or other restrictive practices. There are separate legislation and procedures for the two forms of impairment of competition.

The Restrictive Trade Practices Act, 1956, provides for the registration of restrictive trading agreements (including those relating to common prices, approved lists of dealers and restriction of production) by the Registrar of Restrictive Trading Agreements. Agreements relating exclusively to exports are not registerable but have to be notified to the Board of Trade. The Registrar has two main functions. First, he maintains the register of agreements which may be inspected by the public. Secondly, he is responsible for bringing agreements before the Restrictive Practices Court, set up by the Act, comprising a High Court judge and two lay members, which has power to determine whether such agreements are in the public interest. Agreements are presumed to be against the public interest unless it can be shown that they afford one or more of certain advantages and that the

degree of restriction is not unreasonable. If this cannot be shown, such agreements are void and, moreover, the Court can make orders to prevent attempts to enforce them. Monopolies and other arrangements which are not within the scope of the Court may be referred by the Board of Trade to the Monopolies Commission for investigation and report. Production Departments (see pp. 140-1) take appropriate action on the basis of these reports.

The 1956 Act also makes unlawful the maintenance of resale prices by collective action to withhold supplies or by other collectively enforced discriminatory arrangements; at the same time the Act strengthens the powers of individual suppliers to enforce their retail prices through the civil courts.

Prior to the passing of the 1956 Act, a Monopolies and Restrictive Practices Commission, established under the Monopolies and Restrictive Practices (Inquiry and Control) Act, 1948, had investigated a number of industries. Several industries modified their practices in accordance with its recommendations.

Production and Productivity

Industrial production (mining and quarrying, manufacturing, building and contracting, and gas, electricity and water) which, in 1956, was more than 50 per cent greater than before the war, increased rapidly in the immediate post-war years as industry was turned over from war production and manpower was released from the Armed Forces. It had regained the pre-war level by 1946 and was 15 per cent greater by 1948. The course of production, employment and productivity since 1948 is shown in Table 15.

TABLE 15
PRODUCTION, EMPLOYMENT AND OUTPUT PER MAN-YEAR IN INDUSTRY
Trends Expressed as Indices, 1948=100

	Industrial Production	Employment in Industry	Output per Man-year in Industry
1948	100	100	100
1949	106	102	105
1950	114	103	110
1951	117	106	111
1952	114	105	108
1953	121	106	114
1954	130	108	120
1955	137	111	123
1956	136	112	122

Source: *Monthly Digest of Statistics*.

The slackening in production, employment and productivity in 1952 was due mainly to a fall in demand at home and overseas which affected particularly the consumer goods industries of textiles and clothing. The levelling off in production in 1956 reflected the fiscal and monetary measures taken to check inflationary symptoms and to restrain internal demand, which involved some readjustment of the pattern of industrial output and labour supply.

Over the post-war period as a whole, the greatest increases in production have been in the engineering, shipbuilding and electrical goods group, the vehicles group and chemicals group, with increases between 1948 and 1956 of approximately 50 per cent, 60 per cent and 85 per cent respectively.

The increase of productivity has been a constant concern of Government and industry. During the years 1953-56, the promotion of productivity in the United Kingdom was greatly assisted by activities financed under the Conditional Aid Scheme from United States economic aid. The objects of the scheme were the promotion of productivity in industry and the stimulation of competition. The programme of activities designed to further these objects provided for the establishment or expansion of technical information and advisory services, the promotion of technological studies, the provision of films and books through which improved techniques could become better known, and for a programme of studies in subjects concerned with the improvement of industrial efficiency. The scheme also provided for the establishment of Revolving Funds to make loans available to small and medium-sized firms in industry and to agricultural interests. With the exception of the Revolving Funds the scheme is no longer in operation, but many of the activities to which it gave rise have stimulated the interest of industry to the extent that they are being continued independently.

The Board of Trade is the Department chiefly concerned with the promotion of productivity, but the Department of Scientific and Industrial Research and all Production Departments and Departments dealing with economic matters also play their part. The Anglo-American Productivity Council, which was wound up in 1952 after four years of work, performed valuable services in promoting productivity by sending 'Productivity Teams', made up of representatives of management, technical and workshop levels from a series of British industries, to study techniques and methods in the United States.

The work of the Council has been continued by the *British Productivity Council*, formally established in November 1952. This is an independent body on which the following organizations are represented: the British Employers' Confederation, the Federation of British Industries, the Trades Union Congress, the Association of British Chambers of Commerce, the National Union of Manufacturers and the nationalized industries. It operates through 72 local productivity committees, 32 local productivity associations and a work study unit, set up in 1954 to stimulate a wider appreciation of work study. Its activities include the publication of a monthly bulletin, a large number of booklets and pamphlets and the making of productivity films.

Management

There are probably about 400,000 to 500,000 persons in the United Kingdom who hold managerial posts in commerce or in industry.

During the present century, and particularly during and since the second world war, there has emerged in the United Kingdom, as elsewhere, a growing awareness of the importance of management as a subject requiring special skills and knowledge; this has been stimulated partly by the need to raise productivity in order to compete successfully in world markets, and partly by the conditions of full employment and pressure upon supplies of basic commodities such as steel, all combining to require the most effective employment of men, materials and machinery. Thus, there is now in the United Kingdom a considerable body of information about, and interest in, such subjects as the uses of industrial engineering (including work study, work simplification, plant layout and planned maintenance), the financial tools of management, such as cost accounting, and the techniques of such matters

as production planning and product standardization. In addition, increased attention is being paid to human relations in industry, and to the importance of communication between management and labour.

A number of specialized management associations have come into being, requiring educational and other qualifications for membership, while, since the first world war, the professional engineering institutions have included industrial administration in the syllabus of their qualifying examinations.

During the second world war, the need was recognized for a central institution to co-ordinate education, information and research in management subjects. Soon after the end of the war a committee was appointed by the President of the Board of Trade to formulate precise proposals for such an institution, and, following its report, the *British Institute of Management* (BIM) was formed in 1947. The Institute receives a grant-in-aid from the Government, but companies who support it as corporate subscribers are the main source of finance. Interest in scientific management is widespread; such problems as work study and cost accounting, at one time the preserve of the specialist, are widely discussed and developed.

Facilities for management training at all levels have been much extended, though only a minority of managers are members of any management body or have received systematic training in the principles of management. One of the most notable recent developments is the growth of work study training courses, whether run by industries, firms, trade unions or technical colleges. Education for management is developing mainly in four ways:

- (1) a national scheme operating through the principal technical and commercial colleges throughout the United Kingdom;
- (2) an external examination system operated by the Institute of Industrial Administration (now amalgamated with the BIM, see above);
- (3) independent courses conducted by universities and adult education centres including the Administrative Staff College at Henley-on-Thames; and
- (4) the training schemes of trade associations, trade unions and individual firms.

Capital Formation and Investment

In recent years, gross fixed capital formation has accounted for more than one-seventh of gross national expenditure. In 1956, its volume, as distinct from its value, was some 40 per cent greater than in 1938 and about 55 per cent greater than in 1948.

The actual course of fixed capital formation in 1938 and between 1948 and 1956 (at current and constant prices) was as follows:

Year	1938	1948	1950	1952	1953	1954	1955	1956
£ million (current prices)	656	1,435	1,700	2,114	2,368	2,550	2,855	3,088
£ million (1948 prices)	1,559	1,435	1,643	1,673	1,851	2,007	2,132	2,199

Thus, in real terms, investment did not increase significantly between 1950 and 1952. The pressing needs of defence and exports in these years made it necessary for the Government to take measures to curtail investment. In 1953 it was possible to reverse this policy of restraint, and incentives were provided in the 1954 Budget. In the latter half of 1955, the Government took measures to restrain the rate of growth of internal demand and these were reinforced by the withdrawal of special investment allowances under the 1956-57 Budget proposals. A high level of investment spending was maintained throughout 1956 and the plans for re-equipment

and development already in hand in many industries indicate that capital expenditures are likely to continue to absorb at least the existing proportion of economic resources.

Gross fixed capital formation by industry group—including housing and social services—at 1948 prices is shown in Table 16.

TABLE 16
GROSS FIXED CAPITAL FORMATION BY INDUSTRY

£ million at 1948 prices

	1938	1948	1950	1952	1953	1954	1955	1956 (Prelim.)
Agriculture, forestry and fishing	27	96	87	76	75	80	84	73
Mining and quarrying	18	29	32	38	50	64	68	65
Manufacturing	469 (a)	349	450	468	454	464	549	608
Building and contracting	— (a)	20	22	28	26	30	36	35
Gas, electricity and water	143	138	188	191	206	239	250	235
Transport and communications (b) . .	208	213	205	169	199	202	196	238
Distribution and other services (c) . .	— (a)	121	159	151	169	218	274	272
Dwellings	474	337	323	377	493	519	480	462
Social services	85	47	79	81	83	89	90	101
Other public services	101	43	54	57	61	65	64	76
Legal fees, stamp duties, etc.	34	42	44	37	35	37	41	34
TOTAL	1,559	1,435	1,643	1,673	1,851	2,007	2,132	2,199

Source: Central Statistical Office.

(a) In 1938 fixed capital formation by building and contracting and by distribution and other services is included with manufacturing.

(b) Excludes road goods transport.

(c) Includes road goods transport.

Gross fixed capital formation in manufacturing industry has expanded most markedly since 1948 in the following industries: mineral oil refining, chemicals, iron and steel, engineering, shipbuilding, electrical goods, vehicles, and food processing.

AGRICULTURE

Although Britain is a densely populated, industrialized country relying on imports for half its food supply, agriculture remains one of its largest and most important industries. It employs about 1 million people or 4.3 per cent of those in civil employment and provides about 4.5 per cent of the gross national product, using 48 million of the 60 million acres of land.

THE LAND AND ITS USES

The land in general is highly fertile, and current agricultural practices, founded upon an age-old tradition of good husbandry improved by the application of modern scientific methods, result in some of the world's finest pedigree livestock and most successful varieties of seeds. Of 120 United Kingdom entries at the 1956 Royal Show of Canada, for instance, 103 gained prizes, including one world championship, one championship and four reserve championships.

The agricultural industry is less subject to serious dislocation caused by extreme climatic conditions than it is in some other countries; crops and livestock, for example, are seldom subjected to the dangers of drought, or floods, or severe cold. Nevertheless, abnormal climatic conditions such as, in recent years, the severe winter of 1946-47, the East Coast floods of 1953, and the wet summers of 1954 and 1956, do sometimes occur.

Farms: Numbers and Ownership

There are about 524,000 agricultural holdings (excluding holdings consisting entirely of rough grazings) in the United Kingdom: 315,000 in England; 55,000 in Wales; 73,000 in Scotland; and 81,000 in Northern Ireland. About three-fifths of the total holdings are under 50 acres in size (crops and grass, excluding any area of rough grazings), but 97,000 (18 per cent) are over 100 acres and 15,800 (3 per cent) over 300 acres.

Many farmers own their own land freehold, but the more usual arrangement is for a tenant farmer (who has a measure of security of tenure, see p. 160) to operate the farm and own the stock, crops and equipment, while the landlord owns the land and buildings, is responsible for their maintenance and is looked to for their improvement. Returns made in 1950, for the purpose of the United Nations Food and Agriculture Organization's World Census, showed that about 36 per cent of holdings in England and Wales were wholly owned by the occupier; 49 per cent were wholly rented and 15 per cent were part-owned and part-rented. The proportion of owner-occupiers was substantially higher in the case of holdings of under five acres, but did not vary appreciably from size group to size group in the case of the larger holdings. In general, farms in Britain are run as businesses, each by a single manager, usually the farmer himself. Most farmers belong to one or more of the various organizations, such as the National Farmers' Unions, which exist to represent their collective interests, and also to agricultural co-operative societies, which provide them with bulk-purchase and bulk-selling facilities.

Types of Farming

In *England and Wales* out of a total of 29.7 million acres of agricultural land, 24.5 million acres are under crops and grass, the remainder being rough grazings.

Types of farming vary with difference of soil and climate. In general, the eastern half of England is devoted predominantly to arable, and the western half of England, together with Wales, to dairy farming. Pasture farming accounts for 37 per cent of agricultural land, arable for 22 per cent and mixed farming for 29 per cent, the remainder being unclassifiable or of little agricultural value. The chief crop is wheat, followed by barley, oats, mixed corn and potatoes. Market gardens are usually found near towns, but much of the vegetable production is now on arable and mixed farms. Fattening of animals for food is widespread but is carried on particularly in the south-eastern and eastern counties and the Midlands; stock-rearing is prevalent in Wales and in the North of England.

In *Scotland*, out of a total of over 15 million acres of agricultural land, 4½ million acres are under crops and grass, the rest being rough hill grazings (about 11 million

Agriculture

MAINLY ARABLE FARMING
Market Gardening and Cash Crops



Arable Farming



MIXED FARMING



MAINLY PASTORAL FARMING
Predominantly Dairying



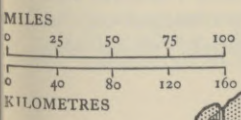
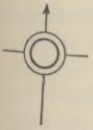
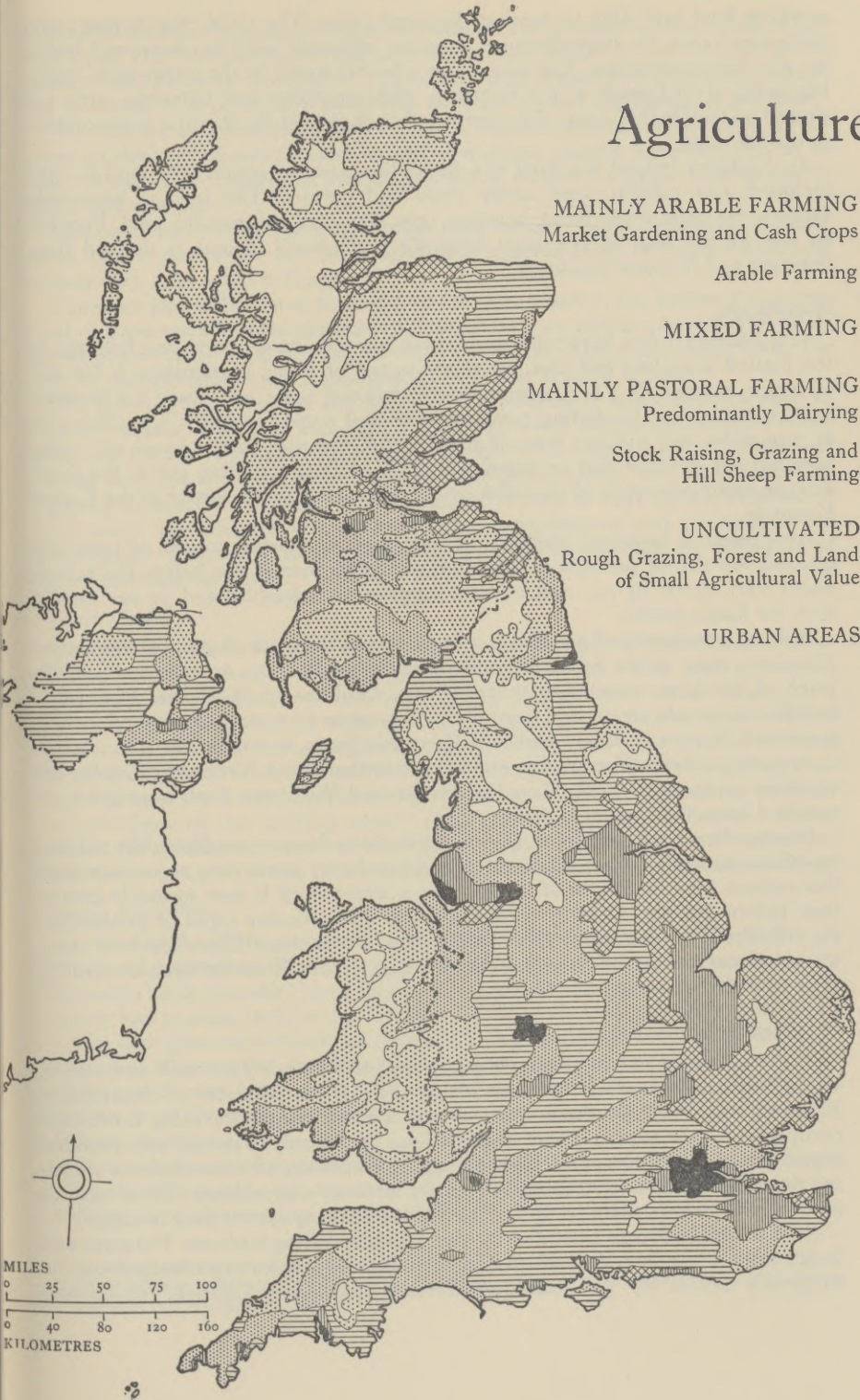
Stock Raising, Grazing and
Hill Sheep Farming



UNCULTIVATED
Rough Grazing, Forest and Land
of Small Agricultural Value



URBAN AREAS



acres) or land only able to support deer and game. The chief crop is oats; next come root crops for stock-feeding; potatoes, especially seed potatoes, and barley are also important crops. The area under wheat is small. In the south-west, dairying is the chief branch of the industry, while cropping and fattening cattle are carried on mainly in the east. The rearing of stock (especially sheep) is of importance in the hill areas.

In *Northern Ireland*, the total of 2·89 million acres of agricultural land in 1956 included 2·21 million acres under crops and pasture. The land is intensively farmed, the chief crops being potatoes, oats, flax, and ryegrass for seed. Between 80 and 85 per cent of Northern Ireland's agricultural income is derived from livestock and livestock products.

Horticulture

It is estimated that horticultural produce is grown on about 70,000 holdings in the United Kingdom and that, on about 35,000 of these, horticulture is the sole or major interest. In 1955, approximately 798,000 acres were used for growing horticultural crops (excluding potatoes) and total output included 2,315,000 tons of vegetables and 716,500 tons of fruit, which together with flowers and other horticultural produce had an estimated value of £133·5 million net at the farm. This is about one-tenth of the value of the total agricultural output of the United Kingdom.

As a result of improved methods of cultivation and better control of pests and diseases the output per acre is considerably higher than it was before the second world war. About 85 per cent of total supplies of vegetables and 50 per cent of fruit are home-grown.

Although horticultural produce is grown to some extent in all parts of the United Kingdom, most of the principal growing areas are close to, or within reasonable reach of, the large consuming centres. Some localities are, however, particularly suitable for certain crops, e.g., winter cauliflowers in Cornwall, carrots in Norfolk, pears and cherries in Kent, apples in Kent and Essex, onions in the Fen district, early strawberries in Hampshire, maincrop strawberries in Kent and Norfolk, and tomatoes under glass in the Lea Valley and near Worthing. Early vegetables are supplied from the Channel Islands.

During the second world war, the area devoted to flowers was drastically reduced by official controls. It has taken the nursery industry some time to recover from this setback but the output of flowers and nursery stock is now probably greater than before the war. Certain areas are noted for particular types of production, e.g., Surrey for ornamental trees and shrubs, Sussex and Essex for fruit trees, Cornwall and Devon for anemones, Sussex and Hertfordshire for orchids, and the Isles of Scilly for early bulb flowers.

Smallholdings and Allotments

There are some 19,000 smallholdings provided by county councils and county borough councils in England and Wales and by the Minister of Agriculture, Fisheries and Food. Of these, some 11,000 are capable of providing a full-time occupation for the tenant. These smallholdings are let only to people with practical experience in agriculture, preferably agricultural workers, with the object of affording them an opportunity to become farmers on their own account. Loans may be made to the tenants of up to 75 per cent of the working capital they require.

Of the smallholdings provided by the Minister of Agriculture, Fisheries and Food, approximately 1,000 situated on 18 different estates are managed on the Minister's behalf by the Land Settlement Association Limited, which was

originally formed in 1934 to develop smallholdings for unemployed men from industrial areas. The Association provides centrally on each estate various services for the tenants' use. These services include the supply of agricultural stores and requisites, the operation of a machinery pool, and the packing and marketing of produce.

The Welsh Land Settlement Society, which was also formed to assist in the settlement on the land of unemployed industrial workers, created one estate similar to those of the Land Settlement Association and a number of profit-sharing farms, which still operate.

Land settlement in Scotland has always been carried out by the central Government, which now owns and maintains some 452,000 acres of Land Settlement Estates with over 4,200 holdings.

There are also rather more than one million allotments in the United Kingdom; most of these are allotment gardens¹ and about half are permanent statutory allotments provided by local authorities who, under the Allotments Acts, have the duty to provide allotments, if practicable, wherever there is a need.

The growing of vegetables and fruit and the keeping of small livestock such as poultry, rabbits, bees, pigs and goats by gardeners and allotment-holders is widespread in Britain. Voluntary organizations exist to provide advice, guidance and trading facilities and generally to assist those interested in such activities. The *National Council for Domestic Food Production*, formed in 1951 by the Minister of Agriculture, co-ordinates the work of these organizations and encourages the development of domestic food production as a form of self-help, providing social and recreational benefits.

Scottish Crofts

Crofters are tenant farmers resident in the seven Scottish counties known as crofting counties—Argyll, Caithness, Inverness, Orkney, Ross and Cromarty, Sutherland and Shetland—whose holdings are either rented at less than £50 a year or are not more than 50 acres in area. In 1947, there were in these counties 20,918 crofts out of a total of 23,209 separate holdings. In 1952-53, the value of the annual production of these crofts was £7.9 million, about half the total agricultural output of the seven counties and 5.66 per cent of that of Scotland as a whole. The problems of the crofting areas—such as declining population and falling agricultural production—led to new legislation in 1955, under which a Crofters Commission (see p. 159) was appointed to reorganize, develop and regulate crofting.

Changes since 1870

In the middle of the nineteenth century Britain was largely self-sufficient in agricultural production. Then, wool, grain and, later, meat—all produced cheaply from virgin lands overseas—were increasingly imported and, as a result, the farming industry had to adapt itself to the changing conditions by concentrating much more on milk, eggs, pigs and horticultural produce. These changes in production and types of farming, in successive attempts to meet changes of fortune, resulted in a continuous trend away from an agricultural industry based mainly on grain to one based more on livestock and livestock products and, among crops, an increasing emphasis on vegetables.

The arable area in Britain declined continuously from 1872 until 1939, except during the first world war; the meat, dairy and poultry industries becoming increasingly dependent on imported feedingstuffs. The outbreak of the second world

¹ An allotment garden is a piece of land not bigger than a quarter of an acre which is wholly or mainly cultivated by the occupier for the production of vegetable or fruit crops for consumption in his own home.

war was, however, followed by an immediate reversal of farming practice, for shortage of shipping space for imports demanded a greatly increased home production of crops for direct human consumption, such as wheat and potatoes, largely at the expense of livestock and livestock products other than milk. The post-war world food shortage and Britain's balance of payments problems made it necessary for Britain to maintain increased grain production, but since 1947 an expansion of output of livestock, livestock products and animal feedingstuffs has been encouraged concurrently with the maintenance of a high level of production of grain and other crops.

Recent Trends

Recent trends in agricultural policy have resulted in greater emphasis on stock-rearing for meat and less stress on further increases in milk production.

The use of agricultural land for the various crops (see also map, p. 151) and the numbers of livestock on farms in the United Kingdom since 1924 are shown in Tables 17 and 18.

TABLE 17
USE OF AGRICULTURAL LAND IN THE UNITED KINGDOM 1924-56

Million acres

	1924	1939	1944	1953	1954	1955	1956
Wheat	1.6	1.8	3.2	2.2	2.5	1.9	2.3
Barley	1.5	1.0	2.0	2.2	2.1	2.3	2.3
Oats	3.3	2.4	3.7	2.9	2.6	2.6	2.6
Mixed corn	0.1	0.1	0.4	0.8	0.6	0.5	0.4
Rye	0.1	0.01	0.1	0.1	0.04	0.02	0.02
All cereals	6.6	5.3	9.4	8.2	7.8	7.3	7.6
Potatoes	0.7	0.7	1.4	1.0	1.0	0.9	0.9
Sugar beet	0.02	0.3	0.4	0.4	0.4	0.4	0.4
Fodder crops	1.7 ^(a)	1.3	2.0	1.6	1.5	1.4	1.4
Fruit	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Vegetables	0.1	0.3	0.5	0.4	0.4	0.5	0.5
Other crops	1.0	0.2	0.4	0.3	0.3	0.3	0.3
Bare fallow	0.4	0.4	0.2	0.2	0.3	0.3	0.2
Total tillage	10.8	8.8	14.6	12.4	12.0	11.4	11.6
Temporary grass	4.7	4.1	4.7 ^(b)	5.7	5.9	6.1	6.1
Total arable land	15.5	12.9	19.3	18.1	17.9	17.5	17.7
Permanent grass	17.6	18.8	11.7	13.0	13.2	13.6	13.4
TOTAL: Crops and Grass	33.1	31.7	31.0	31.1	31.1	31.1	31.1
Rough Grazings	15.1	16.5	17.0	16.9	16.8	16.9	16.9

Source: *Monthly Digest of Statistics*.

(a) Excluding beans and peas which, in each of the years, amounted roughly to 0.15 million acres, and which are here included in 'other crops'.

(b) Includes lucerne, shown under 'other crops' and included in tillage in other years.

TABLE 18
LIVESTOCK IN THE UNITED KINGDOM 1924-56 (JUNE)

Millions

	1924	1939	1944	1953	1954	1955	1956
Dairy cattle	3.4	3.9	4.4	4.5	4.6	4.5	4.7
Other cattle	4.4	5.0	5.1	5.9	6.2	6.2	6.2
Sheep	22.2	26.9	20.1	22.5	22.9	22.9	23.6
Pigs	3.6	4.4	1.9	5.2	6.2	5.8	5.5
Poultry	n.a.	74.4	55.1	92.1	83.6	86.9	92.8

n.a. = figures not available.

Source: *Monthly Digest of Statistics*.

PRODUCTION

Before the second world war, Britain produced about 31 per cent of its food supply (in terms of calories for human consumption). By 1956 this had risen to nearly 40 per cent, and in terms of value represented about one half compared with a little over one-third before the war. Imports of food and feedingstuffs (including oils and oilseeds) accounted for 45 per cent of total imports pre-war and 38 per cent in 1956. The percentages by weight of total supplies of certain foods provided by home production in post-war years compared with the pre-war average are shown in Table 19.

TABLE 19
PERCENTAGE OF TOTAL UK FOOD SUPPLIES PROVIDED BY HOME AGRICULTURE

	Pre-war average	1945	1951	1955 (prov.)	1956 (prov.)
Wheat and flour for human consumption (as wheat equivalent)	12	32	24	23	20
Oils and fats (crude oil equivalent)	16	7	10	15	n.a.
Sugar (refined value) ..	18	32	23	23	22
Carcass meat and offal ..	51	50	64	61	61
Bacon and ham (excluding canned imports)	29	26	45	44	40
Butter	9	8	4	7	9
Cheese	24	10	18	33	43
Condensed milk	70	59	63	99	99
Dried milk (whole and skimmed)	59	49	43	57	57
Shell eggs	71	87	86	91	96
Milk for human consumption (as liquid)	100	100	100	100	100
Potatoes for human consumption	94	100	97	92	n.a.

Source: Ministry of Agriculture, Fisheries and Food.

n.a. = figures not available.

Production trends since the war for some of the main agricultural products are shown in Table 20. The increase in agricultural production (of the order of 50 per cent since pre-war) has been achieved in spite of a slow decline in the agricultural labour force since the war. There has, in fact, been a very large increase in the productivity of labour due to improved crop and livestock varieties, more intensive use of fertilizers, pesticides and fungicides, and greatly increased mechanization, which has made it possible to work much larger acreages of arable land. The increase in agricultural production and productivity has been a major objective of Government policy, and the developments which have conduced to it have been fostered by assurances, inducements, advisory services and controls.

TABLE 20
AGRICULTURAL PRODUCTION IN THE UNITED KINGDOM
(Years beginning 1st June)

Product	Unit	Pre-war average	1946-47	1954-55	1955-56	1956-57 forecast
<i>Crop Production:</i>						
Wheat	'000 tons	1,651	1,967	2,783	2,599	2,830
Rye	"	10	39	39	19	25
Barley	"	765	1,963	2,244	2,936	2,813
Oats	"	1,940	2,903	2,440	2,706	2,496
Mixed corn	"	76	350	555	510	412
Potatoes	"	4,873	10,166	7,325	6,278	7,578
Sugar Beet	"	2,741	4,522	4,521	4,556	5,235
<i>Livestock Products:</i>						
Milk	mill. gals.	1,563	1,665	2,141	2,207	2,335
Eggs (a)	'000 tons	385	322	550	564	594
Beef and veal	"	578	537	797	687	782
Mutton and lamb	"	195	141	182	191	199
Pigmeat (a)	"	435	208	757	660	661
Wool (clip)	"	34	27	34	32	32
<i>Index of net agricultural output</i>						
Agricultural holdings (b)	—	100	119	150	155(c)	158
Total (a)	—	100	124	152	156(c)	159

Source: *Cmnd.* 109.

- (a) Includes estimated production from units under one acre, e.g., gardens and pig clubs.
 (b) In Great Britain holdings of over one acre only; in Northern Ireland one acre and over from 1954-55, for earlier years $\frac{1}{4}$ acre and over.
 (c) Provisional.

Mechanization

The estimated number of tractors (excluding small market-garden types) in the United Kingdom in 1925 was about 21,000, in 1939 about 55,000, and in 1956 about 450,000. Britain has probably the greatest tractor density in the world, one tractor per 40 acres of arable land. The increase in some of the newer agricultural machines has been even more notable; thus it is estimated that over 31,000 combined harvester-threshers were in use in the 1956 harvest; in 1939 there were only

150. As so often happens in agriculture, the solution of one problem creates another; in a climate such as Britain's, the widespread use of these combines gives rise to the need for grain-drying and grain-storage facilities on a substantial scale. How to provide these on sound technical and economic lines is a problem which is being studied by the many public and private interests concerned.

Considerable, but as yet not complete, success has attended intensive efforts to solve the problem of mechanizing the cultivation and harvesting of root crops—especially potatoes and sugar beet—which make so heavy a seasonal demand on labour.

Great strides have been made in the development of a wide range of equipment to assist the production of grass in the various forms—silage, hay and dried grass—upon which British farm livestock very largely depends.

Improvement of Crops and Livestock

Improved varieties, the use of new insecticides, fungicides and herbicides, together with advances in husbandry methods have led to a steady improvement in the yield of cereals.

Research at the Grassland Research Institute and elsewhere has directly influenced agricultural practice in the production and use of grass. Improved management of both permanent grass and temporary grass leys and the more effective utilization of grass by means of ensilage or drying, together with the extended use of fodder crops, such as kale, help to economize in the use of purchased feedingstuffs.

Britain is noted for its exports of pedigree livestock and since the end of the second world war there has been a marked recovery of the export trade in livestock of high quality (for regulations on livestock breeding see p. 167).

It is mainly the beef breeds (e.g., Shorthorns, Herefords, Aberdeen Angus) which have made a reputation overseas, but interest in British dairy stock is increasing. The rise in milk consumption since 1940 resulted in concentration at home on dairy breeds, but many breeds have maintained the dual-purpose type of qualifications. In Scotland, while milk production has expanded, an even greater increase in numbers of beef cattle has taken place. Schemes for communal use of sires are in operation, with special schemes in the Highlands and Islands for the loan of bulls and rams (free of charge) to communities of smallholders. Cattle-rearing in the United Kingdom is encouraged by subsidies on calves to be reared for beef and on hill cows (see p. 163). Northern Ireland sends to Great Britain all fatstock which is surplus to its own requirements.

MARKETING

During the second world war, marketing of nearly all farm crops was closely controlled by the Government. A great many of the controls over marketing have now been removed and free markets now exist for most agricultural products. Farmers continue the traditional practice of bringing crops and livestock to the weekly market in the local market town, though an increasing amount of business is also done by telephone and correspondence, or through co-operative marketing societies. Such societies are especially active in egg-packing, in which they handle 40 per cent of the national trade, and are an appreciable factor in the marketing of grain and potatoes, fruit and vegetables, bacon and livestock.

For certain commodities, however, statutory marketing schemes have been established through the setting-up of marketing boards and other arrangements (see p. 166), while for all the main agricultural products (but not for fruit and vegetables) the Government operates a system of price guarantees and makes deficiency

payments which are usually intended to cover any shortfall of average market prices below the guaranteed prices (see pp. 161-2).

GOVERNMENT POLICY

The Government has wide functions in relation to agriculture, and almost all of these functions are exercised by the Agricultural Departments, i.e. the Ministry of Agriculture, Fisheries and Food in England and Wales, the Department of Agriculture for Scotland, and the Ministry of Agriculture for Northern Ireland.

The severe agricultural depression which followed the fall in the general price level after 1920 resulted in 1931 in the introduction of forms of protection and financial assistance for agriculture. Commodity commissions were set up, for various agricultural products, with the responsibility of administering Government subsidies or other forms of direct financial assistance for the production of those commodities with which they were concerned. In addition, producer-controlled marketing boards were established with powers to regulate the marketing of particular products.

During the second world war and the immediate post-war years, agricultural production and marketing were closely controlled by the State, and county war agricultural executive committees, composed of local representatives of agricultural interests, acted as the Government's local agents, as did similar committees during the first world war. As a result of Government control, the functions of marketing boards, commodity commissions and similar bodies were largely suspended. Most of these organizations have now had their powers restored to them or their functions have been superseded by other arrangements.

The main basis of present agricultural policy and the powers to implement it are provided in England and Wales by the Agriculture Act, 1947, and in Scotland and Northern Ireland by similar Acts passed in 1948 and 1949 respectively. The main principle underlying these Acts is to secure 'a stable and efficient agricultural industry capable of producing such part of the nation's food and other agricultural produce as in the national interest it is desirable to produce in the United Kingdom, and of producing it at minimum prices consistent with proper remuneration and living conditions for farmers and workers in agriculture and an adequate return on capital invested in the industry'. To this end, the Government is empowered to provide guaranteed prices for the main agricultural products and to afford security of tenure to tenant farmers. In return for these guarantees, the Government expects farmers and landowners to maintain a minimum level of efficiency in husbandry and estate management and has powers to enforce this.

When the Acts first came into force, during the period of post-war control, they were administered in conjunction with a system of State purchase of food, far-reaching controls over agricultural production and marketing, and food rationing. In 1947, plans were made to secure an increase by 1952 in the volume of annual agricultural net output to about 50 per cent above the pre-war level. This objective was in fact achieved, the official index number (pre-war average = 100) being 153 for 1952-53. The index number for 1956-57 is provisionally 159 (see Table 20). As world supplies of food and Britain's own agricultural production and trading position have improved in the last few years, the Government has gradually restored to private business both the import of food and all domestic trading in food. All consumer rationing of food ended in Britain on 3rd July, 1954. But the Agriculture Acts with their basic principles, including guarantees to farmers, have remained.

The ending of the period of control over agricultural production was accompanied by some change in emphasis of the objectives of agricultural policy. Economic and

efficient production in accordance with market requirements, increasing technical efficiency, diminishing unit cost, and economies in the use of imported feedingstuffs have been emphasized rather than maximum production of end products.

The Government continues to look to the following means of increasing the net output of the industry:

- (1) more beef production; and more mutton and lamb (particularly if unit costs of production can be reduced);
- (2) continued and steady improvement in crop yields; and
- (3) a saving in the heavy bill for feed imports by (a) more ley farming, improved management and use of grass, and (b) skill and economy in the use of concentrated feedingstuffs.

The Government's long-term objective is to achieve a steady improvement in the competitive position of the industry.

County Agricultural Executive Committees

In England and Wales, County Agricultural Executive Committees (CAECs), which superseded the County War Agricultural Executive Committees, were set up under the provisions of the Agriculture Act, 1947. In Scotland, 11 similar bodies, now known as Agricultural Executive Committees, were set up, while in Northern Ireland each county has a Committee of Agriculture which acts mainly in an advisory capacity to the Northern Ireland Ministry of Agriculture. An Agricultural Executive Officer, working directly under the Northern Ireland Ministry of Agriculture, is responsible for carrying out the Government's agricultural policy in each county.

Each County Agricultural Executive Committee in England and Wales consists of 12 members. Five are appointed directly by the Minister, and seven from panels nominated by the interests concerned, three being farmers, two landowners and two agricultural workers. The Committees, which are represented locally by District Committees, are charged with promoting agricultural development and efficiency and have in fact acted as local agents for the implementation of Government policy. Technical and office staffs of the Ministry of Agriculture, Fisheries and Food are attached to the committees to help them to carry out their work.

In practice, the Committees have hitherto been concerned partly with the administration of controls, partly with the administration of trading services, subsidies and routine executive work and partly with the provision of technical and advisory services. The present aim, however, is to reduce their participation in routine executive, subsidy and trading service work so that they may concentrate mainly on assisting the Minister in formulating agricultural policy and on promoting technical development and advisory work in their localities.

The Crofters Commission

The Crofters Commission was set up under the Crofters (Scotland) Act, 1955, to reorganize, develop and regulate crofting in the crofting counties of Scotland (see p. 153), to promote the interests of crofters there and to keep under review matters relating to crofting. In particular, when a croft becomes vacant, the landlord is required to notify the Crofters Commission and to advise it of his proposals for letting the croft. The Commission has power to approve or veto these proposals, to require that a vacant croft be let as an enlargement to another croft, and generally to ensure that all vacant crofts are let in the best interests of the crofting communities. For the same purpose the Commission has power to dispossess absentee tenants who are, however, able to retain their croft houses in

certain circumstances. Aged persons who are unable to cultivate their land may, with the Commission's approval, give up their land while still remaining in occupation of their houses. The Commission has special power to carry out the reorganization of derelict or decaying 'townships' if a majority of the resident crofters are in favour of the scheme. Such a scheme provides for the reallocation of the land in the township in a way which, in the Commission's opinion, would lead to the proper and efficient use of the land and the general benefit of the township. The Commission has powers to ensure that crofters work their crofts according to the rules of good husbandry, and it is responsible for approving regulations governing the use of common grazings. The Commission acts as agent of the Secretary of State for Scotland in the administration of schemes of loans and grants for the development of agricultural production on crofts.

These powers are designed to enable the Crofters' Commission to ensure that the fullest use is made of crofting lands. The economic well-being of the crofting communities, however, depends also on developments in other directions, and the Commission has the specific duty of collaborating with other bodies in carrying out measures for economic development and social improvement.

SECURITY OF TENURE

Successful farming is a long-term business and adequate security of tenure helps the good farming tenant to plan ahead. The effect of the legislation passed after the war was to give the farming tenant a considerable measure of security of tenure and at the same time to confer power on the Government to insist on good farming and to discipline bad farmers, even if they are owner-occupiers.

In England and Wales, the Agricultural Holdings Act, 1923, required at least twelve months' notice to be given to quit an agricultural holding and gave the tenant a right to compensation for disturbance on leaving his holding; a tenant had no statutory right of contesting the notice to quit. The Agricultural Holdings Act, 1948, gave the tenant the right in normal circumstances to contest a notice to quit, which would then have to be referred to the County Agricultural Executive Committee (acting for the Minister); either tenant or landlord could then appeal against the committee's decision to an Agricultural Land Tribunal (see p. 161). The Scottish Act of 1949 applied similar provisions to Scotland, with a right of appeal to the Scottish Land Court. There are no farm landlords in Northern Ireland, where, under various Acts passed between 1870 and 1925, every farmer is either the owner, or is in process of becoming the owner, of his holding.

Under the Agriculture Act, 1947, however, the Minister of Agriculture was given the power to place under supervision an owner or occupier considered guilty of bad estate management or bad husbandry. This power he has delegated to the County Agricultural Executive Committees. If the owner or occupier fails to show satisfactory improvement in his standard of management or of husbandry after twelve months under supervision, or earlier if he has failed to comply with a direction, he may be dispossessed. Dispossession of an owner implies compulsory purchase. Dispossession of an occupier means that his occupation is terminated and the new occupier has to be approved by the Committee. An owner or occupier may appeal to an Agricultural Land Tribunal against a proposal that he should be dispossessed.

The Committees referred to above reported that they had met with a variety of conflicting opinions on the operation of these provisions of the 1947 and 1948 Acts. In June 1956, the Minister announced the opening of discussions with the organizations concerned, to review this matter.

Agricultural Land Tribunals

Agricultural Land Tribunals, which are independent bodies each consisting of a chairman appointed by the Lord Chancellor (usually for three years), and two members representing landowners and farmers appointed by the chairman from panels nominated by the Lord Chancellor after consulting representative bodies, were originally set up in England and Wales in 1948 under the Agriculture Act, 1947. Their task is to hear and to decide cases in which decisions and proposals (generally notices to quit or proposals to dispossess) of the Minister of Agriculture, or of the County Agricultural Executive Committees acting on his behalf, are referred to them at the request of one of the parties concerned. Under new regulations made in 1954 a Tribunal may, at the request of any interested party or at the direction of the Court, refer questions of law to the High Court of Justice.

PRICE GUARANTEES

In accordance with the provisions of the Agriculture Acts, the Agricultural Departments, in consultation with the farmers' representatives, hold annual reviews of the economic condition and prospects of the agricultural industry, and guaranteed prices are determined in the light of these reviews. The Acts also provide for special reviews to be held at any time if the Ministers concerned consider that there has been a sudden substantial change in costs or other conditions.

In practice, annual reviews have been held normally in February, and price guarantees, which may be related to the level of output of particular products, have been determined for livestock and livestock products for the next year, and for crops to be harvested in the year following that in which the review was held. Further assistance has also been given by production grants. In addition, at alternate annual reviews, minimum prices for livestock and their products have been fixed for two to four years ahead.

One of the main criticisms of these arrangements has been that annual reviews make for uncertainty and afford assurance for only a short time ahead, while the minimum prices determined every other year for livestock and livestock products have not proved as effective as was intended, since the circumstances at the time at which they became operative cannot be taken into account when they are determined.

Following the 1956 Annual Review, the Government held a series of discussions with the farmers' representatives to consider whether any practicable methods of providing long-term assurances of support for the industry could be devised. In a White Paper (*Cmnd.* 23) published in November 1956, the Government announced new long-term assurances for agriculture, which were welcomed by the farmers' representatives as a sound and satisfactory basis for future confidence and the necessary forward planning of the industry. The Agriculture Act, 1957, among other provisions, gives statutory form to these assurances.

Subject to the new assurances, annual reviews will continue broadly as in the past; special reviews will also be subject to new arrangements. The total value of the guarantees and production grants will be maintained each year at not less than 97.5 per cent of the total value of the guarantees in the preceding year, adding cost increases or subtracting cost decreases on review commodities since the last annual review. The guaranteed price for each review commodity will be maintained each year at not less than 96 per cent of that of the previous year, with a provision, in the case of livestock and livestock products, that, in any period of three years, reductions in the guaranteed price for a particular commodity will not amount in total to more than 9 per cent. Crop guarantees will be determined after each annual

review for the immediately succeeding harvest instead of for the harvest of the following year, so that costs and other circumstances affecting the farmers' livelihood are less likely to change radically between the determination of the guarantee and the harvest to which it relates. These new arrangements were observed by the Government at the 1957 Annual Review, and the Agriculture Act, 1957, gave statutory effect to them. To help the industry to increase its working efficiency, a major new scheme of grants for assisting the provision of permanent fixed equipment on farms and the making of long-term improvements to land was also announced.

The guaranteed prices determined at the Annual Reviews fall broadly into three different groups—deficiency payments schemes, fixed guarantee prices, and minimum or support prices.

Deficiency payments schemes, under which the Government determines a standard price for a particular commodity and pays each producer the deficiency, if any, between this price and the average realized market price multiplied by the volume of his sales, apply to wheat, rye, barley and oats; but for barley and oats the price deficiency is converted into a payment per acre. This method also applies to fat cattle (except fat cows), fat sheep, fat lambs and fat pigs. The guarantee is to producers collectively; it safeguards the incomes of producers as a whole, and thus the individual producer may get more or less than the standard price depending on the return he realizes from the market. A similar method applies to milk, but the guarantee is to the five Milk Marketing Boards in the United Kingdom, which are responsible for determining monthly prices to producers. The Government pays each Board any deficit between its net commercial returns and its entitlement under the guarantee, subject to a profit-and-loss sharing arrangement designed to encourage efficient marketing. The guaranteed price for milk to each Board also applies only to a standard quantity, so that if total sales of milk exceed this, the effective level of the guaranteed price per gallon is reduced.

Fixed guarantee prices, the general form of guarantee before the return to free markets, continue to apply to sugar beet and to wool. The British Sugar Corporation buys beet according to a scale of fixed prices related to sugar content. The wool guarantee is operated through the Wool Marketing Board; a guarantee of the Board's gross return enables the Board to fix producers' prices in advance, after making an allowance for wholesale marketing costs. Receipts in excess of the guarantee are paid into a price stabilization fund and only a part of the excess is retained by the Board. This arrangement is designed to encourage the Board to market efficiently.

Minimum or support prices apply to eggs and potatoes and are intended to protect farmers from low prices resulting from periodic gluts. Guarantees for eggs, announced in the Annual Review and Determination of Guarantees, 1957 (*Cmnd.* 109), are implemented through the British Egg Marketing Board (BEMB), under the British Egg Marketing Scheme, 1956, confirmed by producers in 1957 (see p. 167). Potatoes have been guaranteed since the 1955 crop, but in Great Britain the support price arrangements are operated on behalf of the Government by the Potato Marketing Board, which bears a small proportion of any loss incurred in administering the guarantee.

OTHER SUBSIDIES AND GRANTS

Besides providing financial stability through guarantees to farmers, the State promotes efficiency by various other subsidies and grants aimed at encouraging the full use and development of the land. The estimated total cost of subsidies

and grants for agriculture in 1956-57, including the subsidies and trading deficits wholly attributable to guarantees under the Agriculture Act, 1947, is given in Table 21.

TABLE 21

ESTIMATED SUBSIDIES AND PRODUCTION GRANTS TO AGRICULTURE 1956-57

						£ million	£ million
<i>I. Direct Subsidy Payments made under Agricultural Price Guarantees</i>							
Cereals:							
Wheat and rye	..	..	..	..	..	15.9	
Barley	..	..	..	..	..	8.9	
Oats and mixed corn	..	..	..	..	..	1.4	
						—	26.2
Home produced eggs	..	..	..	..	..		35.1
Fatstock:							
Cattle	..	..	..	..	..	34.0	
Sheep	..	..	..	..	..	9.3	
Pigs	..	..	..	..	..	31.5	
						—	74.8
Milk (excluding school and welfare milk)	..	..	..	..	..		22.1
Wool	..	..	..	..	..		0.4
Potatoes	..	..	..	..	..		0.5
						—	—
TOTAL I						..	159.1
						—	—
<i>II. Agricultural Production Grants</i>							
General fertilizer subsidy	..	..	..	..	..		20.0
Lime subsidy	..	..	..	..	..		9.3
Grants for ploughing up grassland	..	..	..	..	..		9.0
Field drainage and water supply grants	..	..	..	..	..		2.8
Grants for improvement of livestock rearing land	..	..	..	..	..		1.7
Marginal production assistance grants	..	..	..	..	..		2.2
Bonus payments under the Tuberculosis (Attested Herds) Scheme						..	10.3
Livestock, improvement of breeding	..	..	..	..	..		0.1
Calf subsidy	..	..	..	..	..		11.9
Hill sheep and hill cattle	..	..	..	..	..		3.9
Grants for silos	..	..	..	..	..		0.1
						—	—
TOTAL II						..	71.3
						—	—
Administrative overheads applicable to I and II above							5.0
						—	—
TOTAL SUBSIDY I AND II							235.4
						—	—
<i>III. Trading Subsidies in Implementation of Agricultural Guarantees</i>							
Home produced eggs	..	..	..	..	..	5.4	
Potatoes	..	..	..	..	..	1.0	
						—	6.4
						—	—
TOTAL COST OF AGRICULTURAL SUPPORT							241.8
						—	—

Crops and Grass

The aim of the Government is to see on each farm the most profitable balance between crop and grass production, with, for the country as a whole, the maintenance of a large arable acreage. Financial assistance is therefore given to farmers for ploughing up grassland.

Drainage and Water Schemes

The State makes substantial contributions towards the cost of land drainage and water supply in Britain. In England and Wales, for example, under various Acts, grants for farm drainage may be up to 50 per cent of the approved cost; for main river drainage they can range up to 80 per cent. Farm water supply grants are at the rate of 25 per cent of the approved cost where the connection is to a public main, and 40 per cent where a private source is utilized. Separate legislation provides grants for these services in Scotland and Northern Ireland.

Improvement of Livestock Rearing Land in Upland Areas

The Hill Farming and Livestock Rearing Acts provide for grants for owners and occupiers of livestock rearing land in upland areas who wish to put their farms into sound working order. The Acts also apply to some areas, e.g., Orkney and Caithness, which are not much above sea level. The object is to encourage the breeding and rearing of store cattle and store sheep (i.e. cattle and sheep for further fattening, not for immediate slaughter). Grants are at the rate of 50 per cent of the cost of work done. The total amount available for grant in the United Kingdom is £25 million and this can be increased by £2 million if necessary.

Silo Grants

Grants amounting to about half the cost are available under the Agriculture (Silo Subsidy) Act, 1956, for constructing and improving silos. About 3·4 million tons of silage was produced in the United Kingdom in 1956.

Grants for Crofters

Special schemes of assistance for developing agricultural production on crofts were announced in July 1956. These are the Crofters Agricultural Grants (Scotland) Scheme, 1956, and the Crofters Livestock Purchase Loans (Scotland) Scheme, 1956, both of which are administered by the Crofters Commission (see p. 159). Under the first scheme, grants ranging up to 85 per cent are available for a wide range of agricultural operations and improvement to land equipment. The second enables loans of from £100 to £500 at an initial interest of 6½ per cent to be given, for the purchase of livestock, to incoming tenants of crofts or to crofters who have enlarged their crofts or their shares in sheep stocks held in common. Other schemes operated by the Department of Agriculture for Scotland provide grants and loans to crofters for erecting and improving houses and farm buildings, and loans to incoming tenants to enable them to take over their crofts.

Premiums for Cattle Farmers

Premiums are paid to producers of tuberculin tested (TT) milk (see pp. 163 and 167) and in respect of attested herds. Subsidies are given on calves to be reared for beef and on hill cows.

Marginal Production Schemes

To help farmers in England and Wales to undertake work such as liming, manuring, re-seeding, repairing farm roads and reclaiming derelict land, marginal production schemes have been implemented under the Agriculture Act, 1947. Under a new

scheme effective from 1st August, 1956, farmers who regularly have no margin of profit to plough back in improvements because their farms are handicapped by poor soil, remoteness or other factors beyond their control, may be given assistance up to a total of 85 per cent (including other grants and subsidies) of the cost. Other farmers may be assisted up to 50 per cent of the net cost (i.e. cost less other grants and subsidies) if the work calls for an investment too heavy to show a return in a reasonable time after charging interest and capital repayments over a period.

Farm Improvement Scheme

The Agriculture Act, 1957, provides for a farm improvement scheme, under which, grants, up to a maximum of £50 million for farm improvements and amalgamations, are available for ten years. There is also provision for extending this period to twelve years and the amount to £55 million, if Parliament approves. The rate of grant is 33½ per cent, and the grants cover the provision or improvement of permanent fixed equipment on farms and long-term improvements to agricultural land.

Loan Facilities

Short-term finance for farmers and landlords has usually been provided by the commercial banks and long-term finance by the raising of mortgages.

In England and Wales, long-term finance for agricultural properties is provided by the *Agricultural Mortgage Corporation* (see also p. 313), established under the provisions of the Agricultural Credits Acts, 1928 and 1932, principally for the purposes of making loans on first mortgages of agricultural or farming estates, properties or lands in Great Britain and of making loans in accordance with the Improvement of Lands Acts, 1864 and 1899, for effecting or paying for certain improvements to agricultural lands and buildings. The Corporation's funds are derived mainly from the proceeds of various issues of debenture stocks which are subscribed by the public and are repaid by the operation of sinking funds. The Corporation's reserves include a Guarantee Fund, for which it may raise money under the Agricultural Credits Act, 1928, the Agriculture (Miscellaneous Provisions) Act, 1944, and the Agricultural Mortgage Corporation Act, 1956, in the form of interest-free loans from the Government up to a total of £3·25 million. In Scotland, loans on favourable terms for agricultural purposes on the security of agricultural land in Scotland are granted by the *Scottish Agricultural Securities Corporation Limited* (see also p. 313), a limited company set up in accordance with the provisions of the Agricultural Credits (Scotland) Act, 1929. Both the Corporations at present receive grants from the Treasury towards any deficit in their respective annual Profit and Loss Accounts.

Landowners in England and Wales may also obtain loans for the purpose of carrying out certain improvements to agricultural land and buildings from the *Lands Improvement Company*, in accordance with the Improvement of Lands Acts, 1864 and 1899. The amount of the loan is charged on the land improved, in the form of a terminable rent-charge payable half-yearly for a period not exceeding 40 years. This type of improvement loan, which may also be obtained from the Agricultural Mortgage Corporation, requires the sanction of the Ministry of Agriculture, Fisheries and Food, but the Ministry does not itself provide the necessary funds.

In Northern Ireland, loans are available to farmers for a wide range of purposes from the *Agricultural Loans Fund* set up under the Development Loans Act (Northern Ireland), 1945, and administered by the Northern Ireland Ministry of

Agriculture. The moneys required to finance the Fund are provided out of the Consolidated Fund subject to a statutory limit of £2 million.

The bulk of the loans issued are for short-term periods up to five years for such items as agricultural machinery but, in the case of buildings, the period may be extended to thirty years. No loans are advanced for land purchased. Interest is charged at rates comparable with those fixed by the Agricultural Mortgage Corporation, and any deficiency in the income on the Fund arising in any financial year is met out of moneys provided by the Northern Ireland Parliament.

REGULATION AND CONTROL

While the Government provides every incentive to the farmer to farm efficiently, it also tries to ensure high standards of farming by various schemes of regulation and control.

Statutory Marketing Arrangements

Statutory regulations for the control of agricultural marketing are contained in many Marketing Ordinances. Such regulations are designed to improve marketing methods, to ensure that the producer of the best quality produce gets the best return for his efforts, and to protect the consumer. Regulations can usually be enforced only after the majority of the producers have indicated their approval.

Control is exercised in some cases through statutory marketing boards and sometimes by other arrangements.

Marketing Boards under the Agricultural Marketing Acts, 1931 to 1949

Marketing boards are producers' organizations with compulsory powers to regulate the marketing of particular agricultural products by producers. The schemes under which they are constituted and operated must be approved by Parliament and confirmed by poll of the producers concerned. A marketing board must normally consist of from eight to twenty-four members; not fewer than two and not more than one-fifth of the total number must be appointed by the Minister or Ministers concerned.

In general, the Government has declared that it will consider sympathetically proposals for producer marketing boards, although each commodity is considered separately on its merits. In appropriate cases the Government is also prepared to allow the price guarantees to be operated through marketing boards.

Wool is marketed through the British Wool Marketing Board and marketing powers were restored to the Milk Marketing Boards on 1st April, 1954, although for as long as there remains an element of consumer subsidy the Government will continue to be responsible for approved prices and distributive margins for milk. A Potato Marketing Scheme for Great Britain came into force in May 1955. It re-enacts and revises the pre-war scheme and has the same objectives—the stabilization of the market and the improvement and quality of marketing. The Hops Marketing Board is responsible for the marketing of all hops, while the Tomato and Cucumber Marketing Board has only limited regulatory powers. The Pigs and Bacon Marketing Schemes, which have been suspended under Defence Regulations since the outbreak of the second world war, will be revoked and replaced by a new Pig Industry Development Authority which is soon to be set up (see p. 168).

The British Egg Marketing Scheme, promoted by the National Farmers' Unions, was approved by Parliament in December 1956, and confirmed by a poll of producers in April 1957. The scheme covers all producers with more than 50 head of live poultry over the age of six months. Registered producers are obliged to sell their eggs to the British Egg Marketing Board through packing stations where

they are graded, tested and stamped, but producers who wish to sell their eggs direct to consumers or retailers are entitled to a licence authorizing them to do so, subject to certain limited conditions which the Board may impose. Only eggs sold to the Board qualify for the price guaranteed under the Agriculture Act, 1947.

In Northern Ireland, schemes for the marketing of two products, pigs and milk, are at present in operation.

Consumers' Committees to represent the consumers' interests in regard to the operation of marketing schemes were reconstituted in December 1953. They had been set up in 1931 but did not meet during the war and immediate post-war years. Committees of Investigation, to consider reports of the Consumers' Committees and complaints from persons other than consumers affected by the operation of marketing schemes, were reconstituted in April 1950.

Livestock Regulation

In order to ensure sound breeding, bulls have to be licensed. Artificial insemination (AI) centres, which are officially licensed, cover the whole of England and Wales. One calf in every two born in England and Wales is the result of AI. Licensed centres are also operating in Scotland. In Northern Ireland, AI is carried out at centres under the control of the Northern Ireland Ministry of Agriculture.

Boars also have to be licensed. A national pig recording scheme was introduced in England and Wales in 1954, and five boar progeny testing stations are being opened in Great Britain.

To raise the standard of poultry stock in England and Wales there is a Poultry Stock Improvement Plan under which breeding stations and hatcheries are accredited and approved. There are three official poultry progeny testing stations in England and Wales and a further station is being set up in Scotland which has its own accreditation scheme for poultry breeders and hatcheries. A similar scheme is operated in Northern Ireland.

Regulation of Milk Distribution

Milk distributors in Great Britain must be registered, and regulations lay down conditions under which milk is produced, handled, treated, stored and distributed. Subject to licence, milk may be sold under special designations—'Pasteurized', 'Sterilized', 'Tuberculin Tested' (TT) and also, in Scotland only, 'Certified'.

In areas specified by Orders it is obligatory to retail only specially designated milk, and milk which is not sold as Tuberculin Tested (or as Certified, in Scotland) must be heat-treated. In Britain, 90 per cent of the population now drink tuberculin tested, pasteurized or sterilized milk.

In Northern Ireland, milk has been paid for on a quality basis since 1934. The whole of Northern Ireland is now a 'safe milk' area.

Control of Animal Diseases

Under a plan introduced in October 1950 for the eradication of bovine tuberculosis on an area basis, many areas have already been cleared; it is expected that within five years Britain will be free from bovine tuberculosis. At end-1956 there were 170,000 attested (clean) herds (nearly 7 million cattle) in Great Britain. Northern Ireland has had an Attested Herds Scheme in operation since 1949.

The Diseases of Animals Act, 1950, gives the Government wide powers for the control of diseases. This control may take the form of regulation of internal movements of stock, or of compulsory slaughter of animals and poultry affected by certain notifiable diseases (e.g., foot-and-mouth disease and fowl pest). Compensation is generally payable for stock slaughtered. The Act, and Orders made under

it, also restrict the import of certain types of livestock, animal products, and veterinary therapeutic substances. Research into animal diseases is carried on at several centres, including one at Pirbright, Surrey, which has the world's largest collection of foot-and-mouth disease virus.

Development of the Pig Industry

In November 1956, the Government announced its intention to set up a Pig Industry Development Authority which would carry out a programme of improvements in pig production, processing and distribution. Its powers would include operation of a National Pig Recording Scheme, supervision of progeny testing, introduction of an Accredited Herds Scheme, development of a national artificial insemination service for pigs, financing of research and development work, improvement of market intelligence, and the establishment of a British Bacon Mark. To finance its activities, which are expected to cost up to £500,000 annually in the early years, the Authority would be empowered to impose a levy on every pig slaughtered. The proposals would apply to Great Britain only and not to Northern Ireland where the Ministry of Agriculture (Northern Ireland) in consultation with the Pig Advisory Committee—a statutory body—is responsible for functions similar to those proposed for the Pig Industry Development Authority in Great Britain. These proposals were given statutory form in the Agriculture Act, 1957.

The Agricultural Land Commission

The Agricultural Land Commission was set up under the Agriculture Act, 1947. Its functions are to manage and to farm lands vested in the Minister of Agriculture, Fisheries and Food, or land for which he has become responsible, and to advise and assist the Minister in matters relating to the management of agricultural land. The Commission's functions in Wales are delegated to the Welsh Agricultural Land Sub-Commission. At 31st March, 1956, 216,254 acres were under the control of the Commission and almost all of this land was let to private farmers. Nearly half of the land was agricultural land intermixed with other land used by the Forestry Commission. About one-sixth consisted of disused airfields and other land formerly held by various Government Departments; another sixth comprised an estate accepted by the Government in lieu of death duties; and the remainder was mostly land acquired by the Minister to ensure its full and efficient use for agriculture. Early in 1954 the Minister decided, after consultation with the Commission, to sell land managed by it wherever that could suitably be done.

In Scotland, the management of lands vested in the Secretary of State and the duty of advising him on management matters are carried out by the Department of Agriculture.

AGRICULTURAL ADVISORY SERVICES

There are a number of agricultural advisory services which operate under Government auspices.

The National Agricultural Advisory Service

Free technical advice on all agricultural and horticultural matters is available to every farmer and grower in England and Wales through the Ministry of Agriculture's National Agricultural Advisory Service (NAAS).

Every county has a County Agricultural Officer in charge of advisory work and is divided into districts in each of which there is a District Advisory Officer who acts as a general adviser to farmers. The District Officer can call on an extensive system of specialist advisers. Advisers in livestock husbandry, milk production,

farm machinery, poultry husbandry, and horticulture are available in each county; at the 12 provincial centres and sub-centres there are senior advisers in these subjects and in crop and grassland husbandry, besides specialists in animal nutrition, bacteriology, soil chemistry, plant diseases, and plant pests. These centres are equipped with laboratories for the analysis of soils and feedingstuffs, and for the diagnosis of crop pests and diseases. The advisers work in close consultation with the Ministry's Plant Pathology Laboratory at Harpenden, Hertfordshire.

In Scotland, the advisory services, similar in scope to the NAAS, are based on the three agricultural colleges. Northern Ireland has its own separate advisory service which is closely linked with the research and experimental divisions (see p. 170).

Facilities are provided at the NAAS Experimental Farms and Horticultural Stations in England and Wales and at Agricultural College Centres in Scotland for field-scale extensions of research work and investigations of local problems. Experiments are also carried out at provincial advisory centres and on commercial farms.

Agricultural Improvement Councils

The *Agricultural Improvement Council* (AIC) for England and Wales and the *Scottish Agricultural Improvement Council* advise the Agricultural Departments on the application of the results of scientific investigation to farming practice and on problems requiring investigation. The AIC is also concerned with the problems of estate management including buildings and fixed equipment.

The Agricultural Land Service

The main functions of this service are:

- (1) to advise owners of agricultural land, whether landlords or owner-occupiers, on estate management matters, including farm buildings and other fixed equipment;
- (2) to provide professional advice and services to the Minister, the Agricultural Land Commission and County Agricultural Executive Committees on all matters relating to agricultural land, including: the purchase and sale of land by the Minister; the management of land owned by or in the possession of the Minister; the exercise of the Minister's powers for securing good estate management and good husbandry and of his functions under the Agricultural Holdings Act, 1948; the provision of grant-aid under the Hill Farming and Livestock Rearing Acts and of marginal production assistance; and the provision and management of smallholdings and allotments by local authorities; and
- (3) to advise the Minister and local planning authorities on the agricultural aspects of planning and the release of agricultural land for other development including afforestation.

In Scotland, similar duties are carried out by officers of the Department of Agriculture.

Veterinary Services

There is a comprehensive State Veterinary Service which, in Great Britain, is administered by the Animal Health Division of the Ministry of Agriculture, Fisheries and Food and the Department of Agriculture for Scotland, and in Northern Ireland by the Northern Ireland Ministry of Agriculture. It consists of a field staff, research workers, and an investigation service which acts as a link

between the field staff, veterinary surgeons in private practice and the research laboratories. In Scotland the investigation service is linked with agricultural teaching institutions and is not part of the Government service.

RESEARCH AND EDUCATION

Agricultural research in Britain is planned and co-ordinated by the Agricultural Research Council (for the functions of the Council see pp. 413-14; for lists of the research institutes under its direct and indirect control see Appendix II, pp. 461-2).

The exchange of information on research in Commonwealth and other countries takes place through the machinery of the Commonwealth Agricultural Bureaux and Institutes (ten Bureaux and two Institutes in the United Kingdom and one Institute in Canada, see p. 421).

In England and Wales, research and advice are combined in the Provincial Agricultural Economics Service, attached to the universities and organized in ten economic advisory centres. In Scotland, agricultural economists are on the staff of the three Agricultural Colleges, and the Department of Agriculture has a Farm Economics Branch.

The Northern Ireland Ministry of Agriculture, which also has its Farm Economics Branch, has, in addition, its own research divisions investigating problems of animal and crop production. The research divisions work in close touch with the Ministry's county advisory staffs, and also provide technical advisory services for the farmer. A very close link has been forged between the Queen's University of Belfast and the research divisions, since certain officers of the latter are professors and lecturers in the University Faculty of Agriculture. Control is also exercised by the Plant Disease Division in the disinfection of all flax seed sown in Northern Ireland. A well-equipped Dairy Bacteriology Division keeps a watchful eye on the maintenance of the hygienic standards laid down for the production and handling of milk. At Hillsborough, in County Down, the Northern Ireland Agricultural Research Institute owns and operates a farm of some 500 acres. The Institute is endowed from public funds, and the officers of the Ministry's Research Division are afforded facilities for carrying out their field experiments. Thus there is a close integration of research, education and advisory work in these research divisions.

Industrial concerns manufacturing such products as weed-killers, insecticides and fertilizers undertake research on a considerable scale and have been responsible for developing new and improved products in their particular spheres.

Eight universities in England and Wales (Cambridge, Durham, Leeds, London, Nottingham, Oxford, Reading, and the University of Wales), and three in Scotland (Edinburgh, Glasgow, and Aberdeen) provide degree courses in agriculture, which are of particular value for intending research workers, advisory officers, teachers and other specialists. The University of Bristol offers postgraduate diploma courses. In Northern Ireland, a degree course is provided at Queen's University, Belfast. Two-year diploma courses are given at five Agricultural Colleges and at two of the Farm Institutes in England and Wales; three Agricultural Colleges in Scotland give two-year to three-year diploma courses. These are intended mainly for farmers and farm managers, and are a preparation for the national diplomas in agriculture, dairying, horticulture, poultry husbandry and agricultural engineering. In Northern Ireland, there are three Agricultural Colleges. The Ministry of Agriculture maintains a Horticultural Centre at Loughgall, County Armagh, at which problems of special interest to Northern Ireland are investigated.

There are 36 Agricultural and Horticultural Institutes in England and Wales run by local education authorities. They provide courses in general agriculture,

dairying, poultry, horticulture and poultry husbandry. Courses are usually for one year of about 36 working weeks. The courses are designed for those wishing to become skilled workers in the industry. Local education authorities also provide a wide range of short courses and classes for farmers, farmworkers, horticulturists and domestic producers.

An important means of voluntary informal education in agriculture is provided by *Young Farmers' Clubs*, which flourish in villages and towns throughout the United Kingdom. There are over 1,800 clubs in Britain with nearly 82,000 members, mostly under the age of 25. Each club is self-governing but has the support of an advisory committee of farmers and other adults. Clubs are combined in county federations and in National Federations for England and Wales (founded in 1932), Scotland (in 1937), and Northern Ireland (in 1929).

Government assistance is given to develop rural crafts and industries. *The Development Commission*—a non-departmental organization, consisting of eight Commissioners appointed by the Crown—was set up under the Development and Road Improvement Fund Acts of 1909 and 1910 to advise the Treasury on advances from the Development Fund. The purposes of this Fund are now confined to the development of rural industries and amenities, the construction and improvement of fishery harbours and the development and improvement of fisheries. The main agencies helping the Commissioners to carry out this work in regard to rural industries are, in England and Wales, the voluntary Rural Community Councils with their Rural Industries Committees, the Government-financed *Rural Industries Bureau* founded in 1921, and *Rural Industries Loan Fund Ltd.*, started in 1940. On the recommendation of the Rural Community Councils, the Rural Industries Bureau provides technical advice and instruction to assist craftsmen, who may be granted loans from the Loan Fund to help them to increase their efficiency. In Scotland, the body corresponding to the Rural Industries Bureau is the *Scottish Country Industries Development Trust*, founded in 1935, which, in the absence of Rural Community Councils in Scotland, exercises more direct control over rural development.

Since the Government of Ireland Act, 1920, schemes in Northern Ireland are no longer eligible for grants from the Development Fund.

A *Museum of English Rural Life* was established by the University of Reading in 1951 as a national centre for the study of material connected with the history of the countryside. It was opened to the public in April 1955.

A large number of *Agricultural Shows* held annually throughout Britain focus attention on modern farming methods and equipment. The chief ones are the Royal Show, held since 1839 by the Royal Agricultural Society of England; the Bath and West Show, held since 1780 by the Bath and West and Southern Counties Agricultural Society; the Royal Highland Show, held since 1822 by the Royal Highland and Agricultural Society; the Royal Ulster Show, held by the Royal Ulster Agricultural Society; and the Royal Welsh Show, held by the Royal Welsh Agricultural Society. The Smithfield Show, held annually in London, which was originally concerned only with livestock, has now become, in addition, the largest agricultural machinery exhibition in Britain.

FISHERIES

Britain's fishing fleet can be divided into distant water, middle and near water, and inshore vessels. These groups are determined by the size of the vessels, the length of voyage and the grounds fished.

For example, distant water vessels are over 140 ft. and up to 185 ft. in length, and make voyages of 17 to 23 days to grounds in the Arctic Circle. The near water vessels, which are those under 130 ft., work nearer home with voyages of 8 to 10 days; and the middle water vessels, of 130 ft. to 140 ft. in length, undertake voyages of about two weeks. Included in this group also are vessels engaged in drift net fishing which usually make daily voyages. The inshore group are mainly vessels of under 70 ft. which are seldom at sea longer than 2 days and more usually make daily landings, often fishing within sight of land.

In the United Kingdom as a whole at the end of 1956, 25,000 fishermen were regularly employed, and 3,000 occasionally employed; of these, Scotland accounted for 11,700 and 1,100 respectively. The landed weight of British-caught wet fish in 1956 amounted to 18,000 tons a week; consumption of fresh, frozen and cured fish in the United Kingdom averaged 16,800 tons landed weight a week.

In Northern Ireland there were 391 regular fishermen and the landed weight of British-caught fish was 137 tons a week. Northern Ireland consumes about one-third of its own catches and exports the rest to Great Britain and to the Republic of Ireland.

Fishing Ports

The principal fishing ports in England and Wales are Hull, Grimsby, Fleetwood, Milford Haven and Lowestoft for white fish, and Great Yarmouth and Lowestoft for herring; in Scotland, the chief centres for white fish are Aberdeen, Leith, the Moray Firth ports, Shetland, the west coast and the Clyde; and for herring they are Fraserburgh, Peterhead, Aberdeen, Inverness, and Stornoway, as well as Shetland, the west coast and the Clyde; those in Northern Ireland are Ardglass, Portavogie and Kilkeel.

Methods of Fishing and Fishing Grounds

The chief means of catching demersal fish, that is to say, those species which live on or near the sea bed (e.g., cod, haddock, plaice and sole), are by trawling, seining and lining. Trawling is carried on in the distant, near and middle waters for demersal fish throughout the year. The distant waters are those off Iceland, Greenland, the north coast of Norway and in the Barents Sea: the middle water grounds lie around the Faroe Islands, and the near water grounds are those in the North Sea, the Irish Sea and in coastal areas around Britain. Distant water vessels, which operate mainly from Hull, Grimsby and Fleetwood, numbered 255 at the end of 1956. Near water trawlers totalled 514, and the middle water vessels 46.

Demersal fish are also taken by seine net, the principal species being haddock, cod, whiting and plaice. An increasing number of English, Scottish and Northern Ireland vessels depend on seining for a living, the main areas of operation being in the North Sea and the Irish Sea. The numbers of Scottish and Northern Ireland vessels engaged in this fishing were over 700, and those operating from English ports numbered 170. Long lining on grounds too rough for trawling is carried on by a limited number of vessels, mainly Scottish. Lining still provides employment for a large number of inshore fishermen in autumn, winter and early spring; cod, whiting and haddock are caught.

Pelagic fish, which live in the intermediate water levels or near the surface, include herrings, pilchards, mackerel and sprats. Drift nets are mainly used for taking these species but sprats may also be taken in certain localities by inshore trawling vessels. All the pelagic fisheries are seasonal. There is a summer fishery for herrings based on the Shetlands and east coast ports of Scotland, and an autumn

fishery off East Anglia based on Lowestoft and Yarmouth. Other seasonal herring fisheries also take place off the west coast of Scotland and Southern Ireland.

The inshore fisheries comprise a great diversity of types of vessels and methods of capture; trawling, seining and drift net fishing are employed but, in addition, shell fishing is extensive for shrimps, crabs, lobsters, prawns, mussels, cockles, oysters, and 'Norway lobsters' or nephrops (off Scotland).

Landings

In the year ended 31st December, 1956, landings of fish, both demersal and pelagic, by British fishing vessels totalled 933,000 tons (781,000 tons of demersal fish and 152,000 tons of pelagic) valued at about £46.6 million. Landings at British ports by foreign vessels totalled about 85,000 tons of fresh and frozen fish (including 39,000 tons brought direct from the fishing grounds) to a value of about £7 million. British landings of shellfish yielded £1.58 million. Cod accounted for nearly 40 per cent of the total value of wet fish landed by British vessels; haddock (17 per cent) and plaice (9 per cent) were the other most important sources of earnings to the industry.

A valuable by-product of the industry is the manufacture of fish meal for animal food and to a much lesser degree for fertilizers. Home production of white fish meal in 1956 rose by 1,000 tons to 78,000 tons; a large percentage of the fish meal is obtained from offal and most of the remainder from unsold catches. Imports of fish meal of all kinds in 1956 totalled 108,000 tons. The preparation of vitamin oils from fish livers is also a source of additional earnings. The extraction of the oil takes place at sea as soon as the fish are caught.

Sea Fish Processing

Processing and packaging of fish—curing, kippering, canning and quick-freezing for consumer packs—are the subject of continuing research and development. For example, the production of quick-frozen fish more than doubled between 1953 and 1955. With the increase in quick-freezing, new export outlets have opened up for white fish and fish products; these accounted for £2.8 million of the total British exports of fish, valued at £5.8 million in 1956. Markets abroad for quick-frozen fish, mainly in Europe and the Commonwealth, and for salted cod, mainly in Latin America and the West Indies, have continued to expand, but exports of herrings, for which Eastern Europe and the Soviet Union have been large customers, have declined.

Distribution System

The principal wholesale distributing centre for fish is Billingsgate Market in London, which handles about 400 tons a day, but other large cities also have central fish markets. The principal method of distribution is through wholesalers, located at the ports, who buy at the auctions and sell to inland wholesalers; the port wholesalers prepare the fish for onward shipment. Sixty special express fish trains transport the catch daily from the ports to inland centres, but increasing use is being made of road transport. Retail sales are handled by 17,000 fishmongers and nearly 18,000 fish friers, the latter use more than a third of the landings of white fish.

Freshwater Fisheries

The principal commercial freshwater catches are the salmon, sea-trout and eels. In Scotland and Northern Ireland, fixed nets along the coast and sweep or draught nets in rivers and estuaries are used; in England, drift nets are used for catching salmon in the sea, and draught nets and fixed traps in estuaries. In England and

Wales, the value of the salmon catch is approximately £250,000 a year, in Scotland it amounts to about £1 million, and in Northern Ireland to some £200,000. In Northern Ireland, eels worth £80,000 a year are captured by long lines and by eel nets placed in river weirs.

Fishing for sport by rod and line in rivers, lakes, streams and canals is widespread. Salmon, grilse and sea-trout are the most important species, and the fishing rights command high rentals. There are also extensive fishings for brown trout. Other freshwater fish taken, particularly in England, include roach, rudd, perch and dace. Fishing for freshwater fish other than salmon and trout is of minor importance; figures of catches are not available.

Promotion and Regulation of the Industry

Laws in Britain relating to fisheries and fish are principally directed to the following purposes: (1) protection of supply by measures against over-fishing, e.g., the Sea Fisheries Regulation Act, 1888, the Sea-Fishing Industry Act, 1933, and the Sea Fish Industry Act, 1938; (2) promotion of the prosperity of the industry, e.g., the Herring Industry Acts, 1935 to 1953, the White Fish Industry Acts, 1951 and 1953, and the Fisheries Act, 1955; (3) protection of the quality of the product, e.g., the Food and Drugs Act, 1955. The Government Departments mainly responsible for the administration of laws in the first two categories and for the general sponsorship of fisheries are the Ministry of Agriculture, Fisheries and Food, the Scottish Home Department, and the Ministry of Commerce for Northern Ireland; the Ministry of Health and the Department of Health for Scotland are concerned with questions of nutrition and hygiene affecting fish and fish products. The safety and welfare of crews of fishing vessels are provided for under the Merchant Shipping Acts, which are administered by the Ministry of Transport and Civil Aviation.

The authorities concerned with fisheries research are the Ministry of Agriculture, Fisheries and Food, the Scottish Home Department, the White Fish Authority, the Herring Industry Board, the Development Commissioners (see p. 171) and, on food investigation, the Department of Scientific and Industrial Research (see p. 412).

In July 1957 it was announced that a Committee of Inquiry into the state of the fishing industry was to be appointed.

The Herring Industry Board

The Herring Industry Board was set up under the Herring Industry Act of 1935 to reorganize, develop and regulate the herring industry; subsequent amending Acts have also been passed. The Board consists of a chairman and two other members, all part time and independent of the industry, who are appointed jointly by the Minister of Agriculture, Fisheries and Food, the Secretary of State for Scotland and the Secretary of State for the Home Department. The Board, which is financed partly by Government grants and loans and partly by levies and licence fees, is advised by the *Herring Industry Advisory Council*, consisting of representatives of the catching and shore sections of the industry. The functions of the Board include the promotion of sales of herring, both at home and abroad, and the provision of grants and loans for the purchasing of new boats, nets and gear, and the reconditioning of existing boats. The Board is particularly active in developing new and wider markets for herring, and applying the benefits of technical progress to the industry, including the adoption of new fishing methods, and the construction of new processing plants for quick-freezing and kippering. The Board buys all herring not sold for other purposes for reduction to oil and meal, and, with the aid of Government grants, has built a number of processing factories for this purpose.

A Government subsidy has been paid to herring fishermen since May 1957.

The White Fish Authority

The White Fish Authority was set up under the Sea Fish Industry Act, 1951, to reorganize, develop and regulate the white fish industry. It is composed of five independent members, appointed jointly by the Minister of Agriculture, Fisheries and Food, the Secretary of State for Scotland and the Secretary of State for the Home Department, and works in consultation with the industry and consumers through the *White Fish Industry Advisory Council*. The Authority is financed partly by Government grants and loans and partly by a levy on first-hand sales and by registration fees. The Authority has powers similar to those of the Herring Board. In the year ended 31st March, 1956, it expended nearly £100,000 on publicity campaigns to increase the consumption of fish. It also makes loans and grants for the purchase of new vessels and engines, and loans for the reconditioning of old vessels, as part of a long-term programme for the modernization of the fishing fleet. Up to 31st March, 1957, nearly £9·1 million in loans and nearly £3·9 million in grants were approved for this purpose by the Authority.

Since 1950 a subsidy from public funds has been paid to near and middle water vessels and to inshore vessels engaged in the white fish industry in the United Kingdom. In 1956-57, £2·69 million was made available; a large proportion of this sum was used to assist steam vessels.

Whaling

Whaling is mainly conducted by expeditions, each consisting of a large floating factory ship accompanied by its attendant whale catchers and tankers, which annually cover large areas of the Antarctic Ocean. It is regulated by the *International Whaling Commission*, set up under the International Whaling Convention of 1946, which controls the dates of the season and sets a limit on the catch of whales. The offices of the Commission are in London.

The United Kingdom is the third most important country (after Norway and Japan) engaged in whaling, sending three expeditions to the Antarctic each year. In addition, whaling is also undertaken from a land station on South Georgia, a British island in the South Atlantic. The volume of the whale oil (the most important product) obtained by the British expeditions in the 1955-56 season amounted to about 410,000 barrels. The value of the products of British whaling expeditions landed in the United Kingdom totalled £6 million in 1955 and £6·6 million in 1956.

FORESTRY

The total woodland area of Great Britain is about 3½ million acres, or between 6 and 7 per cent of the total land area. Timber and its products are of vital importance to the economy of the country, and large quantities of industrial timber (i.e. wood other than that used for domestic fuel) are needed to meet all demands; but, except for the period of the second world war when, of necessity, much over-felling took place, the home timber industry has not been in a position to make more than a small contribution to the nation's timber requirements. The Government is, however, devoting continuous effort through the Forestry Commission to the long-term task of increasing the country's timber resources. Home-produced timber represented 13 per cent of total consumption in 1950 (the latest year for which figures are available) as compared with 4 per cent in the years 1934-38 and 7 per cent in 1914.

Forest Areas

The last census of woodlands (1947-49) shows that 54 per cent of the total woodland area of Great Britain lies in England, 37 per cent in Scotland, and 9 per cent in Wales. The greatest density of woodland in Great Britain is in the north and east of Scotland—for example, Moray has 21·6 per cent of its land area under woodland and Nairn has 19·1 per cent. Another region of high density lies in the south-east of England—Sussex, Surrey, Hampshire, Kent and Berkshire. Monmouthshire, on the Welsh border, has 10·7 per cent of its land area under woodland.

Types of Woodland

The classification of woodland areas is shown in Table 22.

TABLE 22

PERCENTAGES OF TYPES OF WOODLAND AREA AT 30TH SEPTEMBER, 1947
(excluding woods of less than 5 acres) ^(a)

Type	Great Britain	England	Scotland	Wales
High forest ..	52	55	45	59
<i>Coniferous</i> ..	25	18	34	31
<i>Mixed</i>	5	6	3	3
<i>Broadleaved</i> ..	22	31	8	25
Coppice	10	18	negligible	6
<i>with Standards</i> ^(b)	7	12		1
<i>Coppice only</i> ..	3	6		5
Scrub	15	10	20	13
Devastated ..	4	6	3	4
Felled	19	11	32	18
	100	100	100	100
TOTAL ACREAGE ..	3,448,362	1,865,046	1,266,838	316,478

(a) Estimated at 187,000 acres.

(b) Where the actual coppice forms an underwood and there is an overwood of 'Standard' trees of various ages.

Of the broadleaved species the commonest tree is the oak (24 per cent of all species); with beech, ash, birch, sycamore and elm following in that order. Of the coniferous species Scots pine is the most common (20 per cent of all species), but Norway and Sitka spruces are plentiful, particularly in Wales.

Volume of Timber

Practically the whole volume of timber over 3 inches in diameter comes from the High Forest and Coppice with Standards types. On this basis the census indicated that in 1949 the timber volume of Great Britain's woodlands amounted to some

2,650 million cubic feet, estimated to be made up of approximately 1,550 million cubic feet of hardwood and 1,100 million cubic feet of softwood. The total annual growth of timber was estimated at approximately 97 million cubic feet.

Ownership of Woodlands

The 1947-49 Census showed that 82 per cent of all woodlands in Great Britain was owned by private individuals or by limited companies, trusts, corporations, local authorities or Government Departments other than the Forestry Commission. The Forestry Commission managed the remaining 18 per cent.

Forest Policy

For centuries timber was for the most part used locally and mainly for rural purposes, and the State showed little interest in the promotion of forestry as an industry. Following the Industrial Revolution, cheap and easily workable timber began to be required in ever-increasing amounts for a variety of new industrial uses. Home woodlands contained neither the types nor the quantities of timber to meet this demand and the importation of timber, principally of softwoods (timber derived from coniferous tree species), expanded greatly. The management of British woodlands made a slow response to the changing pattern of demand, and by 1914 the trade in imported timber had grown, and the contribution from home woodlands shrunk, to a point where no more than 7 per cent of the country's total requirements were being met from home sources.

The sudden demands of the first world war, however, brought about a realization of the need for a national forest policy. The Forestry Commission (see below) was established in 1919 to give effect to such a policy, but, although some progress was made in the next 20 years the devastation of the country's woodlands caused by extensive felling during the second world war showed clearly that larger scale measures were needed.

In 1943, the Forestry Commissioners recommended, in their Report on Post-War Forest Policy, that from the point of view of security the nation should aim at having at least 5 million acres of productive forest, of which 2 million acres would be secured from the rehabilitation of existing woodlands and 3 million acres obtained by the afforestation of bare land. The Government accepted this as a programme to be achieved by the end of the century, by the State and private owners of woodlands working together in partnership; although the afforestation of bare land would fall mainly on the State. While it provided for the conservation of existing stocks of standing timber through statutory controls on felling, the programme also called for a marketing policy that would maintain a healthy and efficient home timber trade. The acreage of woodland proposed would, it was estimated, produce ultimately a volume of timber equivalent to about one-third of the country's needs. In their Report, the Forestry Commissioners foreshadowed the emergence of forestry as one of the nation's major industries.

The Forestry Commission

The Forestry Commission was established under the Forestry Act, 1919, as a national forest authority; it has the general duty of promoting the interests of forestry, the development of afforestation and the production and supply of timber in the United Kingdom. From 1922, however, the Forestry Commission's authority related only to Great Britain, as the Northern Ireland Ministry of Agriculture became the forest authority for Northern Ireland (see p. 181). The Commission consists of a chairman and not more than nine commissioners who are appointed by the Crown. The Forestry Act, 1945, requires the Commissioners, in exercising

their functions under the Forestry Acts, 1919-45, to comply with such directions as may be given to them by the Minister of Agriculture and Fisheries and the Secretary of State for Scotland. The Ministers act jointly on matters of general policy, but individually in matters affecting England and Wales only, or Scotland only. The Forestry Act, 1951, placed on the Forestry Commissioners responsibility for the maintenance of an adequate reserve of growing trees in Great Britain and gave them powers to regulate the felling of trees by the issue of licences. The Commission, besides conducting its own forest operations, represent the interests of British forestry at inter-governmental meetings, gives encouragement to private forestry and performs a wide range of general forestry duties such as research and education and the publication of technical and other literature on forestry. In the administration of its duties in relation to private forestry there is continual contact between the Commission's staff and private land-owners, and the staff gives advice, free of charge, on silvicultural and management problems; substantial grants for planting and other forestry activities are paid to woodland owners (see below). The Commission has also played an important part in the establishment of several new timber-using industries.

During the years 1919-56¹ the Forestry Commission acquired land through the Forestry Fund (see below), under the Forestry (Transfer of Woods) Act, 1923, and by gifts which, after taking account of disposals, totalled 2,176,600 acres. This total comprises 1,377,000 acres classified as 'forest land', of which 1 million acres had been planted by 1956 and the rest would be planted in due course, and 799,600 acres of 'other land' which includes forest nurseries, rough grazing, agricultural land and land unsuitable for planting, such as the tops of mountains. The total number of Commission forests in Great Britain at 30th September, 1956, was 510, of which 218 were in England, 208 in Scotland and 84 in Wales. The peak year for planting was 1954, when the area planted was 70,400 acres. In 1955, the area planted fell to 67,900 acres, and in 1956 it fell again, to 62,400 acres, owing to the difficulty of acquiring sufficient plantable land.

Finance

The Forestry Fund was established by the Forestry Act, 1919; from it is paid all the expenditure of the Forestry Commissioners and into it are paid their receipts from sales of produce, rentals and other sources, together with the amounts voted annually by Parliament. From 1920 to 1956, parliamentary grants totalled £79,260,800 and receipts from other sources £25,932,518. Payments totalled £105,065,566. Actual expenditure during the year ended 30th September, 1956, totalled £9,181,000 of which £743,000 represented various grants to private forestry.

Private Forestry

The total area of privately owned woods (excluding woods of less than 5 acres) is about 3 million acres (2·8 million acres at the 1947 census) and contains most of the mature and semi-mature timber in Great Britain. The size of woodlands in individual ownership ranges from a few acres to several thousand acres, and a high proportion of the total woodland area privately owned belongs to small owners (i.e. owners of woods of up to about 250 acres).

Impetus has been given to the effective management of private woodlands by the introduction, under the Forestry Act, 1947, of the Dedication of Woodlands Scheme. Under this scheme, owners are invited to put their land permanently to

¹ To the end of the Forest Year 1956 (30th September).

timber production and to manage their woods in accordance with a plan agreed with the Forestry Commission, in return for the provision of financial and technical assistance. By September 1956, the total area dedicated was 445,336 acres. In addition, there are the woodlands covered by the Approved Woodlands Scheme in which a planting grant, but no maintenance grant, is made; and these bring the total area managed under an agreed plan to over 662,000 acres. This does not take into account other estates that are already working to a plan but have not been put forward for inclusion in either scheme.

The Forestry Commissioners have been much in favour of the development of co-operative forestry schemes and have made loans available. The oldest and largest society is the Co-operative Forestry Society (Scotland) Ltd., with a total of 250,000 acres of woodlands owned by its members; the north of England is served by the Northern Forestry Products, Ltd., covering some 100,000 acres; in the south-west the South Western Woodlands Association, Ltd. covers about 50,000 acres; and smaller societies exist in Herefordshire, Buckinghamshire and Wales. Many of the woodland owners of Great Britain are members of national landowners' organizations and of the National Farmers' Union. The professional land agents' associations share with them an active concern in private forestry as many of their members are associated with the management of woodlands. The technical and professional aspect of forestry is represented by the Royal Forestry Society of England and Wales, the Royal Scottish Forestry Society and the Society of Foresters of Great Britain. Until 1948 there was no means of co-ordinating the efforts of these and other bodies, but in that year the United Kingdom Forestry Committee was formed bringing together representatives of the Country Landowners' Association, the Scottish Landowners' Federation and the two Royal Forestry Societies, with additional members possessing experience of land agency, forest economics and timber trade. This committee has been accepted in forestry negotiations as the body which represents the collective interests of owners of private woodlands.

The total area estimated to have been planted annually by private owners has risen from 9,000 acres in 1947 to 27,100 acres in 1956; this compares with a pre-war average of 6,000 to 7,000 acres. The problems restricting planting by private owners are shortages of labour, skilled staff and finance.

Consultative Machinery

The Forestry Act, 1945, established for each country (England, Scotland and Wales) a National Committee, composed partly of Forestry Commissioners and partly of persons outside the Commission. These Committees, working directly under the authority of the Commissioners, supervise certain aspects of the Commission's work, including particularly the acquisition and management of land and the promotion of private forestry; in the latter task they are required to maintain direct contact with the Regional Advisory Committees which have been set up in each of the Commission's Conservancies with the purpose of providing a link with all those in the Conservancy who are interested in forestry. On all proposals for acquisition of land, the Commission consults the Ministry of Agriculture and the Department of Agriculture for Scotland. Other consultative bodies have been set up to provide for consultation on the marketing of home grown timber.

Marketing of Home Grown Timber

The Home Grown Timber Advisory Committee, set up by the Forestry Commissioners in 1939, consists of representatives of the Commission, the Board of Trade and associations of landowners and timber merchants; it meets quarterly to

discuss various matters affecting the marketing of home grown timber. In 1949, the Commissioners set up the Advisory Committee on Utilization of Home Grown Timber to advise landowners and to undertake research into problems connected with the marketing of timber from the Commission's own forests. Among the members of this Committee are representatives of the Forest Products Research Laboratory (see below), the Rural Industries Bureau (see p. 171) and the Timber Development Association.

In May 1954, the Minister of Agriculture and Fisheries and the Secretary of State for Scotland appointed a Committee on Marketing of Woodland Produce to consider what measures might be taken in order to improve the arrangements for marketing produce from privately owned woodlands. The Committee's two main recommendations, contained in its Report published in December 1956, were the establishment of an effective association of private woodlands owners, and of a central consultative body representing all the main interests in the timber industry.

Forestry Education and Research

The Commission maintains five Forester Training Schools: in England, at Parkend in the Forest of Dean, Gloucestershire, and at Northerwood House in the New Forest, Hampshire; in Wales, at Bettws-y-Coed in Caernarvonshire; and in Scotland at Benmore, Argyllshire, and Faskally, near Pitlochry in Perthshire. Northerwood House is also the Commission's educational centre, and is used for practical courses for university students, landowners and agents, planning officers, school teachers and others connected with forestry.

Higher education in forestry is provided at several universities; a proportion of suitable graduates being recruited by the Commission as forest officers.

The Commission's Forest Research Station at Alice Holt Lodge, Farnham, Surrey, was opened in 1946. Expenditure on research work at this station and in experimental areas in many forests in Great Britain amounted to £265,000 in 1956. The Commission takes an active part in the work of the International Union of Forest Research Organizations whose twelfth congress was held at Oxford in July 1956. It makes grants for special forestry research work to various institutions and to university departments, including the Imperial Forestry Institute at Oxford, which is also financed by the University, the Colonial Office, and Colonial Governments. Research into the possible uses of home grown timber is carried out by the Forest Products Research Laboratory at Princes Risborough, which is one of the establishments of the Department of Scientific and Industrial Research (see p. 412), and by other grant-aided research associations.

National Forest Parks

The Forestry Commission has opened to the public eight National Forest Parks (see map, p. 395): Argyll, Glen Trool, Glen More, and Loch Ard (renamed the Queen Elizabeth Forest Park to commemorate the Coronation) in Scotland; Hardknott and Forest of Dean in England; Snowdonia in Wales; and the Border Forest Park (adjoining the Northumberland National Park to the westward), which was declared in September 1955 and includes forests on the borders of Northumberland and Cumberland in England and of Roxburghshire in Scotland. The total area of the eight parks is nearly half a million acres; the Border Forest Park covers about 100,000 acres. The forest parks include planted areas and unplanted moorland and mountains. Camping facilities are provided in most of the parks, the number of overnight stays at the camping grounds was over 90,000 in 1956; in the same year, 83,000 people camped overnight in the New Forest, Hampshire, an ancient Royal forest but not a designated forest park.

Forestry in Northern Ireland

When the Government of Northern Ireland was formed in 1922, the new Ministry of Agriculture became the forest authority working with similar powers and duties to those conferred on the Forestry Commission by the Forestry Act, 1919. At that time the Ministry took over some 4,000 acres for afforestation of which 700 acres had been planted by the Forestry Commission.

The State forest area has grown steadily and at a greatly accelerated pace since the end of the second world war. By 31st March, 1957, some 80,000 acres had been acquired, of which over 43,000 acres had been planted. The present afforestation programme provides for the creation by the end of the century of an area of 150,000 acres of productive State forest with a sustained yield roughly equal to the present yearly consumption of timber in Northern Ireland during the second world war, i.e. some 30,000 Standards. To fulfil this programme, a minimum annual planting rate of 2,500 acres has been set.

State forest policy is implemented under the Forestry Act (Northern Ireland), 1953, which has replaced earlier legislation. This Act provides the Ministry with powers to acquire and manage land, and to provide financial and technical assistance for private planting, and it introduces measures for the protection of all woodlands, whether owned by the State or privately owned, against destruction by over-cutting, fire or depredation by animals.

Financial provision is made by sums voted annually by Parliament and receipts from forest produce, rentals and other sources. From 1922 to 1956 expenditure totalled £3,439,000 and receipts, other than parliamentary grants, were £1,231,000. Output and employment are growing steadily. The area of exploitable private woodlands is at present some 20,000 acres, and private planting, which is gaining impetus, is assisted by schemes for the supply, at a low cost, of young trees from the Ministry's nurseries, by grants towards the cost of the establishment of new plantations, and by free technical advice.

Northern Ireland Forest Park

In May 1955, Northern Ireland's first forest park at Tollymore Park, Newcastle, County Down, was opened to the public. Situated at the foot of the Mourne Mountains it covers an area of 1,200 acres. It contains an arboretum comprising a wide variety of native and exotic trees, and is rich in mountain, river and parkland scenery. Caravan facilities and a camping site for youth organizations are available.

FUEL AND POWER

The main primary sources of energy in Britain are coal, petroleum and, to a small extent, water power; secondary sources, produced from these, are electricity and coal gas.

Coal, mined within the country, supplies 86 per cent of Britain's energy and it must continue to be the main source for many years to come. But it is unlikely that production of coal can be increased sufficiently, even by the very large investments planned, to satisfy increasing demands for energy, which may well double within the next twenty years. For supplies of crude petroleum Britain is almost entirely dependent on overseas imports; water power resources are limited. For these reasons, Britain is investing large sums in the development of nuclear power as an alternative source of energy. But the new source will not start bearing much of the burden for at least ten years, after which time its use should increase rapidly. The fuel and power industries, with the exception of the petroleum industry and coal distribution, are mainly under public ownership.

The Government's fuel and power policy has two principal objectives. The first is to ensure that power supplies are adequate to meet the rapidly growing demands of industry and of the domestic consumer in a country with an expanding national income. The second is to make the maximum possible use of indigenous resources and so lighten the load on the balance of payments.

The Government also aims to reduce air pollution. The Clean Air Act, 1956, makes it an offence to emit dark smoke or to fail to provide industrial premises with equipment to arrest grit and dirt, and empowers local authorities, subject to the approval of the Minister of Housing and Local Government, to declare 'smoke control areas', in which the emission of smoke from chimneys will constitute an offence; provision is made for the payment of grants by local authorities and the Exchequer towards the costs incurred by owners and occupiers of houses in these areas in making necessary changes to appliances. A Clean Air Council, to review progress and to advise the Minister, was set up in May 1957.

COAL

Coal has been worked in Britain for over 700 years and an organized coalmining industry has been in existence for over 300 years, some 200 years longer than in any other European country. British coal exports dominated the world coal market until about 1910. By 1913—the peak production year—the industry was producing 287 million tons of coal, exporting 94 million tons and employing 1,107,000 workers.

The very fact that the British coalmining industry was developed so early has meant that many of the best seams of coal are now worked out; every year coal has to be mined from deeper and thinner seams and productivity can be maintained only by increasing efficiency.

The industry declined during the first world war owing to a shortage of manpower and to the shortage of plant and materials necessary for undertaking any mechanical improvement. Moreover, alternative sources of energy and lower prices in continental countries led to a later decline in exports, which had fallen to 67 million tons in 1925.

Attempts at securing economies through amalgamation date from the Sankey Commission of 1919. In 1930, a Coal Mines Act established commissioners to bring about the formation of larger and more efficient units. The Coal Act of 1938 transferred ownership of the mineral coal to the State and made it the statutory responsibility of a Coal Commission to accelerate the integration of the industry by still further reducing the number of separate undertakings. At the outbreak of the second world war in 1939, however, this process was not far advanced.

Organization under Public Ownership

In 1942, the Government assumed full control of the industry's operations, though the colliery undertakings continued to own the coal mines. In May 1946, the Coal Industry Nationalisation Act received the Royal Assent. On 1st January, 1947, the assets of the industry were vested in the *National Coal Board*, which was appointed by the then Minister of Fuel and Power and became responsible for the industry's management. Under the Act, the Board consisted of a chairman and eight other members, but this provision was amended by the Coal Industry Act, 1949, and the Board now consists of a chairman and not fewer than eight or more than 11 other members; the number of full-time members must not exceed eight and there must be one, and may be two, deputy chairmen.

The Board's main duties are:

- (1) to work and get the coal in Great Britain to the exclusion of any other person;

- (2) to secure the efficient development of the coalmining industry; and
- (3) to make supplies of coal available of such qualities and sizes and in such quantities and at such prices as may seem to it best calculated to further the public interest.

The Board is also charged with securing the safety, health and welfare of its employees and the benefit of their practical knowledge and experience. The Board's policies must also be directed to ensure that its revenues shall be not less than its outgoings properly chargeable to revenue account and taking one year with another.

There are minor exceptions to the Board's exclusive monopoly to work coal in Britain: for example, it may license private enterprise to work small mines in which the number of underground workers does not greatly exceed 30. Production on opencast sites, which had been the responsibility of the Ministry of Fuel and Power (as it was then called), was transferred to the Board on 1st April, 1952.

The Board is responsible for its own regional organization. The collieries, numbering about 900, are grouped into 50 Areas which are the basic units for commercial management. The size of the Areas varies according to geological, geographical and other technical considerations. The Areas are grouped into nine Divisions which roughly correspond to the main coal-bearing regions (see p. 184). A Divisional Board for each Division supervises and co-ordinates the work of the Areas within the Division (except in the small South Eastern Division, which is administered by a General Manager), formulates divisional policy, and is answerable to the National Coal Board, which is responsible for questions of national policy, finance and the co-ordinating of major schemes of development. The day-to-day work of running the collieries is under the direction of colliery managers.

Two Coal Consumers' Councils were set up under the 1946 Act: the *Industrial Coal Consumers' Council*, members of which represent consumers, merchants and suppliers of coal, coke and manufactured fuel for industrial and other purposes, involving supply in bulk; and the *Domestic Coal Consumers' Council*, members of which represent similar groups concerned with coal for domestic use. The most important function of the Councils, which are responsible to the Minister of Power, is the general consideration of the commercial arrangements and activities of the National Coal Board, to ensure that the monopoly in the industry set up by the 1946 Act shall have the maximum practical regard for consumers' interests.

The Coal Industry Nationalisation Act requires the National Coal Board to publish an annual report and statement of accounts which are laid before Parliament.

At the end of 1947 (its first year), the National Coal Board showed a deficit of £23.3 million, after paying compensation to the former mine-owners and interest on borrowed capital. In the years 1948, 1949 and 1950 there were surpluses of £1.7 million, £9.5 million and £8.3 million respectively. There were deficits of £1.8 million and £8.2 million in 1951 and 1952, a surplus of £0.4 million in 1953, deficits of £3.6 million in 1954 and £19.6 million in 1955, and a surplus of £12.8 million in 1956.

The National Coal Board raises capital by long-term borrowing direct from the Exchequer, instead of through the issue of stock. There is a statutory limit of £650 million at present on such borrowing and special authorization is needed for borrowing, in any one year, more than £75 million in excess of the highest level of aggregate advances in the preceding year.

Production

It has been estimated that Britain has workable reserves of coal of 43,000 million tons, more than enough at current rates of consumption to last for 200 years. But

certain types such as high quality coking coal will be exhausted long before then unless they are eked out by blending with other types of coal.

The main coal-bearing areas are: (1) the Yorkshire, Derbyshire and Nottinghamshire field which produces about 40 per cent of the total output, (2) the Durham and Northumberland field, (3) the South Wales field, and (4) the Scottish field. Other important coal-bearing areas are those of Lancashire and the West Midlands (Staffordshire and Warwickshire). There are no coal-bearing areas in Northern Ireland.

In the years since nationalization the National Coal Board has been able to secure quick increases in production and productivity by reorganization, by a wider application of improved working methods and by increased mechanization of cutting and conveying. As a result, deepmined production increased from 187.2 million tons in 1947 to 214 million tons in 1954 despite a fall of 4,000 in average manpower. In 1956, 210 million tons was produced from deep mines, which, with 12 million tons from opencast workings, gave a total of 222 million tons. Productivity of all workers increased between 1947 and 1956 from 1.074 to 1.232 tons per manshift.

Future progress depends on bringing new mines into production, the development of machines for power-loading the coal at the face on to the face conveyor belt (see p. 186), and on the reorganization of the haulage systems by carrying out major reconstructions. The National Coal Board has launched a large programme of major reconstruction and new sinkings (see p. 186).

Since the war the coal industry has suffered from a shortage of manpower. In 1956 manpower averaged 703,400, about 9,000 fewer than the industry needs.

Marketing

The principal marketing officials of the Board are also officers of the Minister of Power's Coal Supplies Organization, whose function is to apportion the coal to consumers according to the Minister's determination of the national interest.

The Board, as sole producer, is bound to make the first sale of coal. It has, however, no monopoly of distribution, though it does act as a wholesaler and, in the colliery areas, makes direct sales to consumers. Retail distribution is for the most part carried on by private firms, but the price structure is controlled by the Ministry of Power.

Consumption and Exports

Although the level of coal production has risen appreciably since 1946, inland consumption has risen even faster—mainly because of the expansion of industrial output. In consequence, the proportion of output which is exported has greatly declined, compared with pre-war, in spite of a virtually unlimited demand for exports of British coal. Exports (excluding bunkers) rose from 4.5 million tons in 1946 to 13.9 million tons in 1949. In 1955 and 1956, exports were deliberately cut to 12.0 million tons and to 8.4 million tons respectively.

The greater part of exports of British coal is sent to Europe, and especially to Denmark, Sweden, Germany, the Irish Republic and Italy. Nearly all Britain's coal exports since the war have been covered by trade agreements, and the National Coal Board has sought to honour its old customers even when that has meant importing coal at great expense from Europe and the United States and selling at a loss at the prevailing internal prices. Imports in 1955 amounted to 11.4 million tons, in spite of the reduction in exports, but in 1956 were reduced to 5.2 million tons.

Labour Relations

Negotiations on wages and conditions of service are conducted through a Joint National Negotiating Committee, consisting of 16 members appointed by the National Coal Board and not more than 16 members of the National Union of Mineworkers. Disputed issues are referred to a National Reference Tribunal consisting of three permanent independent members and four assessors without voting rights, two representing labour and two management. There are also District Joint Negotiating Committees, which deal with the application of national agreements, settle any difficulties and differences that may arise at district level and refer unresolved differences to the national committee.

The Coal Industry Nationalisation Act requires the Board to enter into joint consultation with its employees to discuss such matters as production, safety, health and welfare. At almost every colliery there is a Consultative Committee in which the workmen's representatives are elected by secret ballot. The colliery manager is chairman, and he nominates three colliery officials to be members of the committee. There are also Consultative Councils at the area, divisional and national levels on which the Board and the four staff organizations in the industry—the National Association of Colliery Managers, the British Association of Colliery Management, the National Association of Colliery Overmen, Deputies and Shot-firers, and the National Union of Mineworkers—are represented.

Safety, Health and Welfare

The safety, health and welfare of miners are safeguarded by comprehensive legislation, which was consolidated and brought up to date by the Mines and Quarries Act, 1954 (see p. 289). Responsibility for the enforcement of safety regulations lies with the Mines and Quarries Inspectorate of the Ministry of Power.

The National Coal Board has its own safety organization and, in accordance with the Nationalisation Act, follows a policy directed towards securing the safety, health and welfare of its employees; examples of voluntary action by the Board to reduce risks are the installation of fire-resistant conveyor belts, the replacement of light alloy supports (which had been found to be liable to produce dangerous sparks) and the widespread introduction of courses for training for various classes of officials and workmen. The Board has also continued to strengthen the medical services which existed before nationalization. Chief Divisional and Area Medical Officers have been appointed and Assistant Medical Officers are being appointed in areas with a labour force of more than 15,000 men. Medical centres are being set up at the pit head.

The Board is responsible for its employees' welfare at their work-places, for example, by the provision of pit-head baths and canteens, while the social welfare of coalminers and their families has, since 1952, been the responsibility of the Coal Industry Social Welfare Organization, which is controlled by the Board and the miners' trade unions.

Research into problems of safety and health is carried out also at the Ministry of Power's Safety in Mines Research Establishment, which maintains a close liaison with the Mines Inspectorate and the National Coal Board's research organization.

Development and Research

Contraction and curtailment of development in the industry since the peak year, 1913, had led to a position in which less than one-third of current output was coming from pits started in the twentieth century. Large-scale development was therefore essential.

In 1950, the National Coal Board announced its long-term plan of development for the industry, involving the reorganization and increased mechanization of existing mines and the sinking of new ones. The plan envisaged a capital investment of £635 million at 1949 prices between 1950 and 1965, when it was estimated that the annual output of coal would have risen to about 240 million tons. The plan was not a rigid blueprint, room being left for modifications in the light of changing circumstances and new knowledge. Actual capital expenditure in the years 1950-56 was £483 million at current prices. Under a revised plan issued in May 1956, the Board provides for an output of 228 million tons in 1960 and 240 million tons in 1965. An annual output of 250 million tons is not thought possible before 1970. Opencast production is expected to continue at a rate of about 10 million tons a year. The capital cost of achieving these output figures, and of providing the money for major schemes to be completed after 1965, is estimated at £860 million for collieries and their associated activities. In addition, the Board proposes to spend £140 million on ancillary activities. A total of £590 million will be spent between 1956 and 1960 and £410 million in 1961-65. Manpower requirements are estimated at 682,000 with an output-per-man-year of 319 tons in 1960, and 672,000 with an output-per-man-year of 342 tons in 1965, when four-fifths of Britain's coal output will be coming from virtually new mines.

The mechanical cutting and conveying of coal are now the general practice: in 1956, 87 per cent of total deepmined output was mechanically cut and 93 per cent was mechanically conveyed. The loading of coal at the working face offers, at present, the next most important possibility for increased coalface mechanization. In 1956, 36.4 million tons were power loaded, compared with 13 million tons in 1953 and 5 million tons in 1947.

In 1947, the National Coal Board took over, with other assets, the Coal Survey, a national organization for surveying coal resources within Britain, and 70 laboratories in the various coalfields, which it has since extended and modernized.

In 1948, the Board established a central research organization at Stoke Orchard, near Cheltenham, Gloucestershire, to provide facilities for fundamental research in the coalmining industry, as distinct from the day-to-day scientific control exercised by the divisional and area scientific organization. This is now known as the Coal Research Establishment. A second central research organization for the investigation of underground problems, known as the Mining Research Establishment, was formed in 1952 by the Board at Isleworth, Middlesex, and a Central Engineering Establishment is now operating near Bretby in Derbyshire for developing new machines and testing equipment.

The Board also subscribes to a number of autonomous research associations in receipt of grants from the Department of Scientific and Industrial Research (DSIR, see p. 412), including the British Coal Utilisation Research Association, the British Coke Research Association and the Coal Tar Research Association. In addition, much of the work of other bodies, such as the Safety in Mines Research Establishment of the Ministry of Power and the Fuel Research Station of DSIR, is closely related to the Board's problems.

From 1st July, 1956, the National Coal Board and the Central Electricity Authority have accepted responsibility for the planning and construction of a pilot plant for the underground gasification of coal. This is a process for converting coal in the ground into gas for use in generating electricity and it has reached the stage of being demonstrated on a small scale after 6 years of work by the Ministry of Power in co-operation with the National Coal Board. Exploitation of the process on a commercial scale is being undertaken. The National Coal Board has set up an Underground Gasification Executive to carry out its part in the project.

PETROLEUM

The petroleum industry in Britain dates back to 1850, when Dr. James Young, a Glasgow chemist, succeeded in obtaining lamp oil and lubricants from natural mineral oil occurring in the Derbyshire coal measures. The Scottish shale deposits, yielding similar products, were first worked in 1858.

Indigenous Production

Sources of crude oil within Britain (including shale oil) supply altogether less than one per cent of total United Kingdom requirements, the remainder being imported from overseas.

Current output of shale oil is drawn from 7 shale mines and one opencast quarry, retorted in four crude oil works, and the crude products are refined in a central refinery at Pumpherston, near Edinburgh. Output of shale reached a peak of 3·4 million tons in 1913, but the cost of the processes and other economic difficulties led to a reduction of output. This amounted to over one million tons in 1956, yielding some 79,000 tons of crude shale oil. From the latter, some 63,000 tons of refined products were obtained. In 1956, some 84,000 tons of motor and aviation spirit were obtained from coal by hydrogenation, and 314,500 tons of refined benzole from coke ovens and gas works. Prospecting for crude petroleum has so far led to the establishment of two oilfields in Nottinghamshire (small amounts of oil were found in further borings at Plungar in Leicestershire in 1953), and one in Lancashire. Production of crude oil in 1956 was 66,000 tons.

International Trade

British and British-Dutch oil companies have been responsible for developing the oil resources of many countries to mutual advantage, especially in the Middle East, Far East and Caribbean areas.

Today they produce one-third of all oil entering into international trade, with a tanker fleet (part owned by them and part on charter) amounting to nearly one-third of the world's tanker tonnage. (United Kingdom registered tanker tonnage is nearly one-fifth of the world's total.)

Consumption

Consumption of petroleum products in the United Kingdom has risen from almost one million tons in 1900 (mostly kerosene for lamps, and lubricants) to over 25 million tons in 1956 (predominantly gas, diesel and fuel oils and motor spirit).

Refineries

Up to 1939, three-quarters of the United Kingdom's supply of petroleum products was refined overseas, in accordance with the view, commonly held in the world oil industry at that time, that it was more economical to refine at the source of production. Since the second world war, however, the industry has come to favour the siting of refineries in the consuming areas. In this it has had Government support, both because of the need to save foreign exchange and because of the extra employment and other advantages to the economy resulting from the new development. The expansion programme in the United Kingdom carried out by the major oil companies was a substantial one, costing over the years 1947 to 1954 very nearly £200 million.

At the end of May 1957, refinery capacity in the United Kingdom amounted to almost 31 million tons a year. Plans for a second major phase of expansion to bring this up to at least 39 million tons by 1958 have been announced by some of the leading companies. Actual production of refined products rose from about 5 million

tons in 1948-49 to 28.7 million tons in 1956. Exports of refined products became possible, and their value reached £84 million in 1954 and £99 million in 1956. Imports of refined products were valued at £87 million in 1954 and £126 million in 1956, compared with £141 million in 1951.

Research

Research into problems of petroleum technology is carried out mainly by the leading oil companies, which have also endowed research at the universities on a substantial scale. Some work on the production of oil products from coal is done at the Fuel Research Station of the Department of Scientific and Industrial Research.

ELECTRICITY SUPPLY

Public supply of electricity was first provided at Godalming, Surrey, in 1881, though there were earlier demonstrations of its use to consumers, such as the former Metropolitan Board of Works, in the lighting of the Thames Embankment. From the earliest days a measure of public control has been a feature of the industry, and the Electric Lighting Act of 1882 authorized the Board of Trade to grant licences for the establishment of electricity undertakings by local authorities or by companies (which the local authorities might compulsorily purchase after a given period of time) to supply consumers in given areas. By the turn of the century, technical developments, including the introduction of the electric motor as a source of motive power, had led to a large increase in the scale of distribution of electricity, and a variety of independent supply systems had grown up all over the country.

It was not until after the first world war that steps were taken to reorganize the industry on a national scale in order to realize the benefits of concentration, integration and standardization in electricity supply. In 1919, the Electricity Commissioners were set up as a supervisory body and to promote reorganization through voluntary agreement. Then, in 1926, the Central Electricity Board was established to co-ordinate more efficiently the generation of electricity. Its main duties were to concentrate the output of electricity in certain stations, selected for their efficiency and low operating costs, and to connect these selected stations with one another and with local distribution undertakings by means of a national system of main transmission lines, known as the Grid. Thenceforward, steady progress was made in putting this plan into effect and, by March 1948, 143 selected stations, out of some 300, were supplying 95 per cent of the electricity generated for public supply.

Organization under Public Ownership

With the exception of a few small non-statutory undertakings accounting for less than one per cent of the electricity consumption, the public supply of electricity in Great Britain is now exclusively in the hands of public corporations: in England and Wales, the Central Electricity Authority is responsible for generation, and 12 Area Boards for distribution; in Scotland, the North of Scotland Hydro-Electric Board and the South of Scotland Electricity Board are each responsible for generation and distribution in their respective areas. In Northern Ireland, electricity is supplied by two municipal undertakings and one public board (see p. 190).

Under the Electricity Act of 1947, a central authority, then known as the British Electricity Authority, and 14 Area Electricity Boards, took over in April 1948 the assets of former municipal and private electricity supply undertakings throughout Great Britain, except in the area already served by the North of Scotland Hydro-Electric Board (see p. 190). Under the Electricity Reorganization (Scotland) Act of

1954, the Authority's functions in Scotland were taken over in April 1955 by the South of Scotland Electricity Board (see p. 190) and the name of the Authority was changed from British Electricity Authority to Central Electricity Authority.

Over 200,000 people are employed in the electricity supply industry.

England and Wales

The *Central Electricity Authority* is appointed by the Minister of Power and is responsible to him for the general policy of the whole electricity supply industry in England and Wales. Its main function is to develop and maintain an efficient co-ordinated and economical system of electricity supply, and it is responsible for the generation and bulk supply of electricity to the Area Boards.

The *Area Boards* (of which there are at present 12) are responsible for the distribution of electricity in England and Wales. Each consists of a full-time chairman and deputy chairman and four to six part-time members, appointed, as are the members of the Central Authority, by the Minister of Power.

Area Consultative Councils have been set up in the area of each Area Board to represent the interests of consumers. They each consist of between 20 and 30 members, of whom between 50 and 60 per cent are nominated by local authority associations. The chairman of each Area Consultative Council is an *ex officio* member of the corresponding Area Board. There are also Consultative Councils for each of the districts of the two Scottish Electricity Boards and the chairman of each is a member of the respective Board.

Finance. The Central Authority and Area Boards, taken together, have made a consolidated net surplus on their operations in each of the years since they were established. Up to and including the financial year 1955-56, these surpluses amounted in the aggregate to over £70 million.

Labour Relations. Under the Electricity Act, 1947, the Central Authority is required to devise a satisfactory procedure for collective bargaining and joint consultation with its employees. In each of the three main groups of workers (administrative, technical, and manual), there is a separate National Joint Industrial Council or Board, which negotiates terms and conditions of employment. A National Joint Advisory Council, drawn from management and employees, has been set up to discuss the health, welfare and safety of all groups of employees. There are also separate district councils and local works and advisory committees forming part of the negotiating and conciliatory machinery.

Proposals for Reorganization. In November 1956, the Government published a White Paper (*Cmnd. 27*), putting forward proposals, based on the report of the Committee of Inquiry into the Electricity Supply Industry (*Cmd. 9672*), for the reorganization of the electricity supply industry in England and Wales. These proposals have been embodied in the Electricity Act, 1957, and will take effect on 1st April, 1958. The Central Electricity Authority will then be replaced by an Electricity Council, which will advise the Minister of Power on questions affecting the electricity supply industry and promote and assist the maintenance and development, by a new Central Electricity Generating Board and by Area Boards, of 'an efficient co-ordinated and economical system of electricity supply'. The responsibility for generating and supplying electricity in bulk will be placed on the Generating Board. Appointments to the Council and Board were announced in August 1957.

Greater autonomy for Area Boards is proposed. The Generating Board and each Area Board will be required by law to balance their accounts individually, in order to encourage financial responsibility and a critical attitude towards costs. The

industry's central reserve fund will be wound up and distributed to the Area Boards, each of which will maintain its own reserve fund.

The most important functions of the Minister, under the new arrangements, are: to appoint the chairman and deputy chairman of the Electricity Council and the members of the Generating Board (the other members of the Council being the chairmen of the Area Boards and one other member representing the Generating Board); to approve each Area Board's capital development plans and the industry's research programme; and to approve, in consultation with the Treasury, the Board's borrowing requirements, having regard to the development programmes submitted by the industry. The Minister also has power to issue general directions to the Council and the Boards if he considers this necessary in the national interest. It is also proposed to strengthen the Consultative Councils.

Scotland

The *North of Scotland Hydro-Electric Board* was set up in 1943 as a non-profit-making body to develop the water power resources of the Highlands and Islands and to distribute electricity in the more sparsely populated parts of Scotland not covered by existing undertakings. It is a non-functional board, consisting of a chairman, deputy chairman and not fewer than three nor more than seven other members, who are all part-time members without departmental responsibilities, appointed by the Secretary of State for Scotland.

The Act of 1947 made the North of Scotland Hydro-Electric Board solely responsible to the Secretary of State for Scotland for all generation and distribution in its area. This area was extended under the Act to include that part of Scotland north and west of a line running roughly from Dumbarton on the Firth of Clyde to Newburgh on the Firth of Tay. In the rest of Scotland, the Central Authority, then known as the British Electricity Authority, together with the South-East and South-West Scotland Electricity Boards, was responsible to the then Minister of Fuel and Power in all electricity matters.

On 1st April, 1955, the *South of Scotland Electricity Board*, answerable to the Secretary of State for Scotland, took over the Central Authority's functions in Scotland, and also the functions of the two Scottish Area Boards, which were dissolved. The Board consists of a chairman, deputy chairman, two full-time and five part-time members. Under the Electricity Reorganization (Scotland) Act, 1954, the then Minister of Fuel and Power retained only three functions in regard to electricity in Scotland, namely, to act jointly with the Secretary of State in regard to staff pensions and safety measures, and to remain solely responsible for the certification of meters.

Northern Ireland

In Northern Ireland, the bulk of electricity is acquired by the *Northern Ireland Joint Electricity Committee* set up by statute in 1948, for sale to statutory distribution undertakings. Of these, the *Electricity Board for Northern Ireland* distributes electricity throughout the country with the exception of the cities of Belfast and Londonderry, where it is carried out by municipal undertakings.

Generation

Almost the whole of Britain's electricity is produced in coal-fired steam generating stations. Abundant supplies of coal, together with good rail and water transport for moving it, in contrast with the remote and scattered location of relatively small water power resources, led to this preponderant development of electricity supplies from thermal generating stations. The development of hydro-electricity on any scale is comparatively recent.

The setting up of the North of Scotland Hydro-Electric Board in 1943 marked the beginning of a new era of intensive water power development in the Highlands of Scotland. A development scheme drawn up by the Board in 1944, showing the water power resources which it proposed to examine, listed 102 hydro-electric projects with an estimated annual output of 6,274 million units of electricity. The ultimate output of Highland hydro-electric power is expected to be substantially higher and eventually may exceed 10,000 million units. In 1956, 1,282 million units were generated from water power compared with 322 million in 1949.

In 1956, 85,326 million units (one unit = one kilowatt-hour), or slightly more than 98 per cent of the public supply in Great Britain, was generated at steam stations, 1,667 million units, or nearly 1.9 per cent, from water power, and 168 million units by other means, e.g., diesel and waste heat and refuse destruction. The high rate of expansion of output, which has been a feature of the industry since its earliest years, has been continued since the war. Total production in 1956 was eight times what it was in 1930 and has increased in nearly every year and especially since 1953.

The installed generating capacity of the electricity authorities (including the North of Scotland Hydro-Electric Board) in Great Britain at the end of 1956 totalled 24,615 megawatts (maximum continuous rating) compared with 12,546 megawatts at the end of 1948. The Central Electricity Authority is planning a large-scale programme of capital investment for the regions it controls, which makes provision for an increase, between the years 1957 and 1961, of 9,400 megawatts (sent out).

Sales of electricity in Northern Ireland (where the total generating capacity of 391 megawatts is in coal-fired thermal stations) amounted to 956 million kilowatt-hours in 1956, when the maximum load sustained was 335 megawatts. Further plant installations, with a generating capacity of 60 megawatts, are due to be completed in 1957-58.

The Central Electricity Authority is the largest consumer of primary fuel in Britain and in the year ended 31st March, 1957, it used just over 42.7 million tons, consisting mainly of coal. Average thermal efficiency of steam stations (i.e. the ratio of power output to the coal consumed) rose from 20.91 per cent in 1947-48 to 24.93 per cent in 1956-57 as new plant was brought into use. Twenty stations containing much of the newest plant had an average efficiency of 29.14 per cent in that year.

To meet increasing demands for electricity and to save coal, generation from alternative fuels is being actively promoted. The chief alternatives are expected to be oil, to a small extent peat, and nuclear energy. As regards oil, dual firing apparatus able to use either coal or oil has been fitted to a new power station at Marchwood, on Southampton water, and similar apparatus is to be installed in other power stations similarly situated on river estuaries and thus able to be fed conveniently from nearby oil refineries. The use of peat has been advocated in Scotland, as in Northern Ireland, as a source of power and as a means of making land available for agriculture. In July 1953, the Government announced that it had accepted a recommendation of the Scottish Peat Committee, appointed in 1949 to advise on the development of Scottish peat deposits, that an experimental peat-burning station for generating electricity should be established in Caithness. A pilot project covering some 300 acres at Altnabreac, Caithness, has been started. A peat-burning gas turbine, developed by a Scottish firm with assistance from the Development Fund (see p. 171) is coming into operation in 1957. As the peat is cleared from the bog, the land is made available for farming.

Nuclear Power Stations

Nuclear power stations are being built both for the United Kingdom Atomic Energy Authority (UKAEA, see pp. 414-16) and for the Electricity Authorities.

As an extension of its experimental work and to produce plutonium, the UKAEA has built and is building a number of reactors which also produce electricity on a reasonably large scale. Most notable of these is the Calder Hall nuclear energy establishment in Cumberland which, since 17th October, 1956, when it was officially opened by the Queen, has been the first large-scale nuclear power station in the world to supply electricity to a national electricity network. Calder Hall A, consisting of two reactors, has an installed capacity of 92 megawatts (MW); Calder Hall B, due for completion in 1958, will double the installed capacity. Four more similar reactors are being built at Chapel Cross, near Annan in Dumfriesshire, Scotland. A further establishment at Dounreay, Caithness, Scotland, started in 1954 and now nearly completed, houses breeder reactors which will produce electricity.

A provisional programme of commercial nuclear power stations for the Electricity Authorities was published by the Government in a White Paper (*Cmd. 9389*) in February 1955. This envisaged spending £300 million on building 12 nuclear power stations, together with the necessary ancillary services, uranium and prototype development in the ten years 1955-65. Between 1,500 and 2,000 megawatts of electricity would be produced by this means by 1965, saving 5-6 million tons of coal a year.

Since the publication of the 1955 programme, two factors have led to a re-assessment of the targets provisionally set: rapid technological advance, which has already made possible stations of more than four times the installed capacity of Calder Hall; and the increase in imports of fuel, chiefly oil, to meet growing energy requirements which has accentuated the burden on the balance of payments.

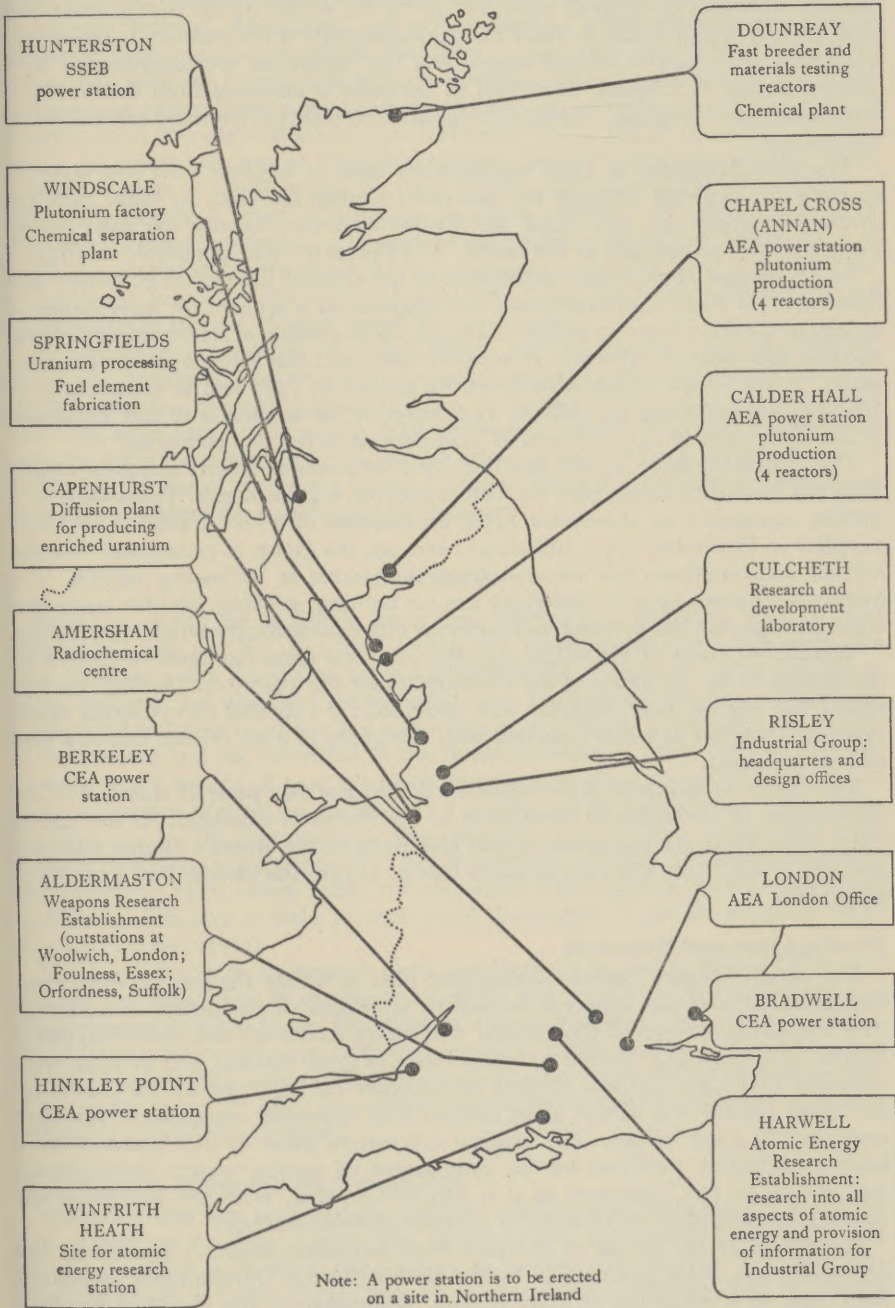
Accordingly, on 5th March, 1957, the Government announced a revised programme of nuclear power, under which nuclear energy would be providing 5,000-6,000 megawatts of electricity by 1965, instead of 1,500-2,000 megawatts as originally planned, the equivalent of 18 million tons of coal (or ten million tons of oil) a year used in conventional stations for a similar output. During the decade ending in the year 1965-66 the total capital investment by the Electricity Authorities to fulfil the combined nuclear and conventional power station programme (including ancillary transmission facilities) might be of the order of £3,350 million. This would compare with an estimate of £2,600 million during the decade for purely conventional stations; of the difference of £750 million, some £200 million might be accounted for by the procurement of the initial charges of uranium.

By mid-September 1957, work on two stations—at Bradwell in Essex (300 MW installed capacity) and at Berkeley in Gloucestershire (275 MW)—was well advanced. At Hunterston, in Ayrshire, Scotland, work had begun on a site for a third station (see photograph facing p. 199); a contract had been placed for the building, at Hinkley Point, Somerset, of a fourth station (500 MW); and sites in North Wales for two further stations were being considered. The Northern Ireland Electricity Board had decided to build a station of 150 MW, for which sites were being examined.

Transmission and Distribution

Main electricity transmission lines—the Grid—cover most of the country. Those of the Central Authority totalled at 31st March, 1957, 5,500 route miles (8,602 circuit miles), of which 415 miles were operated at 275,000 volts, 4,635 miles were operated at 132,000 volts and the remainder at 66,000 volts and below. The reduction over the previous year was due to the transfer of a section to the South of

Nuclear Energy Establishments



Scotland Electricity Board. In the North of Scotland district there were 1,480 circuit miles of main transmission lines at the end of 1956, all operated at 132,000 volts. Control of energy movements on the Grid in England and Wales is managed through the eight operational areas, set up by the Authority for that purpose and distinct from the divisions in which the generating side of the industry is organized; each area has a central control station and the operations are co-ordinated by a control station in London. The Grid in Scotland is operated from the North of Scotland control centre at Tummel Bridge and the South of Scotland control centre at Glasgow.

The new Supergrid of main transmission lines at 275,000 volts will assist in meeting the growing demand for electricity during the next 20 years with the greatest economy and will make the British electricity supply the most closely integrated power network in the world. The first stage was completed in 1954.

In September 1956, a joint committee of the Central Electricity Authority and *Electricité de France* recommended the adoption of a scheme for interchange of energy by direct current by means of a single cable capable of transmitting between 120,000 and 150,000 kilowatts at 200,000 volts, and the scheme is being undertaken. It was hoped to begin work on the project in 1957 and to complete it by 1960 at a cost of about £4 million. The object of the scheme is to take advantage of the differences in the incidence of peak periods in the two countries.

The Area Electricity Boards distribute to consumers electricity acquired mainly from the Authority, but in part from other sources, e.g., collieries. There were 14.5 million consumers in December 1956, an increase of about 5 million on those supplied in December 1939. Industrial users are the group of consumers with the highest consumption, and demand from this sector is increasing rapidly. The principal domestic uses of electricity are for lighting, cooking, and for space and water heating, but the demand for numerous other domestic purposes is increasing.

The development of electricity supplies for rural areas has been facilitated by the change in the structure of the industry under the 1947 Act. During the year ended 31st March, 1957, supplies were provided for a further 13,135 farms which raised the number of farms provided with electricity to over 188,000 out of a total of 272,000 farms.

The North of Scotland Hydro-Electric Board has also pressed ahead with the distribution of electricity to consumers in the North of Scotland. At the end of 1956, there were 351,524 consumers of electricity in the Board's district and 55.5 per cent of the farms and 55.4 of crofts (see p. 153) in the district had a supply of electricity.

Development and Research

The comprehensive capital development plan to bridge the gap between ever-increasing demand and supply is limited by shortages of equipment and finance. The borrowing powers of the Central Electricity Authority and Area Electricity Boards were originally limited to a maximum of £700 million, but in 1954 were extended to £1,400 million. Capital expenditure during 1956 by the Authority and Area Boards was about £209 million and approved expenditure for 1957 amounted to £233 million. The original investment plans of the Authority have been considerably modified by the programme of nuclear power development, outlined on p. 192, inasmuch as it is conceivable that, from the middle of the 1960s, most new plant will consist of nuclear-powered stations.

Borrowing by the North of Scotland Hydro-Electric Board is limited by the Electricity Act, 1947, as amended by the Hydro-Electric Development (Scotland) Act, 1952, to a maximum of £200 million. Borrowing by the South of Scotland

Electricity Board is limited by the Electricity Reorganisation (Scotland) Act, 1954, to a maximum of £75 million.

The Central Electricity Authority undertakes research on its own account and helps to finance research through its membership of the British Electrical and Allied Industries Research Association, an organization to which manufacturing firms and large consumers of electricity also belong and which was established before the supply industry passed into public ownership. This Association is one of the autonomous research associations in receipt of grants from the Department of Scientific and Industrial Research (see Appendix II, pp. 458-9). The Central Electricity Authority also has an Electrical Supply Research Council including independent experts to advise it and the Area Boards, and can consult the Minister of Power's Scientific Advisory Council on problems affecting the supply and use of electricity. Direct research on a laboratory scale takes place at the Central Electricity Laboratories at Leatherhead, Surrey, extensions to which were opened by the Authority in July 1950. Examples of research include gas turbine generation and experiments in the use of wind power for generation.

As part of its programme of power station construction for 1962, the Central Electricity Authority plans to install a turbo-generator of 550,000 kilowatt capacity—much larger than any now in operation, or, as far as is known, than any at present projected anywhere in the world. The decision to build a machine of this large capacity is the latest step in a programme aimed at reducing cost of generation by increasing the size of generating sets and boilers. Work is in progress on even more advanced machines for subsequent programmes.

GAS SUPPLY

Public supply of gas in Britain dates from 1807, when Pall Mall, London, was first lighted with gas. In 1812 the London and Westminster Gas Light and Coke Company received a Royal Charter to supply gaslight in London. In the early years of the industry, gas was used almost exclusively for lighting and was provided by a growing number of company and municipal undertakings. Then, after the middle of the century and the invention of the Bunsen burner in 1855, gas was used increasingly as a source of heat for many purposes, such as domestic cooking and space and water heating, in addition to a number of industrial uses. After 1880, however, gas for lighting purposes was subjected to increasing competition from the new electricity supply industry; but the invention of the Welsbach incandescent mantle in 1887, which raised the efficiency of gas lighting very considerably, enabled the industry to hold its own while the supply of gas for purposes other than lighting increased.

The gas industry in its present form developed in the main during the period between the wars when increasing competition from electricity had to be met and when changes in social habits and outlook were taking place. The industry undertook a large-scale programme of modernization of production and distribution and launched widespread sales promotion campaigns especially for the numerous uses of gas in the home. By 1939 the industry had become mainly a supplier of heating instead of a supplier of lighting.

Organization under Public Ownership

Under the Gas Act, 1948, the gas industry was brought under public ownership and control on 1st May, 1949. The assets of 991 undertakings, of which 269 belonged to local authorities, were vested in 12 Area Gas Boards. Together they cover the whole of Great Britain and are charged with a statutory duty to develop

and maintain an efficient, co-ordinated and economical system of gas supply to domestic, industrial and other consumers. The national body is the *Gas Council*, which is appointed by the Minister of Power and is responsible *inter alia* for advising him on questions affecting the gas industry. It is a co-ordinating council, not a trading body. It consists of a full-time chairman and deputy chairman and the twelve chairmen of the Area Boards.

The *Area Gas Boards*, which have a large measure of financial and operational responsibility and are similar in most respects to the central bodies of the other publicly owned corporations, are charged *inter alia* with the responsibility of manufacturing and distributing gas to consumers. Thus, their powers differ from those of the Electricity Area Boards, which are limited to the distribution and sale of current, while the central executive body—the Central Electricity Authority—is charged with the duties of generation and transmission. Each of the Area Gas Boards which, like the Gas Council, are appointed by the Minister of Power, consists of a full-time chairman and deputy chairman, in some cases one, and in one case two, full-time members, and always five or six part-time members including the chairman of the Area Consultative Council. There is no common pattern of organization; each Board is fully independent and has devised its own subordinate structure.

A link between the industry and the consuming public was established under the nationalization scheme by the creation of a *Consultative Council* in each board area. These councils consist of not fewer than 20 and not more than 30 members, of whom between 50 and 75 per cent are chosen from panels of persons nominated by the local authority associations.

In Northern Ireland, the gas supply industry remains in the hands of a number of municipal undertakings and statutory and non-statutory companies.

As has been said, the Gas Council is not a trading body, but the operations of the Area Boards have resulted in the seven years up to 31st March, 1956, in an aggregate disposable surplus of over £13.5 million.

Labour Relations

Under the Gas Act, 1948, the Gas Council is responsible for arranging satisfactory procedures of collective bargaining and a system of joint consultation with its employees. There are separate Joint Industrial Councils at the national level for manual workers and salaried staffs, and subordinated regional councils and local committees. At national and regional levels the councils combine negotiating and consultative functions, but there are in some cases separate Consultative Committees at the local level.

Production

In 1956, in Great Britain, 27.7 million tons of coal were carbonized by gas undertakings and 29.5 million tons by coke ovens operated outside the gas industry. About one-quarter of the output of gas from coke ovens is sold to gas undertakings for general distribution; the remainder is mainly consumed at the ovens or at collieries or steelworks.

In 1921, 250,300 million cubic feet of gas was manufactured by authorized gas undertakings or acquired from coke ovens, and the number of consumers was 7.6 million. By 1955, gas manufactured and acquired from coke ovens for distribution had risen to 2,912 million therms and the number of consumers had risen to about 12.8 million, an increase of 140 per cent in the volume of gas available and of about 67 per cent in the number of consumers.

In 1956, the quantity of gas produced in Northern Ireland was 7,625 million cubic feet, most of it for household use.

The total number of persons employed in the gas industry in March 1956 was 141,918.

Consumption

Half of all gas produced is sold for household use and the remainder for industry, commerce and public services.

Domestic Use. While an accurate statistical analysis of the domestic load is not possible, evidence given before the Ridley Committee (on Fuel and Power Policy), appointed by the then Minister of Fuel and Power in 1951, suggested that about 70 per cent of the domestic load was used for cooking, the remaining 30 per cent being spread over space heating, water heating and other installations. Most homes in Britain are now supplied with gas, except in some rural areas where, owing to difficulties in storage and transmission, gas is not economic. These difficulties have been overcome to some extent by the use of local high-pressure storage tanks but this development is unlikely to grow, owing to the steady extension of rural electricity supplies. Bottled gas, derived from petroleum, is widely used in rural areas.

Industrial and Commercial Use. Gas is used extensively in industries which require a simple control of temperature to a fine degree of accuracy. Among such industries are pottery and certain processes in the manufacture of iron and steel products. Industrial use of gas increased greatly during the second world war and reached 103,000 million cubic feet in 1943. By 1956 industrial consumption is estimated to have reached 759 million therms.

By-products

With the rapid increase in the volume of gas produced, the problems of the disposal of substances which were regarded originally as the 'waste' products of the carbonization of coal (notably tar, benzole, sulphur and ammonia) became increasingly important.

Production of coke at gas works in 1956 was 12.7 million tons, and at coke ovens 19.5 million tons. The gas industry and coke ovens jointly produce over 2.9 million tons of crude coal tar and about 110 million gallons of crude benzole a year. These products, together with those of the sulphur and ammonia type, provide a source for the manufacture of a long and ever-growing list of essential derivatives which include dyestuffs (of which Britain now produces most of its own requirements), fertilizers, plastics, germicides (the sulphonamides and sulphanilamides), insecticides, refrigerants, perfumes, and synthetic yarns.

With further research and development, more especially in the field of organic chemistry, the production of coal carbonization derivatives is becoming of increasing importance to the economy of the industry.

Development and Research

The chief objects of capital expenditure in the years immediately after the war were to overtake arrears of plant renewal. Plans for further expansion were approved by the then Minister of Fuel and Power in 1954 and are outlined in the Gas Council's publication *Fuel for the Nation*.

Under the Gas Act, 1948, borrowing by the Gas Council and the Area Gas Boards was limited to £250 million. Borrowings to a total of £235 million had been authorized up to 30th June, 1954. The Gas and Electricity (Borrowing Powers) Act, 1954, extended these borrowing powers to £450 million.

Capital expenditure in the year ended 31st March, 1956, was £61 million, compared with £46 million in 1952-53 and £36 million in 1950-51.

The post-war structure of the industry has already permitted considerable integration by the linking of undertakings for the transmission of gas (through gas grids and long-distance mains), enabling production to be concentrated in the most efficient units. Progress is also being made in interconnections for the reception of gas from coke ovens, notably in Wales, Durham and Yorkshire.

Supplies of suitable coal to meet a steadily increasing gas consumption are becoming more difficult to obtain. Investigations into alternative sources of gas are being actively undertaken by the Gas Council. Gases from oil refineries (butane or propane) are used in several installations in smaller towns remote from large gas works or the grid systems. Progress has also been made with the possible use of methane, drained from coal mines. In agreement with the National Coal Board, Area Gas Boards have agreed to schemes for using methane from Point of Ayr Colliery in North Wales and from Haig Pit at Whitehaven, in Cumberland.

Eight oil gasification plants are at present in operation and 20 additional plants are on order. These plants will be capable of producing 82 million cubic feet of gas per day and of saving 850,000 tons of carbonizing coal a year. The South Eastern Gas Board and the British Petroleum Company are jointly building a plant to convert petroleum products from the company's Kent oil refinery to gas of acceptable quality. It is expected that the initial installation, which will convert some 50,000 tons of petroleum products a year to gas and will have a daily output of 18 million cubic feet of gas, should be completed by the summer of 1958.

The Gas Council is investing £1 million in a five-year survey for natural gas within Britain.

The research organization established by the Gas Council consists of a research committee, which advises the Council on policy and sees that it is carried out; and two research stations, one in London and one at Solihull, near Birmingham. Research is also carried out on behalf of the Gas Council at Leeds University and by the British Ceramic Research Association (an autonomous research association grant-aided by the Department of Scientific and Industrial Research). Further, the Council and Area Boards support a number of research associations, the work of which has a bearing on the gas industry. These include the Coal Tar Research Association, the British Coal Utilisation Research Association and the National Benzole Association. The underlying aim of the Council's research programme is to 'make the most economic use of the natural resources available to the nation, whether by improvements in existing processes of gas manufacture, by seeking new processes or new sources of supply of gas and by the extraction and use of other products of gasmaking'.

FUEL EFFICIENCY

The Government has for a number of years sought to promote efficiency in the use of fuel, among both industrial and domestic users, and has been assisted by various bodies representative of producers and consumers.

The *Coal Utilisation Council* consists of representatives of the National Coal Board, coal distributors and coal appliance manufacturers. It was formed in 1932 to give information and advice on the best use of solid fuel, including the choice of installation and operation of solid fuel appliances, to domestic consumers and to retailers of appliances. During the second world war, the reduction in coal production and the demands of war industry made economy imperative. When the Ministry of Fuel and Power was formed in 1942, an industrial fuel advisory service with



Above: Coal-blending silos at the Eastern Gas Board's works, Tottenham, Middlesex.



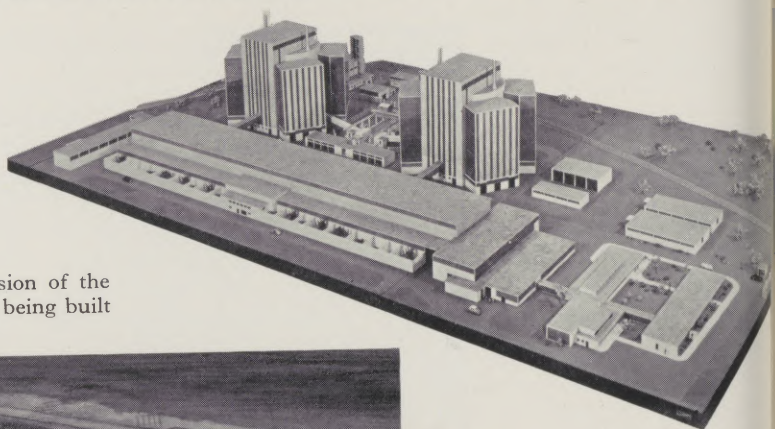
Right: Locomotives at the entrance to the underground workshops at Calverton Colliery, Nottinghamshire.

Below: British Petroleum Company tankers at Swansea, South Wales; behind is seen the Llandarcy refinery.

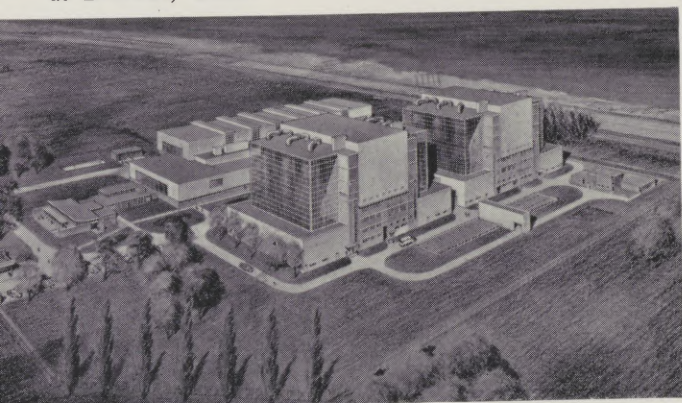




Calder Hall, Cumberland: the world's first large-scale nuclear power station (see p. 192).

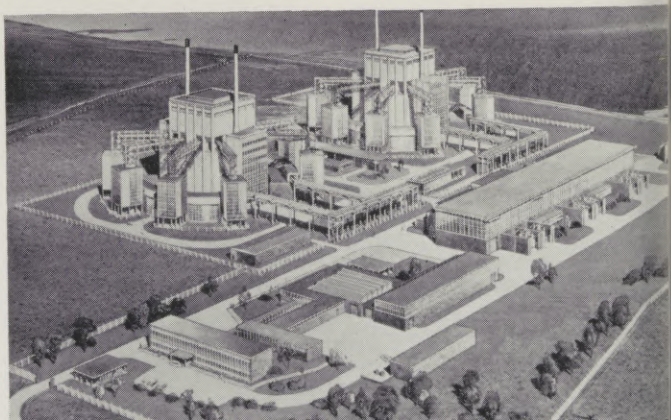


Below: Artist's impression of the nuclear power station being built at Bradwell, Essex.



Above: Model of Hunterston, nuclear power station being built on the Ayrshire coast, Scotland.

Artist's impression of the nuclear power station being built at Berkeley, Gloucestershire.



regional branches was incorporated within it. In 1943 the *Women's Advisory Council on Solid Fuel*, consisting mainly of representatives of appliance manufacturers, women's organizations and others interested in the housewife's point of view on domestic fuel arrangements, was formed to advise women on the use of solid fuel for heating and cooking.

Further measures have been taken during the last few years. Under a scheme introduced in 1952, loans on favourable terms are available from the Exchequer to industrialists for financing approved fuel-saving schemes. At present these loans are interest-free for the first two years, repayment may be spread over a maximum period of twenty years and no security is required. In October 1953, a non-profit-making company, known as the *National Industrial Fuel Efficiency Service*, and sponsored by the British Productivity Council (see p. 147), was formed to promote fuel-saving in industry. This company, which largely replaced the industrial fuel advisory service of the then Ministry of Fuel and Power, came into operation on 1st May, 1954. It provides advice and services to all non-domestic fuel users in a variety of forms, from 'spot' inspection to full-scale heat and power surveys and regular visits on a contract basis. A survey of the generation and use of steam carried out by the Ministry has been employed to show the possibilities in the increased uses of back-pressure steam in the generation of electricity. The electricity and gas industries, the largest consumers of primary fuel, are succeeding each year in obtaining more energy from each ton of coal they use, by increasing the thermal efficiency of their plants. The campaign for fuel efficiency is closely linked with the campaign for the reduction of smoke (see p. 182).

WATER SUPPLY

Britain has a sufficient rainfall to ensure enough water to supply all its domestic and industrial requirements. Water problems are mainly concerned with abstraction, storage, treatment and distribution. Supplies are obtained partly from surface sources such as mountain lakes, streams impounded in upland gathering grounds and river intakes, and partly from underground sources by means of wells, adits and boreholes. Unlike other public services in Great Britain, such as electricity and gas, water supply remains in the hands of a large number of undertakings of different kinds. Ministerial responsibility for national water policy rests with the Minister of Housing and Local Government in England and Wales, with the Secretary of State for Scotland in Scotland and with the Minister of Health and Local Government in Northern Ireland.

Development of Water Supply in England and Wales

It was not until the nineteenth century that the provision of water supplies became a general public service and then only after long and bitter controversy. It was largely due to the efforts of Edwin Chadwick and his colleagues, who demonstrated the dangers arising from inadequate water supply and sanitation, that the Public Health Act, 1848, became law in England and Wales and laid the basis for a long series of statutes dealing with public health.

From the middle of the nineteenth century onwards a number of separate large water undertakings were set up to provide adequate supplies of pure water to the expanding urban population, and the water supply system developed rapidly, although in piecemeal fashion and with some overlapping and waste.

To meet the need for co-ordination and long-term planning, the Minister was assisted from 1923 onwards by an Advisory Committee on Water, and Regional Advisory Water Committees were established for important areas having common water problems.

Organization of Water Supply in England and Wales

Local authorities have a duty as sanitary authorities to ensure that water supplies are adequate for the needs of their areas, and they may do this either by operating a water undertaking themselves or by ensuring that other bodies are providing an adequate supply. The householder receives his domestic water supply at a comparatively small charge, varying in different areas, which he usually pays by way of a water rate levied, like other rates (see p. 71), on the value of his house.

By the Water Act, 1945, the Minister of Housing and Local Government has powers to promote the conservation and proper use of water supplies in England and Wales. The same Act provided for a Central Advisory Water Committee to advise the Government on general questions relating to water and dealt with the local organization of water supplies and the powers and duties of local authorities and water undertakers. Local authorities were required to secure piped wholesome water in every part of their districts where there were houses or schools, unless it was impracticable to do so at reasonable cost.

In the years between the passing of the Water Act and 1956, nearly 200 smaller water authorities in England and Wales were absorbed by larger authorities or by the creation of joint boards. The principal object of such amalgamation is the constitution of more efficient units in the water supply industry.

In March 1956 there were, in England and Wales, 888 local authority water undertakings, 58 joint water boards (including bulk supply boards) and 13 joint water committees, 91 statutory water companies, 24 non-statutory water companies, and 4 private proprietors with statutory powers. A considerable number of private proprietors without statutory powers also provide small supplies. Water undertakings vary greatly in size; of the statutory undertakings, some 2½ per cent supply about half the population.

The *Metropolitan Water Board*, which has probably the largest single water undertaking in the world, supplies about 335 million gallons daily to about 6½ million people in the London area. The Board was established in 1903, and in the following year took over the undertakings of eight water companies which were supplying the London area. It now consists of 88 part-time members who are the elected representatives of the various local authorities within the Board's area of operations, together with one representative each from the Thames and Lee Conservancies. The chairman and vice-chairman are chosen by members of the Board.

Present Supplies in England and Wales

Today, piped water supplies reach some 97 per cent of the total population of England and Wales. More than 90 per cent of households in rural areas have piped water supplies or are within easy reach of water mains.

About £20 million a year is spent on capital development, financed mainly by loans, the interest on which, together with running costs, is paid by the water undertakings from annual income. This income is derived from local water rates levied on domestic consumers and from charges for supplies as recorded by meter in the case of most industrial users. In addition to supplies from water undertakings, large quantities of water are taken by industry from rivers or underground sources.

The provision of piped supplies for rural districts has been assisted by grants under the Rural Water Supplies Act, 1934, and under the Rural Water Supplies and Sewerage Acts, 1944 to 1955. By March 1956, schemes costing £67 million had been completed or were in progress with the aid of grants under these Acts.

The steady growth of towns in England and Wales has meant increased demands for water, and in so far as such growth involves covering the ground with impervious material, so that water which previously would have percolated through to

underground natural reservoirs is now carried off in drains and rivers, some diminution in water supplies may result. On the other hand, improved methods of purification in recent years have resulted in greater use being made of water drawn from the lower reaches of rivers.

The Ministry has completed some 32 surveys of existing water requirements and of supplies covering most of England and Wales; these provide a basis for planning possible future developments.

Water Supply in Scotland and Northern Ireland

In Scotland public water undertakings are carried on entirely by local authorities, either separately or in combination with each other; they supply over 95 per cent of the total population. The water problem in Scotland is broadly similar to that in England and Wales save that less reliance needs to be placed on underground sources. Scotland has separate legislation. The Water (Scotland) Acts, 1946 and 1949, among other provisions, impose a general duty on the Secretary of State to promote the conservation of water resources in Scotland; require local authorities to provide supplies of wholesome water everywhere in their districts, where this can be done at reasonable cost; and provide for a uniform system of rating for water throughout the country. The Rural Water Supplies and Sewerage Acts, 1944 to 1955, make available to Scottish local authorities grant assistance up to a maximum of £30 million towards the cost of water supplies and sewerage schemes in rural areas. By December 1956, schemes for rural areas costing £9.5 million had been completed with the aid of such grants, and schemes worth £12.1 million were in progress.

Northern Ireland has abundant supplies of fairly uniform soft water. The Water Supplies and Sewerage Act (Northern Ireland), 1945, in addition to making provision for the payment of government grant to all water supply authorities, places upon them statutory obligations with regard to the supply of water to houses and schools. Since 1945, a piped water supply has been, or is being, provided for every town, and in rural areas piped water supplies are being extended.

River Management

The 32 River Boards set up under the River Boards Act, 1948, carry out the functions and co-ordinate the various aspects of river management in England and Wales previously performed by a large number of separate authorities.

Each River Board covers a River Board Area. The River Board Areas together comprise the whole of England and Wales, except the Thames and Lee Catchment Areas (which are under the jurisdiction of the Thames and Lee Conservancy Boards¹ respectively), the administrative County of London, and areas adjoining that county not included in any catchment area.

River Boards are composite bodies representing local government, agricultural and fishery interests, and most of their expenses are apportioned among the councils of the counties or county boroughs concerned, in proportion to the rateable values of property in the River Board Area.

River management in Scotland and Northern Ireland has not been concentrated to the same extent.

It is an offence for any person to permit any polluting matter, solid or liquid, to enter a river. The Rivers (Prevention of Pollution) Act, 1951, revised and

¹ The Thames and Lee Conservancy Boards are similar in constitution and powers to the River Boards; because London draws most of its water supplies from these two rivers, however, they have long been regulated under powers granted by Acts of Parliament of purely local application.

strengthened previous legislation for the prevention of river pollution in England and Wales. Enforcement of the Act is vested in the River Boards, the Thames and Lee Conservators, and, in London and adjacent areas, in the councils of the metropolitan boroughs, counties, and county boroughs concerned. There is a similar Act for Scotland under which eight river purification boards have been set up to promote the cleanliness of the rivers in their areas.

Measurement of Water Resources

Information on the yield, behaviour and quantity of the nation's surface water resources is provided in the *Surface Water Year Book of Great Britain*, published annually by H.M. Stationery Office. This publication contains particulars of the run-off and related rainfall from a large number of rivers, streams and reservoir areas. The Surface Water Survey Centre of the Ministry of Housing and Local Government is responsible for the promotion of gauging, the collection of hydrological information, and the publication of the Year Book. The field work of surface water measurement is carried out by river boards, water undertakings and other bodies. General information as to rainfall, published annually in *British Rainfall*, is the responsibility of the Meteorological Office (see p. 45), while the subject of ground water comes under the Geological Survey and Museum (see p. 419). In special cases the Hydraulics Research Station of the Department of Scientific and Industrial Research (see p. 412) carries out research into problems of the design and calibration of gauging weirs and flumes for the measurement of surface water. A close liaison is maintained between these organizations.

Water Pollution Research

The Water Pollution Research Laboratory of the Department of Scientific and Industrial Research is engaged in investigating problems connected with the treatment of water for domestic and industrial supply, the treatment and disposal of sewage and industrial waste waters, and the effects and prevention of pollution of surface waters and underground water. The Laboratory maintains close contact with other interested Government Departments, with municipal and other public authorities, and with industry. Research is carried out with general supervision and advice from the Water Pollution Research Board of the Department of Scientific and Industrial Research. The Board was set up in 1927 and its members are appointed by the Lord President of the Council.

BUILDING AND CONTRACTING

The building and contracting industry is concerned primarily with the construction and repair of houses, hospitals, schools, shops and factories, and with civil engineering works such as bridges, docks, harbours, railways, airports and irrigation systems. In all, the industry employs some 1,400,000 persons (including 50,000 women) and provides about 6 per cent of the gross domestic output of goods and services. It also makes an important contribution to overseas development.

Structure

Over four-fifths of the industry is in the hands of private firms. The typical firm is small or medium-sized. Over 30 per cent of the firms in the industry are one-man businesses engaged in such trades as house painting or plumbing, and nearly 60 per cent employ fewer than nineteen persons. At the other end of the scale there are fewer than a dozen firms of building and civil engineering contractors, each employing more than 5,000 persons on its permanent staff. Some of these are

integrated concerns owning quarries as well as workshops, extensive stocks of mechanical plant, and the standard stores and tackle of builders' yards: they also undertake large-scale constructional contracts overseas.

Value of Output

The value of the annual output of the industry has been rising fairly steadily since 1945, and in 1956 the total for Great Britain was £2,070 million. Of this total, £343 million represented building work carried out by the staffs employed directly by the public authorities (including Government Departments, local authorities and certain public utilities), while the balance of £1,727 million represented the output of private firms (new work, £1,330 million, and other work, £397 million).

Housing Construction

In the post-war period most new houses (see pp. 386-7) in Britain have been built by private firms working under contract to local authorities, but the proportion built by private firms for private owners has increased appreciably since 1951. About 15 per cent of local authorities employ direct labour in housing construction, while about 64 per cent use their own labour for repair and maintenance. In 1956, the value of new housing put up in Great Britain by private firms was £567 million, of which £243 million was for private owners and £324 million for public authorities.

Between 1945 and 1956, over 2,600,000 new permanent houses and other dwellings and some 160,000 temporary houses were built in the United Kingdom.

Prefabricated Buildings

Prefabrication is generally taken to mean factory production of most or many of the component parts of buildings for transport to, and rapid erection on, a site. Techniques of prefabrication have been developed in Britain over a period of at least 150 years. A notable early example was the Crystal Palace, originally erected in Hyde Park, London, from component parts made in Birmingham, for the Great Exhibition of 1851.

Considerable advances in technology were made during the second world war when greater use was made of lightweight materials, including aluminium alloys, light strip steel and asbestos cement panels. In the earlier post-war years, prefabrication techniques were used extensively in the construction of temporary houses, 156,000 of which were provided up to 1949 by the Ministry of Works for erection on sites made available by local authorities. These new techniques are also used in the construction of permanent houses, and are being developed and applied in the building of schools, hospitals, offices and shops.

The industry has made useful contributions to the post-war need for houses and other forms of accommodation overseas. In 1956, exports of prefabricated buildings were valued at £4.3 million.

Civil Engineering and Industrial Building

Britain was the first country to develop civil engineering as a large-scale modern industry and the first to provide techniques, finance and equipment to carry out major civil engineering projects throughout the world. Prominent figures in the early development of civil engineering included: James Brindley (1716-1772), builder of canals; John Loudon McAdam (1756-1836), pioneer in road construction; Thomas Telford (1757-1834), builder of roads, docks and bridges; and George Stephenson (1781-1848), Robert Stephenson (1803-1859), Joseph Locke (1805-

1860), Isambard Kingdom Brunel (1806-1859) and Thomas Brassey (1805-1870), builders of railways.

Within the United Kingdom the industry has been occupied since the war with large-scale reconstruction and development schemes. These have included work on the repair, modernization and electrification of railways, road and dock development schemes, airports, sea defence works, thermo-electric and hydro-electric power stations, improved water supplies, and drainage and sewerage systems. The industry is engaged on a substantial scale on the construction of nuclear-based power stations.

At the beginning of 1957, the civil engineering programme of work under way within the United Kingdom included: £140 million on work for the National Coal Board (see p. 182); £300 million for the British Transport Commission (see pp. 238-40) for railways; and over £50 million for the Central Electricity Authority (see p. 189); work estimated at £10 million on the Forth Bridge; £5 million on the Whiteinch Tunnel, under the river Clyde at Glasgow; £10 million on the Dartford Tunnel, under the Thames, linking Kent and Essex; £20 million on steelworks; £5 million on docks and harbours; £10 million on hydro-electric works; and £10 million on oil refineries.

In Great Britain since the war, more than 14,000 industrial buildings of over 5,000 sq. ft. (with a total area of over 300 million sq. ft.) and many smaller factories have been erected.

Overseas Constructional Work

Constructional work carried out overseas by British firms has included railways in most parts of the world; large-scale irrigation works in India, Pakistan, Egypt and Greece; and canals, roads, docks, harbours, power stations, airfields, hydro-electric schemes and industrial and housing estates in several countries.

Examples of more recent contracts include: hydro-electric schemes at Owen Falls (Uganda), and Hirfanli (Turkey); major harbour works at Takoradi and Tema (Ghana), and Aden; a new port at Salaverry (Peru); dry docks at Karachi (Pakistan); houses, airfields, roads and bridges in Iraq; modernization of the trunk road system in Iran; 14-storey blocks of flats in Toronto (Canada) and large-scale industrial estate development in Annacis Island (Canada); a new engineering college in Rangoon (Burma); the Auckland Harbour bridge (Australia); and the Adomi bridge across the River Volta (Ghana).

It has been estimated that the value of work done during the year ended March 1957 by some 60 principal British building and civil engineering firms, operating in more than 50 countries, was £94 million, compared with £87 million in the previous year; and the value of contracts obtained rose from £71 million in 1954-55 to £92 million in 1956-57. Most of the work done was in the sterling area, but the share of work done in the dollar area rose from less than 5 per cent in 1954-55 to over 20 per cent in 1956-57.

Research and Development

Research into various aspects of civil engineering is undertaken by the Ministry of Works, the Department of Scientific and Industrial Research (DSIR), the Admiralty, various universities and technical colleges, and by individual firms and trade associations.

The civil engineering research work of DSIR is carried out through several research laboratories, including the National Physical Laboratory, the Building Research Station, the Road Research Laboratory, the Forest Products Research

Laboratory, the Geological Survey and Museum, the Water Pollution Research Laboratory, the Fire Research Station and the Hydraulics Research Station.

One notable example of this work is the research conducted during the past twenty years on concrete manufacture by the Building Research Station and the Road Research Laboratory in conjunction with United Kingdom universities and the Cement and Concrete Association. Another is the research carried out at the National Physical Laboratory into the effect of wind-pressure on bridges. This work has been in progress since 1946, with the aid of wind-tunnels for the scale models, and led to the discovery of two types of aerodynamic instability—an up and down motion of the whole platform and oscillations of a twisting character. Methods were evolved to modify or eliminate this instability. At the Imperial College of Science and Technology, London, important research has been carried out to discover the manner in which waves exert shock pressure on walls—a matter of considerable importance to civil engineers, especially for maritime structures.

The principal professional body in the civil engineering industry is the Institution of Civil Engineers, incorporated in 1828 by Royal Charter.

Some major advances in technology and materials have been made in recent years, for example, in the mechanization of earth excavating and site clearance, the development of mobile hoists, improvements in road-making techniques, new methods of welding, the introduction of unit construction processes for bridge building, and progress in concrete mixing and prefabrication.

MANUFACTURING INDUSTRIES

The United Kingdom's manufacturing industries provide an exceedingly wide range of products many of which play a major role in world trade. In terms of net output and exports the most important groups of industries are those concerned with the manufacture of metals and metal products, though the textile and chemical industries are also of considerable significance. Some impression of the relative importance of the different groups in terms of net output is given in Table 23, which is based on the provisional results of the Census of Production for 1955.

An important feature in the expansion of United Kingdom exports since the second world war has been the development of new types of commodities to

TABLE 23
NET OUTPUT OF INDUSTRY GROUPS IN 1955 (a)

	£ million	Percentage of Total
Metal manufacture	620.6	8.8
Shipbuilding, engineering and electrical goods ..	1,603.3	23.0
Vehicles	812.2	11.7
Miscellaneous metal products	373.0	5.3
Chemicals	516.6	7.4
Textiles and clothing	946.9	13.6
Food, drink and tobacco	725.2	10.4
Other manufacturing industries	1,382.9	19.8
TOTAL	6,980.7	100.0

(a) Provisional figures.

Source: *Board of Trade Journal*

meet changing needs. In some cases, the industries concerned are based on inventions or discoveries made during or after the war; in others, the basic research had been done before the war, but production on a commercial scale was not undertaken until later. Gas turbine aircraft, radar and man-made fibres are outstanding examples of the products of these new industries.

METAL MANUFACTURE

The metal manufacturing industries employed 583,000 persons at the end of 1956. Nearly four-fifths of these were engaged in the production of iron and steel.

Iron and Steel

Britain pioneered the application of coal to the smelting of iron ore from the seventeenth century onwards and was responsible for the technical development which led to the great expansion of steelmaking in the second half of the nineteenth century. Today, Britain is one of the world's four largest producers of steel and is renowned for the quality of its special and alloy steels. In 1956, direct exports of iron and steel amounted to 2·8 million tons valued at £173 million, in addition to indirect exports through the sales of the steel-consuming industries; exports of the shipbuilding and vehicle industries, which are major consumers of steel, amounted to about £402 million in 1954 and rose to £511 million in 1956.

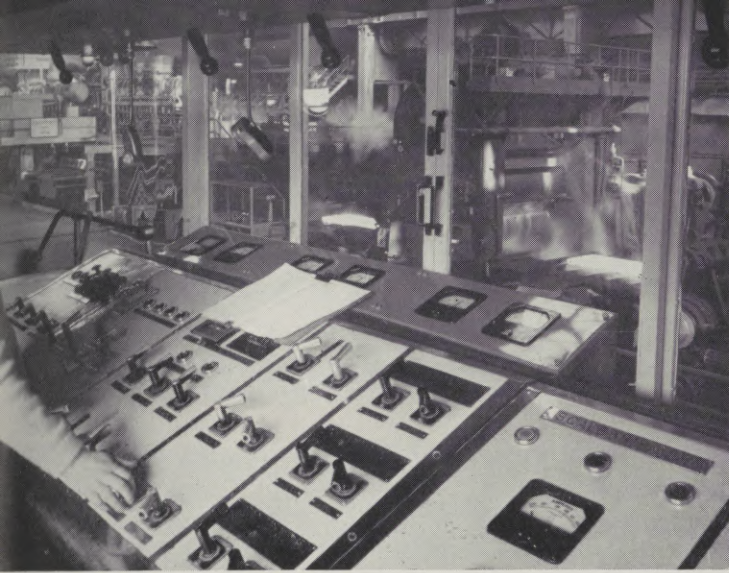
Since 1945 considerable modernization and development has been undertaken. Production of crude steel, which in 1946 totalled 12·69 million tons, rose to 20·66 million tons in 1956 and is expected to reach nearly 22 million tons in 1957. It is planned to raise productive capacity to 28 million tons by 1962, of which 5 million tons are expected to be required for exports. Expansion and modernization of the industry, ranging from iron ore to finishing capacity, over the five year period to 1962, is estimated to cost £600 million.

About 465,600 people were employed at the end of 1956 in those industries classified as iron and steel manufacture. Of these, 232,800 were engaged in iron and steel smelting and rolling, and 121,800 in iron foundries.

South Wales and the north-east coast of England are the United Kingdom's two largest steel-producing areas, together responsible for an annual production of nearly 9 million tons. South Wales is engaged mainly in the production of flat products, and is especially noted for tinplate. In the north-east coast area of England, production is concentrated on heavy sections and rails, and plates for the shipbuilding industry. Scotland, with an annual production of 2½ million tons, finds its chief internal markets in the shipbuilding and engineering industries of the Clyde valley. Sheffield is known throughout the world for its special and alloy steels.

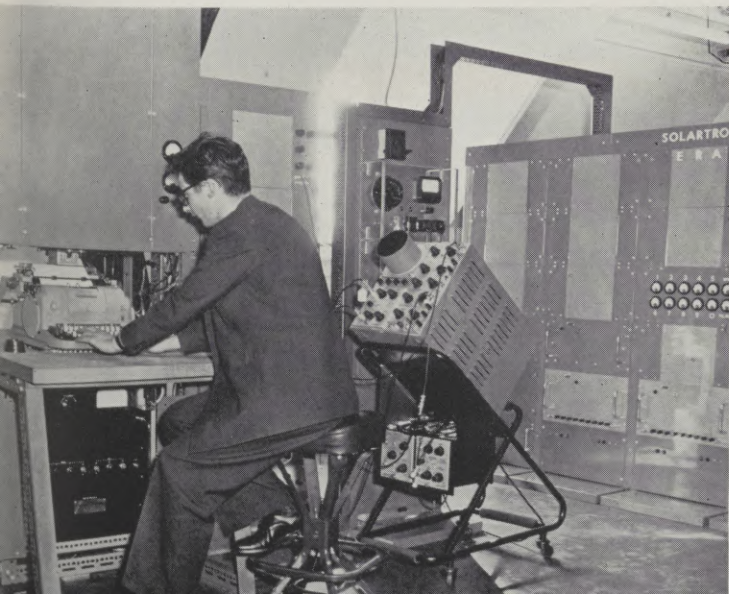
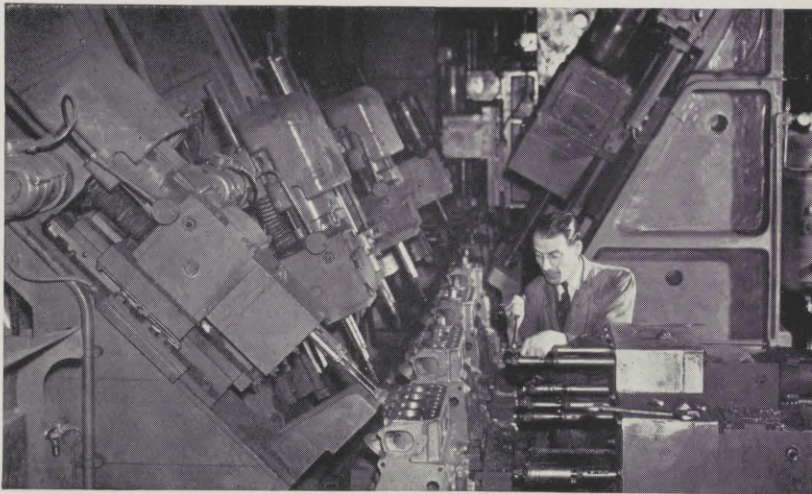
The iron and steel industry has been subject to some form of public supervision since 1932, when a Government-appointed body, the Import Duties Advisory Committee, gave special attention to the reorganization of the industry. During the second world war the industry came under the direction of the Iron and Steel Control of the Ministry of Supply and, from 1946 to 1949, was supervised by an Iron and Steel Board responsible to the Minister of Supply. On 15th February, 1951, the greater part of the industry came into public ownership by virtue of the Iron and Steel Act, 1949. On that day the securities of about eighty iron and steel producing companies (together with the control of their subsidiaries) were transferred to the Iron and Steel Corporation of Great Britain established under the Act, although the companies retained their separate identities and managements.

The 1949 Act was repealed by the Iron and Steel Act, 1953, which established an Iron and Steel Holding and Realization Agency with the duty of returning the companies to private ownership. By September 1956, there remained 28 companies



Automation in a steel-works: the operator at the controls of the hot-strip mill in the Abbey Works of the Steel Company of Wales.

Another example of automation: this two-man 96-foot-long transfer machine at the British Motor Company's Longbridge works near Birmingham completes 30 operations on engine blocks from the rough casting to the finished article.



The Solatron ERA (Electronic Reading Automaton). This machine reads typed or printed characters and can reproduce the matter on punched cards or tape for computers, or can type it out. It can also sort documents.

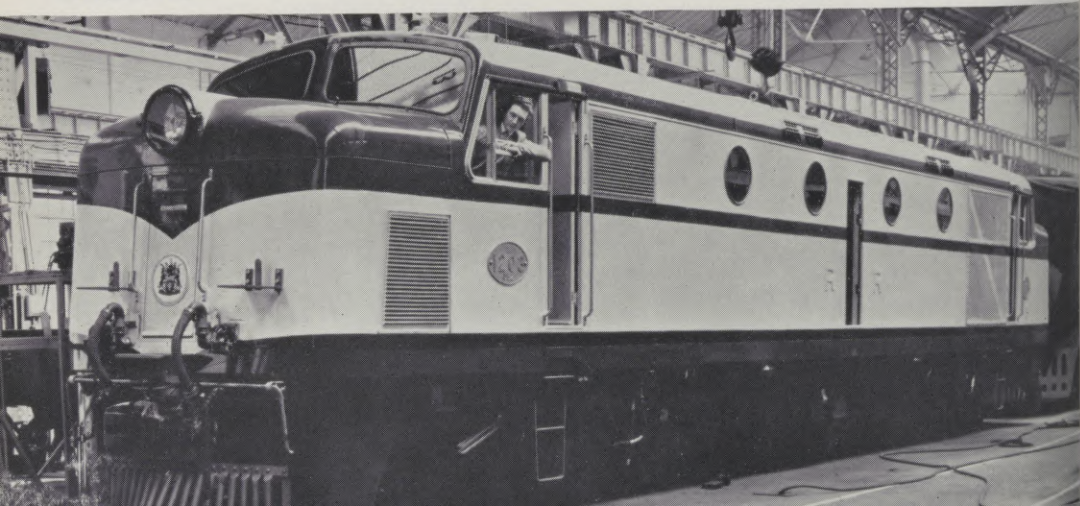


A Vickers *Viscount* in service with US Capital Airlines. The first order for 60 of these aircraft for Capital Airlines was completed a month ahead of schedule.

Tractors for Finland. Britain exports about 100,000 tractors a year.

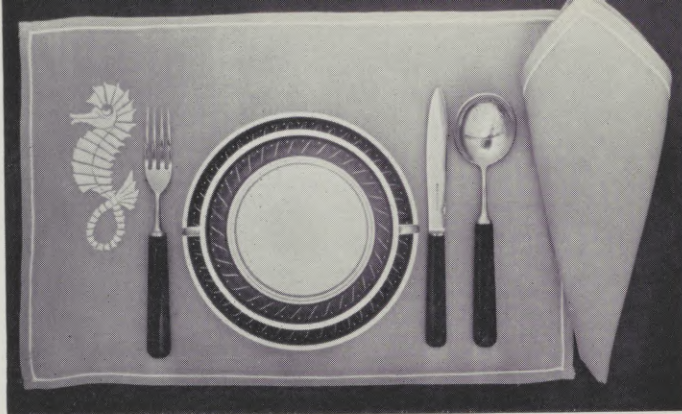


A 2,000 horse-power diesel-electric locomotive for Rhodesian Railways. In 1956 Britain exported over 800 locomotives, mainly to the Commonwealth.

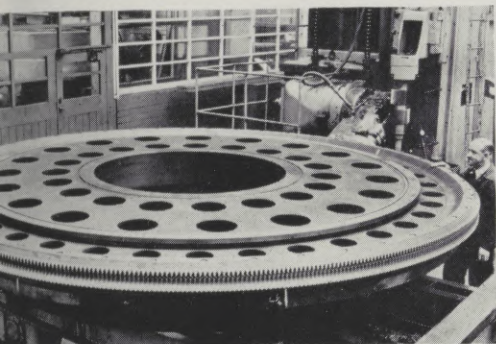


HOME EXPORT PRODUCTS

Irish linen from Belfast, china from Burslem, Staffordshire, and stainless steel cutlery from Sheffield.



giant machine wheel for Sweden. Machinery exports in 1956 were valued over £500 million and weighed over 1 million tons.

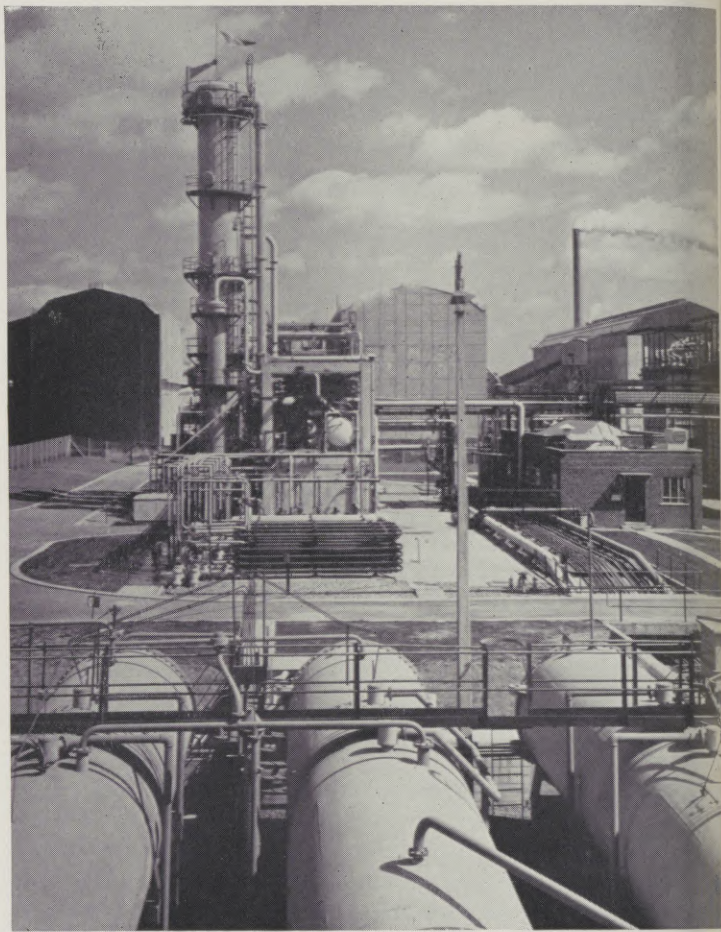


Making a Scottish tartan. Woollen fabrics are exported from Britain to all parts of the world.



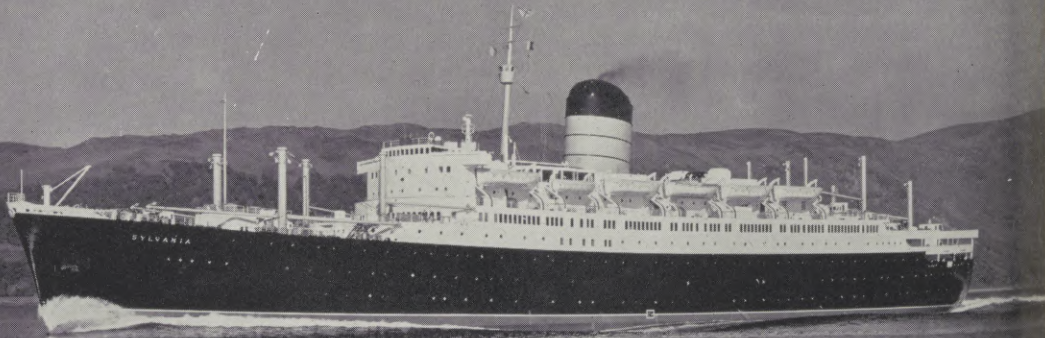
The *Eugenia Niarchos*, 47,500 deadweight tons, built by Vickers-Armstrongs and launched in 1956. This ship and her sister-ship the *Spyros Niarchos* are the two largest tankers built in Britain.





Imperial Chemical Industries' acetone plant at Billingham, Co. Durham. The storage tanks are seen in the foreground.

The twin-screw, turbine-driven Cunard liner RMS *Sylvania*, 22,000 gross tons, built by John Brown and Company on Clydebank. The aluminium funnel is specially designed for effective smoke dispersal.



in which the Agency had direct holdings representing, in terms of steel production, about one-quarter of the total production in the United Kingdom.

The 1953 Act also provided for the establishment of the Iron and Steel Board to exercise a general supervision over the iron and steel industry with a view to promoting the efficient, economic and adequate supply under competitive conditions of iron and steel products. The Board is responsible to the Minister of Power and includes, in addition to the chairman and two other full-time members, a number of part-time members drawn from steel producers, steel consumers and trade unions.

Under an Agreement of 21st December, 1954, a Council of Association between the United Kingdom Government and the European Coal and Steel Community was established. It provides a means of permanent consultation on matters relating to coal and steel of common interest to the two parties. One of the three committees set up to assist the Council to carry out its tasks is concerned with problems affecting the steel industry.

Non-ferrous Metals

Non-ferrous metals industries in Great Britain employ about 118,000 persons and contribute about £135 million to the net national output.

Nowadays the mining in Britain of non-ferrous ores is confined to the working of lead, zinc, tin and tungsten ores on a small scale. However, the United Kingdom is a large consumer of non-ferrous metals, being second only to the United States in its consumption of aluminium, copper, lead, tin and zinc. The industry consists of factories for smelting and casting and fabrication by rolling, extrusion and drawing of these metals and also nickel and magnesium. The techniques of powder metallurgy and pressure diecasting are also employed where appropriate. Some of the non-ferrous metals such as nickel, molybdenum and tungsten are largely used in steel alloys. New uses for non-ferrous metals with special properties have emerged with the growth of new industries having their own particular requirements, as, for example, production of nuclear energy (uranium, zirconium), jet aircraft (columbium, magnesium, titanium, niobium) and electronic apparatus (selenium, tungsten, germanium).

In 1956, direct exports of non-ferrous base metals (including semi-fabricated products) were valued at £103 million, of which copper and its alloys accounted for £61 million and aluminium and its alloys for £19 million. In addition, there was a further substantial export of non-ferrous metals in many fabricated forms.

SHIPBUILDING AND MARINE ENGINEERING

Britain has for centuries been one of the most important shipbuilding countries. Modern shipbuilding dates from the middle of the nineteenth century, when the iron and steam-driven vessel replaced the earlier sailing ship. Britain led the way in the substitution of steel for iron and in the development of the steam turbine. Between 1890 and 1913 Britain produced more than half the world's new tonnage, and in 1920 launched over two million tons, still the peace-time record for the industry. The problem of surplus capacity and periodic heavy unemployment appeared in all shipbuilding countries during the inter-war years. During the second world war the industry was fully occupied in building and repairing warships and merchant ships of all kinds, and a high level of activity in the building and repair of merchant ships has been maintained since 1945.

Shipbuilding is mainly an assembly trade, and Britain's economy is well equipped to meet this demand, with a highly developed iron and steel industry to provide plates and sections, a modern marine engineering industry, and a widely diversified

pattern of general industry to supply the numerous components that go to the making of a ship.

Well over three-quarters of the tonnage of ships built in the United Kingdom comes from four areas:

1. On the River Clyde in Scotland (where the *Queen Mary* and *Queen Elizabeth* were built in the inter-war years).
2. On the north-east coast of England—along the lower reaches of the Rivers Tyne, Wear and Tees, and at West Hartlepool, and Blyth.
3. On the north-west coast of England—on the River Mersey and at Barrow-in-Furness.
4. At Belfast, in Northern Ireland, where the largest individual shipyard is situated. A 45,000-ton luxury liner of revolutionary design, the largest passenger vessel to be built in Britain since the *Queen Elizabeth*, is under construction at these yards for the P. and O. Company.

In each of these areas there is capacity for building warships and all types of merchant ships from large passenger liners and tankers to small sea-going ships such as coasters and cross-Channel steamers. Ships are also built in the Southampton area, in the Isle of Wight, and along the estuaries of the Rivers Forth and Tay, in Scotland, while numerous places along the coast build fishing vessels, yachts, harbour craft and barges. Repair yards and dry docks are situated in all the great ports and there are extensive repair facilities in all the shipbuilding areas.

There are many firms engaged in shipbuilding, although nearly half the output of new ships is concentrated in the hands of about a dozen.

In the years 1946 to 1948 British shipyards launched half the world's total new tonnage. Since then, with the recovery of the shipbuilding industries in Japan and Germany and the rebuilding of shipyards in some European countries after their destruction in the war, the British shipyards have built a rather smaller proportion of world tonnage, though total output from the shipyards has been fully maintained.

At the end of 1956 there were about 222,000 employees in the shipbuilding and repairing industries, including those employed in naval dockyards. In addition, there were 72,000 employed in marine engineering. In 1956, the total tonnage launched from United Kingdom shipyards amounted to 1.34 million gross tons, representing about 21 per cent of world launchings; 328 ships, with an aggregate tonnage of 2.14 million gross tons, were under construction; and at the end of 1956, orders were on hand for a further 265 ships of 2.26 million gross tons. Oil tankers accounted for half the tonnage on order. The value of exports of ships and boats in 1956 increased by £40 million to £94 million.

Over the past fifteen years traditional methods of shipbuilding have undergone radical changes, primarily due to advances in welding technique. These have led to the production of ships in large units, 50 to 60 tons in weight, prefabricated under cover and rapidly assembled for launching.

The British Shipbuilding Research Association (BSRA) and the Parsons and Marine Engineering Turbine Research and Development Association (Pametrad) are developing gas turbines and improving the efficiency of diesel and steam units. The Admiralty, the BSRA, the Atomic Energy Authority and private firms are working on plans for the use of nuclear reactors for propulsion of merchant ships, including large tankers.

MECHANICAL ENGINEERING

Mechanical engineering embraces a vast range of products including agricultural machinery, boilers and boilerhouse plant, machine tools, stationary engines, textile

machinery and accessories, ordnance and small arms, constructional engineering goods, office machinery, cranes and conveyors. The total number of persons employed in mechanical engineering at the end of 1956 was about 1,121,000 and the value of exports in 1956 was about £500 million.

Agricultural Machinery

The agricultural machinery industry now employs about 50,000 people and has an annual output valued at over £100 million. In 1956, its production included 139,000 tractors, 22,300 mouldboard ploughs, 6,300 disc harrows, 20,000 mowers, 5,400 combine harvesters, and 10,000 milking machines. Britain, where production dates virtually from 1933 when the English Ford Company produced 2,788 tractors, now has the largest annual output of tractors in Europe and the second largest in the world, exports the greatest proportion of its output and is the second largest exporter in the world. Exports of agricultural and track-laying tractors (including spare parts) in 1956 were valued at £53·8 million compared with £5·2 million in 1947. Exports of other agricultural machinery were valued at £15·8 million in 1956 compared with £4·5 million in 1947. About one-third of these exports are consigned to Commonwealth countries.

Boilers and Boilerhouse Plant

Boilers and boilerhouse plant manufactured in the United Kingdom have many industrial, commercial and domestic applications. Water tube boilers of advanced design and large steam-raising capacity are produced by the industry for home power stations and for export. The industry is closely concerned with the development of equipment for nuclear power stations and, in association with electrical machinery manufacturers, is in a position to manufacture and export all the component parts of nuclear power stations.

Shell boilers are used for steam raising and heating purposes in factories and in commercial and domestic buildings. Production of these boilers during 1956 was valued at £10 million, of which nearly £2 million worth was exported.

The total number of persons employed in the manufacture of boilers and boilerhouse plant at the end of 1956 was 32,300. The value of the industry's exports in 1956 was £17·5 million, including £8·4 million for water tube boilers.

Items of steam-raising plant accessories produced include: plain and corrugated boiler furnaces, forced draught boiler furnaces and grates, stokers, fuel economizers and fireheaters, superheaters and desuperheaters, pulverizers, coal and ash handling plant, soot blower equipment, steam pipework, and feed water heaters. The annual value of production of these products is about £20 million, of which about 15 per cent is exported.

Machine Tools

The efficiency of a nation's major manufacturing industries, and the consequent prosperity of the nation, depends to a large extent on the vitality of its machine tool industry. Britain was an early pioneer in the machine tool field, producing some of the first basic types of machines in the late eighteenth century, and this pioneering spirit still prevails today. In the development by a number of leading United Kingdom manufacturers of 'transfer lines', and in the current research into the use of electronic control in the machine tool field, Britain is already looking forward to the not too distant future when the completely automatic factory may become, not merely a possibility, but a fact. In more conventional designs, also, United Kingdom manufacturers are constantly seeking improvements, and there are big

outstanding orders for both home and export, particularly in the range of borers, grinders, lathes and presses.

The machine tool industry consists largely of small independent firms with a high proportion of private companies; it employs about 50,000 workers. The industry is centred mainly in the Midlands, Yorkshire and Lancashire, and to a lesser extent near London and Glasgow. The Machine Tool Trades Association of Great Britain is the representative body of most of the machine tool manufacturers and importers and is responsible for the International Machine Tool Exhibitions held in Britain every four years. A highly successful exhibition was held in London in June–July 1956, and the next exhibition will take place in 1960.

The value of production of metal-working machine tools has risen from £6 million in 1935 to £85 million in 1956. Exports in 1956 amounted to a value of £21 million, while orders on hand at the end of 1956 totalled £100 million, of which £23 million worth was for export. Production of woodworking machine tools in 1956 was valued at nearly £5 million, of which about £2 million worth was exported.

Steelworks Plant

Britain occupies a prominent position among the steel-producing countries of the world and, therefore, needs a flourishing industry to manufacture plant for the steel industry. About 40 firms produce equipment for manufacturing steel at all stages. In 1945, six of these firms, capable of supplying the entire range of steel-making plant, formed a company under the name of the Metallurgical Equipment Export Company Limited (MEECO), to co-ordinate their export activities and to make it easier for foreign companies to buy steelworks plant from the United Kingdom. Since its formation the group has co-operated to carry out a number of large contracts for equipping steelworks in Sweden, Norway, Spain and France, and in April 1956 the Indian Steelworks Construction Company (ISCON), a group consisting of members of MEECO and other manufacturers, obtained a contract with the Indian Government for the erection of a complete steelworks at Durgapur, in West Bengal.

Production of steelworks plant in 1956 amounted to a value of £9·4 million, of which £2 million worth was exported. Orders in hand at the end of 1956 amounted to £17·2 million, of which £4·3 million worth was for export.

Textile Machinery

One of the oldest of Britain's mechanical engineering industries is the textile machinery industry which developed rapidly after the introduction of mechanical spinning and weaving towards the end of the eighteenth century. The industry now gives employment to about 65,000 people and comprises between 450 and 500 firms, situated largely in Lancashire, Yorkshire, Northern Ireland, Dundee, Leicester and Nottingham, making every kind of machine and accessory for the manufacture of yarns and fabric from all types of natural and man-made fibres. The industry enjoys a world-wide reputation, not only for the high quality of its products but also because it can offer a complete and modern range of equipment consisting of: spinning machinery, including machinery for all the preparatory processes; winding machinery and machinery for other processes prior to weaving; weaving machinery; knitting, hosiery and lace machinery; printing, dyeing and other finishing machinery; bast and leaf fibre machinery, of which the United Kingdom is still by far the world's largest supplier; and all types of mill stores and textile machinery accessories. In 1956, exports were valued at £45 million, or about half of total production.

To maintain its place in the forefront of world suppliers of textile machinery, the research and design departments of the industry are continuously engaged in research into new and improved methods of textile processing, and in the development of machines to speed up production and to improve the quality of an ever increasing variety of yarns and fabrics.

Contractors' Plant

Production of contractors' plant in the United Kingdom before the war was mainly concerned with small excavators, concrete mixing machinery and road surfacing plant, including road rollers. But now many new machines, especially for earth-moving, are in production. Examples are industrial crawler tractors, motor graders, scrapers, trenchers, dozer equipment, dumpers, rippers and rooters.

Whereas output in 1935 was valued at only £2 million, in 1956 it reached nearly £76 million, of which about £39 million worth was exported. Increased exports have been mainly in the form of earth-moving machinery (other than excavators), road rollers, and crushing and screening plant.

Refrigeration Machinery

The United Kingdom industry makes a wide range of equipment and appliances extending from refrigerators of varying sizes suitable for domestic and commercial use, to refrigeration equipment for industrial purposes such as cold storage of food; manufacture of chemicals and other products; ice-making plant and refrigeration plant for ships. Production of commercial and industrial refrigeration machinery was well established before the second world war, but the present large production of domestic refrigeration products has been built up since the end of the war.

The value of the annual production of refrigeration machinery in 1956 reached £30 million compared with £24 million in 1953. Exports totalled £13 million, or more than 40 per cent of output.

Office Machinery

The office machinery industry is now second in size only to that of the United States, and since 1945 has expanded at a remarkable rate. In 1956, the value of production of office machinery was £45 million, of which nearly £18 million was exported, including more than £3 million to dollar markets. The industry, in association with the electronics industry, is developing the manufacture of electronic computers and electric typewriters on a considerable scale.

Petroleum Equipment

Before the second world war, the production of specialized equipment for the oil industry was on a small scale, but the rapid expansion in oil production and refinery throughout the world has given rise to a substantial export business in British fittings and plant. In 1956, British firms received orders for oil equipment and materials (excluding tankers) to the value of about £154 million, more than double the 1953 total, and including tubes, pipe-fittings and valves (£35·7 million), specialized drilling and production equipment (£15·2 million), tools and machinery (£10·1 million) and tankage (£8·7 million). Apart from the United States, Britain is the world's chief supplier of equipment for the petroleum industry.

ELECTRICAL ENGINEERING

The United Kingdom electrical engineering industry is engaged in the manufacture, installation and operation of a wide variety of electrical equipment, ranging

from giant generators to domestic appliances and the smallest components of radio sets. It has produced all the equipment for the United Kingdom's great post-war power station programme and is an important supplier of equipment designed to increase the productivity and efficiency of United Kingdom industry as a whole. At the same time it exports large quantities of power station equipment and other electrical machinery and appliances to many parts of the world. In terms of monetary value it is one of the two largest exporters of electrical goods in the world. The value of exports rose from £192 million in 1955 to £217 million in 1956, an increase of 13 per cent.

Altogether the industry employs a labour force of more than 600,000, including 200,000 in the manufacture of electrical machinery, 134,000 in the production of radios and associated goods and 49,000 in wireless valves and electric lamps.

Nuclear Energy

A separate industry is fast arising to supply the requirements of nuclear energy development. In the main it is being formed out of sections of the electrical and civil engineering industries, together with the scientific instrument industry and the chemicals industry. Five major groups of firms have been formed for the supply of complete nuclear power stations both at home and overseas, and two groups, each consisting of United States and United Kingdom firms, are also ready to execute export orders for nuclear reactors and power stations, including small 'package' type stations to serve small communities. There are two projects for producing the sort of graphite used as a moderator in nuclear reactors. An organization, known as the Nuclear Energy Trade Associations' Conference (NETAC), was formed towards the end of 1956 to establish a permanent means of liaison between United Kingdom firms engaged in the nuclear energy industry. NETAC includes trade associations representing the chemical plant, electrical, scientific instrument, water tube manufacturing and engineering industries.

Electronic Equipment

One of the newest and most vigorous branches of electrical engineering is the manufacture of electronic equipment, including sound radio and television receiving sets, underwater television apparatus, navigational aids, and electronic computers. Much of the pioneer work in this industry, e.g., the invention of radar and the initiation of the first public television transmission, was undertaken by British scientists and engineers. About 200,000 people are now employed in the electronic equipment industry, and the value of annual output more than doubled between 1954 and 1956, in which year it was estimated to have totalled £200 million. Exports have shown a similar rapid expansion and were valued at more than £40 million in 1956.

Electric Wires and Cables

This industry is concerned with the manufacture of cables and wires, including submarine cables, for the distribution of electric power and for the telephone and telegraph network.

At the end of 1956 employment in the industry totalled 65,000. The value of insulated wire and cable manufactured in the United Kingdom rose from £95 million in 1954 to £129 million in 1956, and the value of exports over the same period increased by nearly 50 per cent to more than £35 million.

Domestic Electrical Equipment

There are some 200 firms in the United Kingdom manufacturing a wide range of electrical appliances for use in the home, including such products as washing

machines, vacuum cleaners, toasters, and irons. The annual output is valued at approximately £58 million of which about £13 million is exported.

VEHICLES

Of the metal-using industries the vehicles group makes the largest contribution to the export trade (about £418 million in 1956). At the end of 1956 it employed 1,174,000 people, including 296,000 in the manufacture of motor vehicles and cycles, 265,000 in the manufacture and repair of aircraft, 162,000 in the manufacture of parts and accessories for motor vehicles and aircraft and 160,000 in the manufacture and repair of locomotives, railway carriages and wagons.

Motor Vehicles

In size and value the vehicles industries are headed by the motor vehicles industry, which comprises the manufacture of cars and commercial vehicles other than tractors. The industry is located mainly in the Midlands, and in the London area, but is represented in most regions; it consists of a relatively small number of assembly firms—headed by the 'Big Five' (British Motor Corporation, Ford, Rootes, Standard and Vauxhall)—backed by a large number of component manufacturers. The 'Big Five' are responsible for about 90 per cent of the output of complete vehicles; the balance of the industry's production is almost entirely specialist cars and heavy commercial vehicles.

The industry has expanded considerably since the second world war, reaching the record output of 898,000 cars and 341,000 commercial vehicles in 1955. Production declined in 1956 to 708,000 cars and 297,000 commercial vehicles, but recovered strongly in 1957. The value of the industry's exports (including parts) has also increased greatly, and in 1956 reached nearly £300 million; these exports included 318,000 passenger cars and 145,000 commercial vehicles.

Research is carried out at Lindley, Warwickshire, by the Motor Industry Research Association, an autonomous body founded in 1946 and partly financed by the Department of Scientific and Industrial Research (DSIR), but mainly by the industry itself. Individual firms also have their own research facilities, and some work in this field is done by DSIR's Mechanical Engineering Research Laboratory at East Kilbride, Scotland. The development of disc brakes and the application of gas turbines to motor vehicle propulsion are among the technical matters engaging the industry's attention at the present time. On the production side, some of the new assembly plants in Britain, electronically controlled and using the minimum of labour, may stand comparison with similar plants anywhere in the world for efficiency and reliability.

The principal trade association in the industry is the Society of Motor Manufacturers and Traders (SMMT), founded in 1902, which holds in London a Motor Exhibition annually and a Commercial Motor Exhibition every two years.

Motor Cycles and Pedal Cycles

In 1956, the United Kingdom's output of motor cycles (including motorized bicycles and scooters) totalled 125,000 of which 44 per cent was for shipment overseas. The total value of United Kingdom production, including parts and accessories, was about £20 million. Exports totalled almost £10 million in value. In the record year of 1954, the industry produced 180,000 motor cycles, of which about 70,000 were for export.

Output of pedal cycles in 1956 totalled 2,870,000, of which two-thirds were exported; in the record year of 1955 the industry produced 3,600,000 cycles. The

value of exports of pedal cycles, parts and accessories in 1956 exceeded £26 million; the United States and Nigeria were the largest overseas markets.

The Association of the industry, the British Cycle and Motor Cycle Manufacturers and Trades Union, holds an annual exhibition in London, usually in the autumn.

Aircraft

The development of the aircraft industry has been strongly influenced by defence requirements, and during the period of peak war-time activity it employed nearly 2 million people as compared with an average of 35,000 in the immediate pre-war years. Following the adjustments to peace-time conditions, the industry has undergone a further period of marked expansion, with the numbers employed increasing from 162,000 in June 1951 to 265,000 at the end of 1956. The increase has reflected greater demand for both military and civil aircraft, the latter not only for passenger travel but also specialized purposes such as crop spraying, survey work and freight traffic; productive capacity for airliners is also being greatly expanded. Research and development is being conducted on a considerable scale, including work on guided missiles and associated problems.

Britain's achievements in developing aviation and the aircraft industry have been, and are, of outstanding quality. The science of aerodynamics was founded by Sir George Cayley in the early nineteenth century; Sir Frank Whittle developed the gas-turbine engine aircraft, and its first applications to scheduled airline service were the turbo-jet *Comet* and the turbo-prop *Viscount*, the latter the most successful post-war civil aircraft now in service all over the world. The larger *Britannia* has started scheduled service and has also been ordered by United States and Canadian airlines; it is the fastest cruising civil transport aeroplane, and at the same time the most economical in operating costs as yet in service. Substantial orders have also been placed for two other British gas-turbine airliners, the *Vanguard* and the *Comet IV*. It is estimated that nearly half the world orders for gas-turbine aircraft are held by United Kingdom firms.

The rate of increase of exports of the British aircraft industry is higher than that of any other industrial group. Their value rose from £66 million in 1955 to £104.5 million in 1956, including £72 million for aircraft and parts, and £28 million for aero-engines. In 1956, the largest markets for aircraft were the United States of America (£17 million), Australia (£11 million) and Sweden (£8 million).

The representative body of the United Kingdom aircraft industry is the Society of British Aircraft Constructors, founded in 1916. Its annual exhibition and flying display at Farnborough is one of the most important events of its kind.

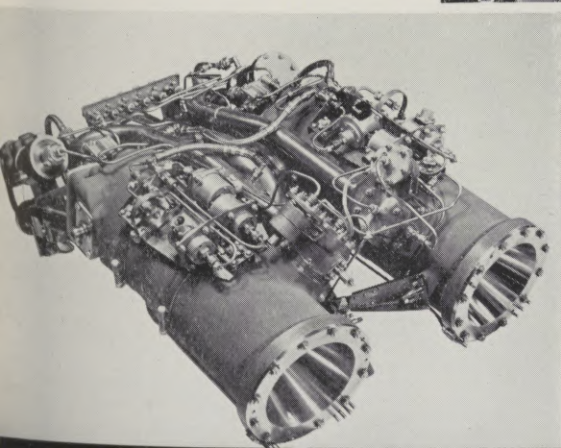
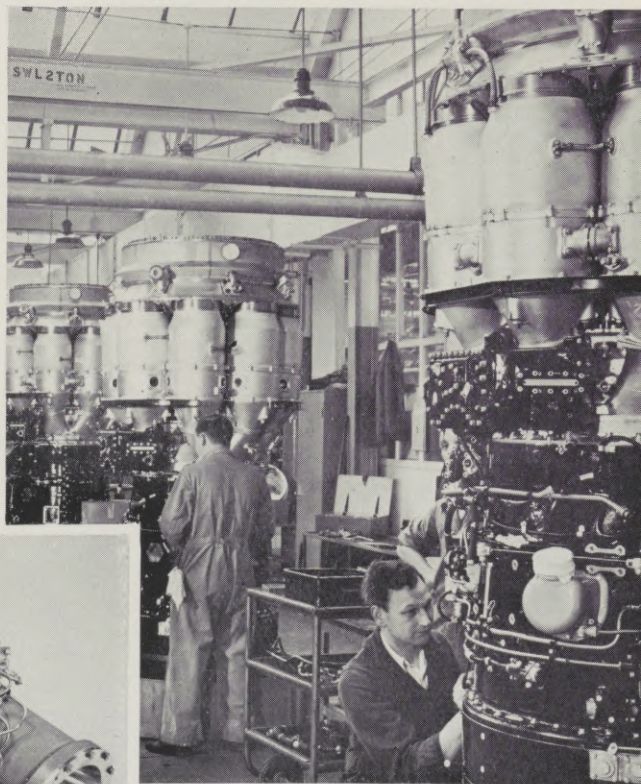
Besides extensive research work by the industry, fundamental research on problems of aerodynamics, structures and engines is carried out by the Ministry of Supply, largely at the Royal Aircraft Establishment and the National Gas Turbine Establishment, both at Farnborough. This work is done in collaboration with the industry and results are made known to manufacturers, who are in close touch with the Ministry's establishments. In addition, the National Physical Laboratory undertakes research on aerodynamics.

Some recent British technical achievements include the by-pass type of engine, the delta wing, the jet flap (for assisting landing and take-off within a small space), and the first experimental machines to be capable of vertical take-off from a normal horizontal position and of supersonic speed in level flight when climbing. In January 1957, the Ministry of Supply, in conjunction with the aircraft industry and the national airline corporations, announced plans for a research project for developing a supersonic airliner; and in May 1957, BOAC placed an order for a new fast turbo-jet, the Vickers *VC10*, for delivery beginning in 1963.



The Trostre tinplate works of the Steel Company of Wales. Coils on a rack await cold reduction at the 5-stand mill while an overhead crane removes a cold-reduced coil.

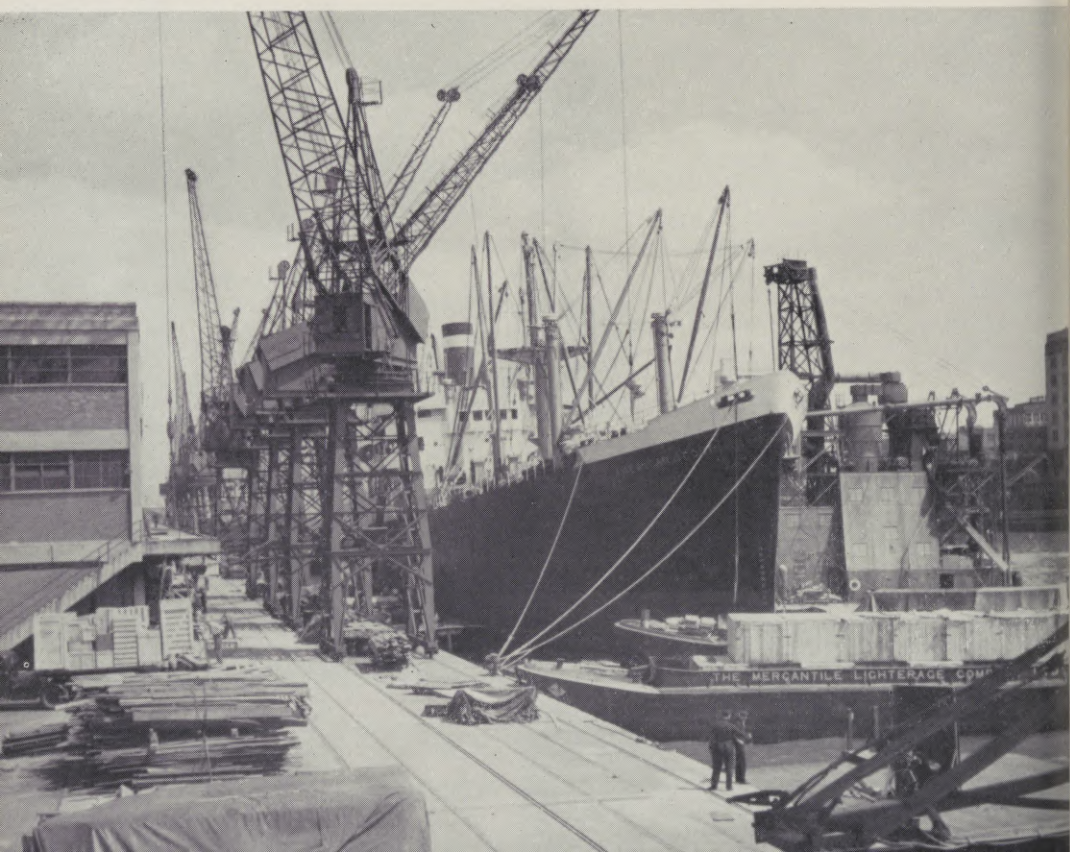
Rolls-Royce *Avon* jet engines in production (right) and (below) a Napier *Scorpion* rocket engine. A *Canberra* aircraft powered by engines of these types established a world altitude record of over 70,000 feet in August 1957. Britain holds more than half the world's orders for gas-turbine aero-engines.



The *Routemaster*, London Transport's new diesel-electric omnibus.



The Royal Victoria Docks, London. The Port of London handles over 50 million tons of goods a year.



Railway Vehicles

Britain was the first country to develop the locomotive railway and British engineers pioneered railway development in most parts of the world.

Locomotive production in Britain has come to be divided into two separate sections: one of these comprises the locomotive works of British Railways, and is engaged in building and repairing locomotives and rolling-stock for their use; the other consists of private firms providing locomotives of all types for export, and steam, diesel main line, diesel shunting and industrial types for home use. At the end of 1956 about 76,000 persons were employed in locomotive manufacture and 84,000 in the manufacture and repair of railway carriages and wagons.

Production in 1956 included 218 steam locomotives, of which 65 were for export, and 937 diesel and diesel-electric locomotives, of which 537 were exported. Output of coaching vehicles (including rail motor vehicles) in the same year amounted to 2,335, and output of wagons to 70,500. The value of the industry's exports in 1956 rose by £5 million to £45 million, of which £17 million was accounted for by 811 complete locomotives and £7.5 million by carriages and trucks.

MISCELLANEOUS METAL PRODUCTS

At the end of 1956 the number of persons employed in the industries covered by this heading was as follows:

	<i>Thousands</i>
Tools and cutlery	43.0
Bolts, nuts, screws, rivets, nails, etc.	43.7
Iron and steel forgings	40.9
Wire and wire manufactures	40.7
Hollow-ware	59.4
Brass manufactures	48.7
Other metal industries	233.6
TOTAL	510.0

Some of these industries are of considerable importance in the export trade. For example, in 1956 the United Kingdom exported £22.7 million worth of implements and tools (excluding machine tools).

Cutlery

At one time the production of cutlery was spread fairly widely throughout England, but gradually it centred in the river valleys around Sheffield. When steam replaced water as the motive power, the industry began to move in towards the centre of Sheffield. The production units were very small and the industry was built up on the high degree of skill of its craftsmen. The introduction of modern machinery has largely replaced hand forging, and mass production methods are now used by some firms in producing the cheaper range of products. The highest quality wares, however, are still produced by the skilled craftsmen. Although in recent years there has been some increase in the size of the production units, they remain mainly small, and, of the 400 firms manufacturing cutlery, some 200 still employ fewer than ten persons.

The annual output of the industry is now valued at about £10 million, of which £4 million represents exports, mainly to Australia, Canada, the United States, and South Africa.

Hollow-Ware

This industry is mainly located in the Midlands, although some production is also carried out in Lancashire, Yorkshire, South Wales and London. Hollow-ware production covers a wide range of goods and these are roughly divided into six classes: wrought steel (including galvanized, enamelled and tinned), aluminium, tin and terne plate, cast iron, copper and other metals. There is, however, an increasing development in the comparatively recent production of plastic hollow-ware. There are some 300 firms, of varying size, which are known to be manufacturing domestic hollow-ware, e.g., saucepans and similar kitchen utensils.

The annual production is valued at about £20 million, of which about one-quarter represents exports, mainly to Commonwealth countries. Aluminium manufactures comprise the largest single group, both in the value of total production and in exports.

Hand Tools

The manufacture of hand tools is one of the oldest industries of the United Kingdom. From the time when prehistoric man first learned how to fashion tools from iron, hand tools of an ever-increasing diversity and precision have been made in Britain, and today over 400 different types—in many thousands of sizes and patterns—are made in British factories.

Production of hand tools falls broadly into the following groups: agricultural and other heavy edge tools (including scythes and sickles); engineers' and mechanics' tools (including jacks and spanners); light edge tools (builders' and joiners' tools); files and rasps; saws (hand, tenon and cross cut); and pliers, pincers and nippers.

There are about 400 firms, employing more than 18,000 operatives, in the industry. Approximately 65 per cent of the total production comes from the Sheffield area, 30 per cent comes from Birmingham, and most of the remainder from London and Lancashire.

The industry has expanded considerably since before the second world war, and in 1956 exports were valued at nearly £23 million, of which £13 million worth was exported to Commonwealth countries.

CHEMICALS

It is difficult to define the chemical industry since, with the increasing dependence of industry generally on synthetic raw materials, its scope is continually widening. But on the broadest definition the industry includes the manufacture of such products as acids, alcohols, alkalis, industrial gases, explosives, fertilizers, dyestuffs, soaps and detergents, plastics materials, paints and pharmaceuticals. Manufacturing these and other products, the chemical and allied trades employ about half a million people and contribute about 7½ per cent of the total output of all manufacturing industry. Exports of chemicals are also substantial and have increased by more than 20 per cent since 1954, amounting in 1956 to a value of £245 million, or nearly 8 per cent of total United Kingdom exports.

British pioneers made great contributions to the science of chemistry, as the names of Robert Boyle, Joseph Priestley, Michael Faraday and John Dalton testify. Contemporary British chemists who maintain the tradition include Sir Robert Robinson (who has done outstanding work on vitamins and hormones), Dr. A. J. P. Martin and Dr. R. M. Syge (who were awarded the Nobel prize in 1952 for their work in developing chromatography, a method of separating chemical substances) and Professor Sir Cyril Hinshelwood (a joint-winner of the Nobel prize in 1956 for his work in the field of chemical kinetics, which has had practical applications in the development of plastics).

Matching progress in science and the increasing demands of other industries, the British chemical industry has expanded considerably during the present century. More particularly, recent years have seen a rapid growth which has brought the industry's volume of production up to more than two and a half times its pre-war level. This post-war expansion has been most marked in two fields—production of plastics materials generally, and the large-scale manufacture of a wide range of organic chemicals from petroleum. In the latter field, over £45 million has already been invested in seven major petroleum chemicals plants, and plans for a further considerable expansion are in hand.

Heavy Chemicals and Dyestuffs

The heavy chemicals sector covers a wide range of acids, alkalis, alcohols, gases and other basic chemical substances, many of which are fundamental to other branches of the chemical industry as well as to other industries. One of the main products, sulphuric acid, is now manufactured to an increasing extent from indigenous deposits of anhydrite (calcium sulphate) instead of from imported sulphur or pyrites. Since the war there has also been a greatly expanded production of raw materials for the manufacture of synthetic detergents, while trichloroethylene has been in big demand in the engineering trades for mechanical degreasing plants. The dyestuffs industry also continues to add to the already vast and comprehensive range of its products, many of them developed from pioneer British discoveries in the nineteenth and twentieth centuries. Exports of synthetic organic dyestuffs and pigments in 1956 totalled £10·3 million.

Plastics

The first plastic, celluloid, originally known as 'Parkesine', was first produced in Britain in 1865 by Alexander Parkes. Modern plastics originating in Britain include 'Perspex', polythene and 'silicones'. (Silicones, which were discovered by Professor Kipping at Nottingham, were developed in the United States and are now being made in Britain.) Since 1939, there has been a very large increase in the overall production of plastics materials, although expansion during the last few years has been concentrated on polythene (used in cable coverings, packaging—notably for foodstuffs—and domestic mouldings), polystyrene (a cheap non-inflammable material used for toys, light mouldings and, more recently, in durable consumer goods), and polyvinyl chloride (known as PVC, and made into industrial conveyor belting as well as a variety of other consumer goods such as raincoats and curtains).

In the five years from 1951 to 1956, net sales of plastics materials have expanded from 195,000 tons to 338,000 tons, the increase being most marked in the case of thermoplastic materials, which rose by 110,000 tons to 176,000 tons. Exports have also grown rapidly, and 93,000 tons, valued at £26·1 million, were exported in 1956; an increase in value of 15 per cent over the previous year.

Fertilizers

The production of fertilizers owes much to the pioneer work of the British scientists, Sir John Lawes and Sir Joseph Gilbert, and the research now carried on in the United Kingdom at Rothamsted and at the Macaulay Institute, Aberdeen, is of world-wide importance. Output of the industry in 1955-56 included 311,000 tons of nitrogenous fertilizers (in terms of nitrogen content), of which about 8 per cent was exported, and 358,000 tons of phosphatic fertilizers (in terms of phosphate content).

Pesticides

Important British discoveries in the last fifteen years have led to major developments in the production of selective weed-killers such as methyl chloro phenoxy acetic acid (MCPA), and of insecticides based on benzene hexachloride (BHC). Overseas markets take the major proportion of United Kingdom production of these and other well-known pesticides such as DDT, systemic insecticides and copper sulphate, exports of which amounted in all to some £10 million in 1956. New products for plant protection are being steadily developed, for example, tetram (an acaricide), aldrin (an insecticide) and new forms of synthetic hormones with maximum growth-retarding properties.

Pharmaceuticals and Perfumery

About three-quarters of the pharmaceutical products sold today have been introduced in the past twenty years. These products include sulphonamides, antibiotics (e.g., penicillin), hormones, anti-malarial drugs (e.g., paludrine), liver extracts, anti-histamines and anti-tubercular drugs. About £2 million a year is spent on research. Total exports of medicinal and pharmaceutical preparations and druggists' wares were valued at £38.6 million in 1956, while exports of perfumery and toilet preparations, including soaps and detergents, were £26.8 million in value.

Paints

About 42,500 people are employed in the paint industry, which comprises some 650 firms. Nearly half the total production is accounted for by fewer than 40 firms, each employing more than 200 persons.

In recent years the application of improved techniques has resulted in rapid development, in particular the use of important new ranges of synthetic resins and various types of titanium dioxide pigment. The value of direct exports of pigments and paints rose by nearly one-third between 1954 and 1956 to a total of £23.5 million, of which 10 per cent represented shipments to Canada. The industry's indirect contribution to exports in the form of supplying surface coatings for finished goods is also very considerable.

Isotopes and Radioactive Materials

Isotopes and radioactive materials, used in medicine, agriculture and industry, are a by-product of nuclear reactors, and in the United Kingdom they are produced at the Atomic Energy Research Establishment at Harwell and dispatched from there and from the Radiochemical Centre at Amersham (see p. 415). Britain is the world's largest exporter of these substances. In the year ended 31st March, 1957, sales of isotopes increased by 12 per cent to a total value of £541,000. Half of these sales were overseas, shipments being made to 52 countries.

TEXTILES AND CLOTHING

The value of exports in the textiles and clothing group as a whole, including manufactures of wool, cotton, linen, jute, silk, rayon and man-made fibres, lace, hosiery, woven apparel and carpets, amounted in 1956 to about £331 million or slightly more than 10 per cent of total United Kingdom exports. Over 1½ million people were employed in these industries in December 1956, including about 250,000 in the cotton textile industry, 208,000 in the wool textile industry, 91,000 in rayon and nylon production and weaving and silk, 89,000 in textile finishing, etc., 126,000 in hosiery and other knitted goods, about 165,000 in other textiles, and 490,000 in clothing (excluding footwear).

Cotton

Spinning and weaving of cotton for the making of fustian with a cotton weft and linen warp began to assume importance in the United Kingdom in the sixteenth century; but it was the invention of mechanical spinning and weaving in the second half of the eighteenth century that led to cotton becoming Britain's chief consumer goods industry and cotton piece-goods its largest export during the nineteenth century.

In the twentieth century increasing foreign competition and the tendency of many countries, notably India, to set up their own textile industry cut progressively into British markets. During the second world war, numbers of mills were closed and, though many were brought back into production in the early post-war years, the industry has recently again been declining in size, and the labour force has dropped to about 60 per cent of the 1937 level. It remains, however, one of Britain's largest consumer goods industries, and plays an important part in the export trade.

Since the war a vigorous drive for quality and efficiency has been pressed forward by the industry with support and assistance from the Government. Important in this drive are the Cotton Board, a statutory body with the constitution and powers of a Development Council, and the British Cotton Industry Research Association (Shirley Institute), founded in 1919 for promoting scientific and technical research in connection with cotton and its utilization. The industry now uses a considerable and increasing amount of man-made fibres as well as cotton, and its dependence on imported raw material has thus been reduced.

Most of the industry is located in south and east Lancashire, Manchester occupying a special position as its commercial centre.

There were about 146,000 persons employed in the spinning and doubling section of the industry in December 1956, and 103,000 in weaving. About two-thirds of the workers in the industry are women.

Production rose steadily from 1945 until the end of 1951, when the industry began to feel the effects of the world textile recession of 1951-52. This was followed by a partial recovery up to the beginning of 1955, when the trend turned downwards again. Production in 1956 was about 40 per cent below the 1937 level, and consumption of raw cotton totalled some 75,000 tons as against about 147,000 in 1937.

In 1956, exports of cotton yarn and woven fabrics were valued at £89 million, or under 3 per cent of total United Kingdom exports.

Wool

The wool textile industry is the most ancient of Britain's staple industries and has been an important source of wealth since medieval times. There are two main branches—woollen and worsted. While about 85 per cent of woollens and 95 per cent of worsteds are made in Yorkshire, Scotland and the West of England have retained their importance as specialized producers of high quality woollen cloth. The woollen side of the industry is normally organized on a vertical basis, with each firm undertaking the full process of manufacture from raw material to finished product, but for a variety of reasons the worsted industry is organized horizontally—combing, spinning and weaving being done by separate firms. Small firms, employing fewer than 300 workers, predominate in the industry. Output reached a post-war peak at the end of 1950, but this was followed by the recession of 1951-52, which reached the lowest point in the middle of 1952. Production has subsequently recovered, although not yet to the high level of 1950.

The number of persons employed in the industry in December 1956 numbered 205,000, of whom about 160,000 were directly engaged in production.

The wool industry remains one of Britain's leading export industries, with between one-quarter and one-third of its total output shipped abroad; the total value of exports of wool tops, woollen and worsted yarns and woven fabrics in 1956 was about £127 million, of which over £31 million represented exports to the United States and Canada. In addition, there were considerable exports of wool in other forms, including carpets and clothing.

Research is carried on mainly by the Wool Industries Research Association, which is financed partly by a statutory levy on the industry and partly by a grant from the Department of Scientific and Industrial Research.

Other Textiles

Linen has been made in Britain for more than a thousand years and it is believed that the art of linen weaving was already being practised during the seventh century. Today it is an industry of small firms, chiefly in Northern Ireland (the greatest linen manufacturing region in the world), with most of the remainder in Scotland. The principal raw material of the industry is flax, which is mainly imported (the chief supplier is Belgium), but considerable quantities of man-made fibres and cotton are also used, and a certain amount of soft hemp and jute, particularly in Scotland. Broadly speaking, the Northern Ireland industry concentrates on the lighter types of fabrics, while in Scotland production is largely, but not exclusively, of coarse linens and canvas. Technical problems are investigated by the Research Institute of the Linen Industry Research Association, formed in 1919. Exports of linen fabrics in 1956 were valued at over £11 million, the United States being the chief market.

Jute, most of which comes from India and Pakistan, is the raw material for a considerable industry centred in Dundee. Jute cloth is used for sacks and bags, tarpaulins and backing for linoleum; yarns are sold for carpet backing and for twine and cordage.

Silk exports were valued at about £1 million in 1956. Raw silk is supplied mainly from Japan and Italy.

Rayon is produced from cellulose, either in the form of woodpulp or cotton linters. Its early development took place to a large extent in Britain. Production is spread throughout the Midlands and Lancashire, with outposts in other areas. There are eight companies engaged in the production of rayon, four producing only viscose, three producing only acetate, and one both viscose and acetate. Technical problems are studied at the research station of the British Rayon Research Association at Wythenshawe, Manchester.

Nylon is produced from a combination of chemical substances, most of which are obtained from indigenous raw materials. It was introduced in the United States in 1938 and came into use in Britain in the second world war for parachutes. It is now in large-scale production in Britain for general textile and industrial purposes. Annual capacity amounts to about 30 million pounds.

'*Terylene*' polyester fibre, a product of research in the laboratories of the Calico Printers' Association, Manchester, is made on a large scale at Wilton, Yorkshire, by Imperial Chemical Industries Ltd. Annual productive capacity is being increased from 22 to 30 million pounds weight, and it is planned to construct a new plant, also at Wilton, which will enable annual production to reach 50 million pounds. A plant for the manufacture of '*Terylene*' has been set up in Canada, and the British patent holders have licensed its manufacture in other countries, including France, the German Federal Republic, Italy, the Netherlands, and Japan.

'Fibrolane' is a British-made protein fibre with wool-like properties, which is also available on a commercial scale; it is derived from casein. Other man-made fibres at present produced in Britain include 'Courlene' (a polythene fibre), and 'Alginate' (derived from seaweed).

'Courtelle', an acrylic fibre, is in pilot plant production. A plant to manufacture another acrylic fibre 'Acrilan' is expected to begin production at Coleraine in Northern Ireland early in 1959.

Since the advent of rayon in its various forms and, more recently, of the new man-made fibres, British textile manufacturers have been developing a number of ways of blending these with natural fibres and with each other. By this means they can produce economically fabrics and garments with attractive and useful new combinations of texture, colour, and finish, and with moisture-absorbent, hard-wearing and crease-resisting properties.

FOOD, DRINK AND TOBACCO

At the end of 1956 the number of persons employed in this broad group of industries was as follows:

	<i>Thousands</i>
Grain milling	39.3
Bread and flour confectionery	177.6
Biscuits	61.6
Meat and meat products	46.2
Milk products	62.3
Sugar and glucose	23.0
Cocoa, chocolate and sugar confectionery	116.4
Preserving of fruit and vegetables	69.8
Other food industries	80.7
Brewing and malting	84.9
Wholesale bottling	33.7
Other drink industries	43.1
Tobacco	40.7
TOTAL	879.3

From the export point of view the most important products of these industries are: whisky (exports of which were valued at £48 million in 1956); refined sugar (£27 million); tobacco and tobacco manufactures (£24 million); and chocolate, chocolate preparations and sugar confectionery (£18½ million).

Bread and Flour Confectionery

The average weekly consumption of bread per head of population in Great Britain is just over 3½ pounds. In England and Wales particularly, the small 'family' type of baker, producing bread by hand or by semi-mechanical methods, is still very prevalent, but there is an increasing trend towards large-scale production in fully mechanized bakeries. In the smaller bakeries, flour confectionery is usually allied to bread production but there are many large specialist manufacturers, particularly of slab cake. Exports of flour confectionery in 1956 amounted to 950 tons, having a total value of £264,000. Exports of biscuits in the same year were 20,000 tons valued at £5.44 million.

Cocoa, Chocolate and Sugar Confectionery

The chocolate and sugar confectionery industry is composed of a small number of very large manufacturers and many hundreds of medium-sized and smaller manufacturers. The industry's products are highly competitive and several are heavily advertised. Over 95 per cent of the production of chocolate and sugar confectionery is in the hands of about 300 firms, while the more specialist products—cocoa powder, cocoa butter and chocolate covering—are manufactured by about 30 firms.

The main ingredients used by the industry are sugar, cocoa beans, glucose, milk, nuts and fats. Production of chocolate and sugar confectionery for home and export sale totalled about 680,000 tons in 1956, compared with about 655,000 tons in 1955. There are virtually no restrictions on imports of chocolate and confectionery, but these totalled less than 10,000 tons in 1956. Consumption of chocolate and confectionery in the United Kingdom is far higher than in any other country in the world, being equivalent to over $8\frac{1}{2}$ oz. per head per week in 1956, compared with 7 oz. per head before the war. In 1955, the total value of exports of chocolate, sugar confectionery and cocoa products reached a record level of over £19 million, of which £7·8 million went to the dollar markets. In 1956, exports of chocolate and sugar confectionery rose further, but there was a fall in exports of other cocoa products leaving a total value of £18½ million (£7·2 million to the dollar markets). Manufacturers' total turnover is well over £200 million.

Whisky

Scotch whisky, which was first distilled at least as long ago as the fifteenth century, is now of world-wide popularity. Modern whiskies are blends of twenty or more different kinds, some made from malted barley, some from other grains. Whisky is one of the United Kingdom's largest individual dollar earners; more than half the annual exports are shipped to the United States. Other valuable markets are Canada and other Commonwealth countries, and Venezuela.

Brewing and Malting

Brewing. There are some 426 separate breweries located throughout the United Kingdom, of which the main centres are London, south Lancashire, Burton-on-Trent (Staffordshire), Birmingham, and Edinburgh. In the main, brewers distribute their beer for consumption within 30 miles of the brewery, but some of the largest brewers send their beer all over the country. Much of the beer is consumed in draught but in recent years the demand for bottled beer has increased and is now probably as much as one-third of total consumption. Bottling is carried out by both brewers and independent bottling establishments. The industry's raw materials are malt (chiefly made from home-grown barley), sugar and hops. Consumption has declined appreciably from the exceptional levels of the immediate post-war years; the drop has, however, been halted since 1951. In the year ended 31st March, 1956, duty of £258·5 million was paid on 25·3 million bulk barrels. Since the war the industry has maintained a sizable export trade, which in 1956 was valued at £2·7 million.

Malting. There are in the United Kingdom several hundred malting units. Some of these are operated by brewers who make part of their own malt. The remainder are operated by maltsters who produce chiefly for the brewing industry but also supply the distilling industry and some food industries, such as bakery, vinegar-making and malt extracts. There is also a limited production for use in the textile industry. These units are mainly situated east of a line drawn from Edinburgh through Burton-on-Trent (Staffordshire), to Lyme Regis (Dorset), that is, in the

chief barley-growing areas. Of the total malting capacity, 60 per cent is in the eastern half of England, 13 per cent in Staffordshire (nearly all at Burton-on-Trent and in the neighbourhood), 12 per cent in Scotland (mainly Edinburgh) and 15 per cent in the remainder of the United Kingdom.

Malting usually takes place in the cooler months following the harvest but with the aid of air-conditioning plant some units can operate throughout the year. Grain is the only raw material used by the industry and while there are no restrictions on imported grain, maltsters chiefly use home-grown barley, especially grown for the purpose. Exports of malt in 1956 were valued at £1.4 million.

Tobacco

In recent years, over £800 million annually has been spent in Britain on cigarettes and other tobacco goods (of which over two-thirds was tax revenue). The tobacco manufacturing industry meets virtually the whole of this home demand and, in addition, exports worth over £23.6 million were shipped in 1956 to a large number of overseas markets. The tobacco industry is concentrated in Nottingham, Bristol and London. The industry uses nearly 300 million lb. weight annually of raw tobacco, all of which is imported. The main sources are the United States, Rhodesia, India and Canada, in that order.

Most of this tobacco goes to make cigarettes and pipe tobaccos. There is, in addition, production of cigars and snuff; cigars, chiefly Cuban and Jamaican, are also imported.

MISCELLANEOUS INDUSTRIES

This broad heading covers a very wide variety of industries and groups of industries. Employment at the end of 1956 was as follows:

	<i>Thousands</i>
Bricks and fireclay goods	82.1
China and earthenware	72.7
Glass	74.1
Cement	16.1
Other non-metalliferous mining manufactures	91.2
Scientific and industrial instruments, jewellery, etc.	146.6
Leather, boots and shoes, and fur	206.7
Manufactures of wood and cork	290.0
Paper and printing	566.9
Rubber	112.8
Other manufacturing industries	166.0
TOTAL	1,825.2

Notes on some of these industries are given below.

Brickmaking

Introduced by the Romans, brickmaking is one of Britain's oldest industries, and something like 2,000 different varieties of building bricks are produced in the United Kingdom today. These are made in over 1,000 active works which range from small seasonal yards using traditional hand methods to highly mechanized plants, some of which are among the largest and most efficient of their kind in the world. The

industry has made a vigorous recovery from the reduced activity enforced on it during the war years, and its total output now exceeds 7,000 million bricks a year.

Refractories

Refractories occupy a key position among the basic industries of Britain, for without the materials of furnace construction few, if any, high temperature processes, as carried out at present, would be possible, and the development of the metallurgical, glass, ceramic and fuel industries would have been hampered. Recent developments in the fields of atomic energy and jet propulsion are also creating a demand for new and improved refractory ceramics.

Refractories are essential in the operation of blast furnaces, steel furnaces and other metallic furnaces; in the refining and manufacture of copper, zinc, aluminium and other non-ferrous metals; in coke ovens; in the production of electricity; in the construction of locomotive fireboxes and ships' boilers; in the production of glass and cement; in the building of kilns for all the ceramic industries; and in many chemical processes. Of the chief raw materials required for the production of refractories, fireclay, silica and dolomite are indigenous, while magnesite is obtained partly from imports and partly from production of sea-water magnesia. Chrome ore, which is used in about the same quantities as magnesite, is entirely imported, as are kyanite and bauxite which are used in much smaller quantities.

The chief centres of the industry are in the Midlands, west Yorkshire, north-east England, Scotland, and Wales, but there are also undertakings in other parts of the United Kingdom. The principal trade association is the National Federation of Clay Industries, founded in 1928.

Production has averaged about 2 million tons a year since 1948, mainly for home consumption. Exports of refractories and construction materials in 1956 were valued at about £3.6 million.

Pottery

The pottery industry is one of the oldest craft industries in Great Britain; the making of domestic pottery dates back to before the Roman occupation. The chief raw materials, china clay, ball clay and china stone, are to be found mainly in Devon and Cornwall where known deposits of high quality are expected to last for at least 100 years.

The Stoke-on-Trent area in Staffordshire, comprising the six towns of Stoke, Burslem, Tunstall, Hanley, Fenton and Longton, is the centre of the industry and contributes between 75 and 80 per cent of total production. Important factories are also to be found in Worcester, Derby, Bristol and Poole.

Before the second world war about one-third of the production of domestic pottery was sold overseas. Of the £28 million worth of pottery produced in 1956, £13 million worth was for export. Bone china accounts for about one-fifth and earthenware for three-quarters of exports. About three-quarters of bone china exports go to Canada and the United States, and the largest markets for decorated earthenware are Canada, Australia and the United States.

The modern industry benefits from a tradition of good design and craftsmanship, made world-famous by a long line of great British potters, which is the basis of the large overseas and domestic demand for its products. Among the famous makes of British pottery are: Wedgwood, Spode, Royal Worcester, Royal Doulton, Minton, Royal Crown Derby and Coalport.

Sanitary Drain Ware

Other branches of the clay industries produce sanitary ware and stoneware pipes. Metals and plastics are now being increasingly used, but there is still a very large

production of sanitary ware in fireclay, earthenware and, to a lesser extent, vitreous china. The products are of a high technical standard for which there are exacting British Standard Specifications. Stoneware pipes, also, are made to exacting specifications for carrying away sewage and other corrosive drainage in sanitation schemes. These pipes are made from clays rich in silica, highly vitrified and salt-glazed. They are produced in several districts, mainly by extrusion presses which have superseded the potter's wheel. Exports of sanitary and drain ware in 1956 were valued at £4.6 million.

Glass

Britain has a large and efficient glass industry with a wide diversity of products. The section of the industry devoted to the manufacture of plate and sheet glass in their various forms is organized for quantity production, and the development of modern methods has enabled the industry to cater for an increasing range of requirements. Glass can now be supplied in sheets of great size and can be made almost unbreakable. Its use for internal decoration and as a finish for internal and external walls has greatly increased in recent years. Large quantities of safety glass are produced for the motor industry. Exports of plate and sheet glass of all types had a total value of £10.6 million in 1956.

The rapid technical progress of the industry has led to the production on a large scale of tubular glass, optical glass and also glass insulators for use in electricity transmission. The development of *Fibreglass*, for insulation and as a filament, is considered to offer great scope for the glass industry. The advance of the industry is shown by the increase in exports of all glassware from a negligible level in 1938 to £18 million in 1956.

Cement

The cement industry of the United Kingdom is chiefly concerned with the manufacture of Portland Cement. Invented by Joseph Aspdin and patented in 1824, this material and the methods of its production have been the subject of continuous technical improvement and intensive research. The capacity of the industry has increased substantially since the war to meet the growing demands of the building and civil engineering industries. Annual output, which reached 7.7 million tons in 1938, had risen to nearly 13 million tons by 1956, valued at more than £70 million. Despite a high and rising level of home demand, the industry maintains its position as the largest exporter of cement in the world with markets in over 40 countries. In 1956 the value of these exports totalled £9.8 million.

Scientific and Industrial Instruments

Scientific instruments have been made commercially in Britain for over three centuries, early products being chiefly navigational and optical instruments. The last twenty years have brought a large-scale expansion of capacity in Britain to meet the needs of the defence services during the war and, later, the expanding world demand for all types of instruments (optical, mechanical, pneumatic, electrical, electronic and nucleonic), for both pure and applied science. There has been a growing demand for instruments in industrial science in relation to quality production and efficiency in manufacturing processes, such as in the metal, chemical, textile and petroleum industries, and in the development of atomic energy.

Some 108,000 people, mostly highly skilled craftsmen, are now employed in the industry. In 1956, a wide variety of instruments and apparatus—including photographic, optical, cinematographic, and associated instruments and equipment, and clocks and watches—to a value of approximately £38 million were exported directly,

and, in addition, considerable quantities of instruments were exported as part of plant and equipment.

Jewellery, Gold and Silver Ware

The making of jewellery, gold and silver ware is an industry in which British craftsmen are heirs to a great tradition. The quality of the metal in gold and silver wares made or sold in the United Kingdom is guaranteed by a 'hall-mark'. The law requires that gold and silver plate shall not be sold until it has been hall-marked at one of the Assay Offices. These are in London, Birmingham, Chester, Sheffield, Edinburgh and Glasgow.

The importance of maintaining definite standards of fineness for wares of gold and silver has always been recognized, and the Goldsmiths' Company in London has carried out the assay and hall-marking of such wares since 1327 when Edward III gave the Company its first charter.

At the end of 1956, 29,000 persons were employed in the manufacture of jewellery and plate and in the refining of precious metals.

Leather

Leather tanning is one of Britain's oldest industries. Tanneries are situated in most parts of Britain, but there are important concentrations in Lancashire, Yorkshire, the North Midlands and the London area. Many different types of leather are produced, ranging from the heavy types produced for industrial uses, such as machinery belting, to high quality decorative leather, used for high fashion footwear and fancy leather goods.

At the end of 1956, about 33,500 persons were employed in the leather tanning and dressing industry, and 24,000 in the leather goods industries. In 1956, the United Kingdom was the world's leading leather exporter, with exports valued at £13 million, of which almost £4½ million went to dollar markets. Research into tanning processes and the improvement in the quality of finished products is carried on by the Leather Manufacturers' Research Association.

Leather Footwear

The British footwear industry is among the most important in the world, and factories are located throughout the British Isles. Some areas, however, concentrate on production of particular types, e.g., the Rossendale Valley region of Lancashire for slippers, Bristol for heavy industrial footwear for miners and agricultural workers, Northampton for men's and youths' footwear, and Leicester for women's and girls' shoes. The British Boot, Shoe and Allied Trades Research Association enjoys a world-wide reputation in all matters connected with shoemaking.

About 120,000 persons are employed in the manufacture of leather footwear, and output of boots and shoes in 1956 totalled some 134 million pairs. Exports reached a record level in 1956 exceeding £111 million in value.

Paper and Board

The manufacture of paper in Great Britain was not firmly established until 1678, but records show that some paper was produced as far back as the year 1492.

Today, many different materials are used in the manufacture of paper and board, the most important of which are woodpulp, esparto grass, straw, waste of hemp, flax and jute, rags and waste paper; the consumption of these materials now totals some 3.75 million tons a year, of which about two-thirds comes from abroad. The other third consists mainly of waste paper, three-quarters of which comes mainly from domestic sources; annual consumption of this material, mostly in the production of board and the cheaper types of paper, exceeds one million tons.

Total production in 1956 of all types of paper and board (including newsprint) amounted to 3.28 million tons—slightly less than the 1955 total, the highest ever reached—compared with a pre-war figure of 2.6 million tons. Of this, newsprint accounted for 643,000 tons as against 800,000 tons pre-war. Exports for the same period amounted to 259,000 tons, valued at £27 million, including 136,000 tons of newsprint, valued at over £8 million. The bulk of the export trade is to sterling area countries, mainly Australia, South Africa, New Zealand and the Irish Republic.

During the second world war, many paper-making machines were lost through enemy action, but the installation of new machinery and plant resulted in the rapid recovery of the industry. Today, the industry comprises some 200 mills producing almost every type of paper and board, including the world's largest paper machine, producing a web of newsprint 302 inches wide. There are also many firms engaged in the conversion of paper and board for various purposes. In addition, the industry has considerable interests abroad, with pulp and paper producing mills in the United States, Canada and other parts of the Commonwealth, and in the Scandinavian countries.

There has been a considerable amount of research on raw materials and their economical use, new and more efficient methods of generating steam have been introduced, and there is now a much wider use of technical knowledge at the various mills. Already expansion schemes running into many millions of pounds sterling have been announced with the result that within the next few years there will be a large increase in production of paper and board, and especially of newsprint.

Printing

The main sections of the printing industry are concentrated in the larger towns, notably London, although firms engaged in more general printing are also located in smaller centres. The shortage of skilled workers has led firms to introduce the latest developments in high-speed printing equipment, including electronic engraving machines and advanced processes of photographic reproduction. The value of the industry's annual output exceeds £140 million.

Rubber

The United Kingdom rubber manufacturing industry is the oldest in the world, dating from 1819 when Hancock, the inventor of the first method of processing raw rubber on a commercial scale, set up a factory in London. He afterwards collaborated with Macintosh, the inventor of water-proof garments, and it was another Scotsman, Dunlop, who in 1888 devised the pneumatic tyre as it is now used. At the present day, tyres and tubes represent more than half the total output of the industry. More recently British firms have pioneered cellular rubber and latex foam products, and they also make a great variety of other rubber manufactures, such as rubber footwear, belting, cables, hose and thread.

The industry is second in size only to that of the United States, employing some 113,000 workers and consuming 11 per cent of the world's total consumption of natural and synthetic rubber. There are some 800 firms located throughout the country. In 1956, they exported £39.4 million worth of goods, two-thirds in the form of tyres and tubes. This figure does not take into account the large indirect exports on motor vehicles.

Although the industry is highly mechanized there is still room for craftsmanship, as in the building of a tyre, where perfect quality depends on the skill of the individual. To maintain the technical superiority of the industry, advanced experimental work is carried out at the Shrewsbury laboratories of the Research Association of British Rubber Manufacturers.

VI. TRANSPORT AND COMMUNICATIONS

SHIPPING

Nearly 20 per cent of the world's shipping tonnage of 100 gross tons and over is registered in the United Kingdom, which has the largest merchant marine in active employment. A greater tonnage—26 million—is registered in the United States but over half of this is in the Reserve Fleet. United Kingdom ships probably carry about one quarter of the world's international sea-borne traffic in passengers and goods, and ply regularly on the routes linking the countries of the Commonwealth (see back end-paper map) and also to most of the main ports throughout the world. The amount of the United Kingdom's own sea-borne trade carried in British ships at the present time is not known exactly, but it seems likely that about 60 per cent of its imports and 75 per cent of its exports, by value, are carried in British registered ships. The United Kingdom balance of payments figures show that shipping provides one of the biggest net contributions to the balance of payments; in the year ended June 1956 it was £112 million. This figure does not, however, represent the actual net overseas earnings of United Kingdom shipping since it excludes tanker earnings and includes some of the disbursements of foreign ships in United Kingdom ports and the payments for the use of foreign ships. The last examination, made in 1952, of the total net overseas earnings by all types of United Kingdom shipping gave a figure of £221 million.

THE MERCHANT FLEET

At 30th June, 1956, a total of 19·5 million gross tons of merchant shipping (steam and motor vessels of 100 gross tons and over) was registered in the United Kingdom. In 1939 the tonnage was 17·9 million and in 1930 was at its highest level of 20·3 million.

Notable trends in the composition of the merchant fleet in recent years have been the reduction of tramp tonnage, the growth of tanker tonnage, the increasing size of tankers, and the commissioning of vessels specially built to carry ore, sugar and other commodities in bulk. Including Admiralty and other tankers, the United Kingdom accounts for over five million gross tons or nearly 20 per cent of the world's total tanker tonnage.

Propulsion

The amount of coal-fired tonnage has fallen in recent years to about one million tons. Oil has taken the place of coal in steamships, while steam has continued to give place to the diesel engine, about 40 per cent of all tonnage being diesel driven in 1956. In recent years, experiments have been made in the use of gas turbines in ships. In March 1952, the first crossing of the Atlantic using this form of propulsion was made by the tanker *Auris*, which was due to put to sea again, in the latter

half of 1957, with new and improved gas turbines. The latest development is the undertaking of research into the application of nuclear propulsion to merchant ships, with Government sponsorship and with the co-operation of the shipowning, shipbuilding and marine engineering industries; several large nuclear powered tankers are being planned by groups of private firms.

Age Distribution

Of the total gross tonnage, some 23 per cent is under 5 years old, 20 per cent is between 5 and 9 years old, 31 per cent is from 10 to 14 years, 11 per cent is from 15 to 19 years and 15 per cent is 20 years old and over. Taking the tanker fleet separately, as much as 37 per cent is under 5 years old, 20 per cent is 5 to 9 years, 30 per cent is 10 to 14 years, and only 13 per cent is 15 years and over.

Size Distribution

The size distribution of ships is given in Table 24. There are four ships of 30,000 gross tons and over. These are the *Queen Elizabeth* (83,000 tons), the *Queen Mary* (81,000 tons), the *Mauretania* (35,667 tons), and the *Caronia* (34,000 tons) all operated by the Cunard Steamship Company on its transatlantic services.

TABLE 24
SIZE DISTRIBUTION OF MERCHANT FLEET, 1956

Tonnage group	All ships		Tankers	
	No. of ships	Gross tons	No. of ships	Gross tons
100 and under	1,951	490,361	155	40,021
500 " " 2,000	1,270	1,226,820	81	78,858
2,000 " " 6,000	676	2,738,386	37	117,131
6,000 " " 10,000	1,174	8,976,562	252	2,044,749
10,000 " " 15,000	331	3,785,259	207	2,354,660
15,000 " " 20,000	46	800,994	25	440,398
20,000 and above	60	1,527,493	13	273,113
TOTAL	5,508	19,545,875	770	5,348,930

Source: *Lloyd's Register of Shipping*.

Distribution by Use

In April 1957, there were over 18 million gross tons of merchant ships of 500 gross tons and over trading in private ownership on the United Kingdom and Colonial registers. Of this 8.5 million gross tons were employed as ocean-going liners (both passenger and cargo), 2.9 million gross tons as ocean-going tramps, 1.6 million gross tons in short sea and coastal services¹ and 5.2 million gross tons as tankers. These figures² do not include tonnage managed by shipowners on behalf of the Ministry of Transport and Civil Aviation or managed on behalf of Canadian owners and registered in the United Kingdom; Admiralty tankers are also excluded.

¹ It is not possible to give separate figures for shipping engaged solely in coastwise traffic which serves the United Kingdom's inland transport system.

² Compiled by the *Shipping World* in which they were published on 17th April, 1957.

SHIPPING ORGANIZATIONS

Excluding Government-owned tankers, cable ships, passenger ships used as troopships and emigrant ships, and ships owned by the British Transport Commission (see p. 242), the business of merchant shipping in peace time is in the hands of private enterprise. The main organizations concerned with the activities, interests and common problems of the industry are as follows:

The Corporation of Lloyd's

This body, which was founded in the seventeenth century, is a society of underwriters whose main business is marine insurance (see also pp. 315-6).

Lloyd's Register of Shipping

Lloyd's Register is an organization, distinct from the Corporation, which surveys and classifies ships with particular regard to their safety and operational efficiency. It will accept responsibility for surveying and giving technical advice on vessels of all flags from the initial stages of building, at regular intervals during their service, and after casualties. A satisfactory Lloyd's classification is a guarantee to an underwriter that he may accept the risk of a vessel, and this forms a strong link between the Register and the Corporation of Lloyd's.

Shipowners' Organizations

The representative bodies speaking for shipowners generally (excluding, for the most part, owners of fishing vessels) are the *Chamber of Shipping* and the *Liverpool Steamship Owners' Association*. The *General Council of British Shipping* co-ordinates the views of the shipping industry as a whole on all matters of major policy.

There are a number of local associations of shipowners centred around the main port areas. There are, for example, the *Bristol Steamship Owners' Association*, the *London General Shipowners' Society*, and the *North of England Shipowners' Association*. Others represent companies specializing in a particular trade or type of cargo.

Employers' Organizations

The *Shipping Federation* and the *Employers' Association of the Port of Liverpool* are the employers' organizations concerned with labour relations and the regulation of employment throughout the Merchant Navy. They are responsible for the administration of the Merchant Navy Established Service Scheme, under which shipowners engaging crews for ships of 200 tons and above engage them through the Merchant Navy Establishment Administration unless they are prepared to offer two-year Company Service contracts. The Shipping Federation is also responsible for the day-to-day operation of the National Sea Training Schools set up for the purpose of training ratings for the deck and catering departments and as firemen.

Seafarers' Organizations

Shipmasters are represented by the *Mercantile Marine Service Association*; navigating officers, engineer officers, apprentices, cadets, pursers and ships' surgeons by the *Merchant Navy and Airline Officers' Association*; and radio officers by the *Radio Officers' Union*. Some uncertificated engineer officers are represented by the *Amalgamated Engineering Union*. The interests of the deck, engine-room and catering ratings are represented by the *National Union of Seamen*.

The National Maritime Board

The National Maritime Board is composed of equal numbers of representatives of the shipowners and seafarers and is responsible for all negotiations of wages and

conditions of service in the Merchant Navy, although, except by special arrangement, National Maritime Board Agreements do not apply to vessels under 200 gross tons, or to certain other ships, including tugs and salvage vessels. Detailed working of the Board is carried on by a number of 'panels' representing the various interests of those forming the seafarers' part of the Board.

Conferences

British shipping companies operating liners have associated with each other and with the companies of other countries operating on the same routes in a series of 'conferences' designed to secure standardization and stability of rates, and to maintain frequency and regularity of services. The essential principle of a conference is the establishment of a common tariff of freight rates or passenger fares from each port of departure. Each conference meets from time to time to review and revise existing rates, or to compile new ones. Some of the conferences may be connected by rate agreements, or may have joined together to form wider groupings.

The Baltic Exchange

The Baltic Mercantile and Shipping Exchange, which originated in one of London's seventeenth-century coffee houses, is the world's largest shipping market for the chartering of ships of all nationalities. Shipbrokers and merchants' representatives meet here to arrange the chartering of ships, or space in ships, for the carriage of all kinds of goods to and from all parts of the world. Other classes of business transacted on the Baltic include the chartering of air transport (see p. 260) and the purchase and sale of grain and oilseeds.

RELATIONS WITH THE GOVERNMENT

The Ministry of Transport and Civil Aviation is the Government Department responsible for most matters connected with merchant shipping. Under the Merchant Shipping Act of 1894 and subsequent legislation it administers many regulations for marine safety and welfare, for instance: certifying the load-line (or Plimsoll line) that ensures that a ship is not overloaded; ensuring that standards of safety are observed in ship construction; ensuring the provision of adequate life saving, fire fighting and radio equipment; and dealing with the discipline, professional standards, health and accommodation of seamen. Most of the work which these responsibilities entail is carried out by the Marine Survey and Mercantile Marine Officers at the ports. There is also a Registrar-General of Shipping and Seamen in whose office at Cardiff a complete record of all British ships and seamen is kept. The Ministry is represented on the Merchant Navy Welfare Board (see p. 234) and on the Merchant Navy Training Board (see p. 233). It fosters the development and use of modern navigational aids. It is responsible for the administration of the Oil in Navigable Waters Act, 1955, which prohibits British ships registered in the United Kingdom from discharging persistent oil within a wide zone of the sea around the United Kingdom and also continues the prohibition, first imposed in 1922, of the discharge of oil of any description from any source into United Kingdom territorial waters and harbours. Those parts of the Act which deal with prohibited zones, other than those necessary for the protection of the United Kingdom, will take effect when the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, comes into force. The United Kingdom and five other countries have ratified the Convention but it requires to be accepted by ten countries, including five with not less than 500,000 gross tons of tanker tonnage each, before it can be brought into operation.

The Ministry is responsible for transporting by sea the men and materials of the Armed Forces and looks after ships that it owns or has chartered. It is also concerned with general shipping policy and the strategic implications of the Merchant Navy. The Ministry maintains close liaison with the shipping industry on such matters and on problems relating to imports and exports and special passenger requirements.

Abroad, certain parts of the Merchant Shipping Acts, in particular those provisions dealing with the engagement and discharge of crews outside the United Kingdom, are administered by H.M. Consuls and by officers of the Commonwealth and Colonial Governments.

Lighthouses, Pilotage and Rescue

The Ministry of Transport and Civil Aviation administers the Coastguard Service. This is primarily a life-saving organization which keeps watch at danger points around the coast for vessels in distress and renders assistance either by means of rocket life-saving apparatus or by informing other authorities who may be in a position to give help. There are 155 stations manned by the regular coastguard force, which totals 536. In addition, there are 162 auxiliary stations where a watch is kept in bad weather and 86 other stations where life-saving equipment is stored although no watch is kept; these auxiliary stations are manned by the civilian volunteers forming the Coast Life-Saving Corps. Members of the Corps, which is about 7,000 strong, also operate the rocket life-saving apparatus. There is close liaison between the Coastguard Service and the Royal National Lifeboat Institution. The latter maintains lifeboats around the coast of the United Kingdom; it is supported entirely by voluntary subscriptions, and depends largely for its operation on voluntary workers. Lifeboats were launched 745 times in 1956, a record for any peace-time year, and saved 533 lives.

The general lighthouse authority for England and Wales, the Channel Islands and Gibraltar is the *Corporation of Trinity House*, which received its first Royal Charter in the sixteenth century and is administered by a Board of ten Elder Brethren elected from the Royal Navy and the Merchant Navy. It is also the chief pilotage authority in the United Kingdom, having the management of all matters relating to pilots and pilotage in the London area, the English Channel and certain other coastal districts of the United Kingdom. Lighthouses in Scotland and Ireland are the responsibility respectively of the Commissioners of Northern Lighthouses and the Commissioners of Irish Lights. The Ministry of Transport and Civil Aviation also has certain responsibilities in connection with lighthouses and pilotage.

THE MERCHANT NAVY

Strength

The number of masters, officers and men serving in December 1956 in British ships on articles of agreement opened or closed in the United Kingdom was about 152,000. In addition, there were about 49,000 seamen serving in United Kingdom registered ships on articles opened or closed overseas.

Training

Nautical training in the United Kingdom has two distinct objectives, first to give intending entrants into the Merchant Navy an introductory training before going to sea—this is commonly known as ‘pre-sea training’—and secondly, to prepare those who have already performed the requisite sea-service, qualifying them for

admission to the examinations, for the various statutory and other certificates granted by the Ministry of Transport and Civil Aviation.

The *Merchant Navy Training Board* has been set up to consider and make recommendations concerning the training of the various classes of boys and men who enter the different departments in the Merchant Navy. It rests with the shipping industry itself and the appropriate Government Departments, however, to decide whether any particular recommendation should be adopted. The main function of the Board is in promoting, encouraging and guiding the instruction and studies at sea of apprentices and cadets who are preparing for their examinations for certificates of competency as second mate.

The Ministry of Transport and Civil Aviation holds examinations for, and issues certificates of competency to, ships' officers as master, first mate and second mate of foreign-going ships, or master and mate of home trade ships and as first class engineer and second class engineer. Officers may not normally serve on board ships in these grades unless they hold the appropriate, or a higher, certificate.

Pre-sea training is not compulsory for those who go to sea as apprentices or cadets but most shipping companies will, in practice, accept only those who have undergone such a course. There are a number of residential and non-residential training establishments (some of which are public schools) which provide courses of varying length. The Ministry of Transport and Civil Aviation allows a proportion of the time spent in recognized establishments to count towards the period of sea service which the apprentice or cadet is required to perform before becoming eligible to take the examination for a second mate's certificate. Navigating officers become eligible for examinations for first mate's and master's certificates after further periods of qualifying sea service.

Sea-going engineer officers usually receive their basic training in engineering by serving a suitable apprenticeship of not less than four years in engineering workshops ashore, although part of this period may be spent at approved courses in mechanical engineering. An alternative scheme of training has, however, recently been introduced under which shipping companies themselves select apprentices for a special course of training consisting of a two-year diploma course in a technical college, followed by eighteen months' training at sea and finally twelve months' training in an engineering workshop ashore. Sea-going engineer officers are first employed as junior engineers: they become eligible to take examinations for second and first class certificates of competency after performing periods of qualifying sea service.

Radio officers are required to hold certificates of proficiency in wireless telegraphy issued by the Postmaster-General on the results of an open examination.

All boys who wish to join the Merchant Navy as deck or junior catering ratings must undergo a course of pre-sea training. The majority receive their training at the National Sea Training Schools but courses are also provided by certain private organizations and by a number of local education authorities.

A seaman may not be rated as A.B. (Able Seaman) in United Kingdom registered ships unless he holds a certificate of competency as A.B., granted by the Ministry of Transport and Civil Aviation, or an equivalent certificate. To obtain this certificate a seaman must, among other qualifications, have served three years at sea on deck, have attained a certificate of proficiency as lifeboatman and have passed an oral and practical qualifying examination. This qualifying examination for the certificate may, however, be taken on reaching the age of 18 after twelve months' service at sea as a deck rating, and those who pass may be issued with an efficient deck hand certificate, which enables the holder to serve at sea in a similar capacity to that of an A.B.

Seamen qualify by seniority for promotion to the rating of petty officer. Service as a deck rating qualifies for the purpose of admission to the examination for a second mate's certificate.

Conditions of Employment and Welfare

Wages and conditions of employment are negotiated by the National Maritime Board (see p. 230). Minimum wages and holidays with pay are guaranteed for both officers and ratings. Moreover, the Merchant Navy Established Service Scheme, introduced by the Board in 1947, has removed a great deal of the uncertainty formerly associated with a seafaring life. Officers and men can now take two-year contracts, not only with individual shipping companies but with the industry as a whole, and get special benefits, in addition to the normal unemployment insurance benefit when they are ashore between voyages.

The *Merchant Navy Welfare Board*, on which are represented officers' and seamen's unions and associations, shipowners, voluntary societies, the Ministries of Transport and Civil Aviation, Labour and National Service, Pensions and National Insurance, and the Colonial Office, has been responsible since 1948 for the control and co-ordination of the welfare services for merchant seamen in the United Kingdom and of British merchant seamen abroad.

In the United Kingdom, the Board runs 15 Port Welfare Committees and has regional seamen's welfare officers in Glasgow, Liverpool and South Shields. It manages directly a number of Merchant Navy houses and clubs, and many others are run by voluntary societies. In overseas ports the voluntary societies run some 300 clubs for British merchant seamen.

PORTS

There are over 300 ports in the United Kingdom. The eleven largest are shown in Table 25, which lists them in order of tonnage of shipping arriving and departing and does not relate to the volume of cargo handled. Most ports, other than those owned by the British Transport Commission, are represented on the *Dock and Harbour Authorities' Association*, formed in 1917 to represent the common interests of port authorities in their relations with Government, shipowners and traders.

The Port of London, with 69 miles of waterway and over 4,000 acres of dock estate, is the largest port in the Commonwealth, and with New York and Rotterdam is one of the three largest ports in the world. Goods of every imaginable kind, from meat to marble, from plywood to perfume, pass through the docks. Imports are distributed all over the United Kingdom, though the port supplies, primarily, Greater London and the Home Counties which have a population of some 11½ million persons.

Liverpool—with *Manchester*, an inland city made into a port by the construction of the Manchester Ship Canal—serves the industrial Midlands, Lancashire and Yorkshire. Grain is prominent among the imports of Liverpool, which, including Birkenhead on the opposite bank of the Mersey, is the second largest milling centre in the world. Tobacco is another major import and is stored in what is probably the world's largest warehouse. Liverpool is also important for transatlantic passenger traffic and short sea-route and coastwise trading. Manchester's chief import is raw cotton.

Southampton, largest of the Channel ports, is the chief port for ocean passenger traffic. It owes its importance to its double tides and easy access from London. A considerable volume of oil is now handled for the refinery at Fawley.

TABLE 25

PORT ARRIVALS AND DEPARTURES, 1956
(With Cargo and in Ballast)

Thousand tons net

Port	Foreign Trade	Coasting Trade	Total
London	49,790	22,009	71,799
Southampton	32,472	8,334	40,806
Liverpool	29,312	7,414	36,726
Tyne Ports	7,852	8,424	16,276
Manchester* (including Runcorn)	11,848	2,703	14,551
Glasgow	10,367	3,757	14,124
Belfast	2,273	11,140	13,413
Hull	8,006	3,012	11,018
Bristol	7,037	3,615	10,652
Swansea	7,018	2,822	9,840
Middlesbrough	5,767	2,660	8,427
TOTAL ..	171,742	75,890	247,632
TOTAL ALL PORTS ..	234,747	148,207	382,954

* See page 234.

Source: *Board of Trade Journal*.

Newcastle upon Tyne and the other Tyne ports serve the industrial North-East and comprise the most important coal-shipping and largest ship-repairing centre in the country.

Hull, on the Humber estuary, serves particularly the industrial centres of Yorkshire and the Midlands. *Middlesbrough* imports iron ore for, and exports iron and steel from, the local iron and steel industries.

Swansea has the largest trade of the group of ports serving South Wales. As well as coal, Swansea exports the steel and tinplate manufactured in its immediate neighbourhood, but its rapidly increasing importance derives largely from the oil which it imports and exports for local refineries.

Bristol and *Avonmouth* serve the industrial Midlands as well as the highly industrialized city of Bristol itself, and have also a large coastal trade.

Glasgow, the principal Scottish port, serves as an entrepôt centre for the industrial area dependent on the Lanarkshire coalfields.

Grangemouth, also in Scotland, handles mainly crude oil for the local refinery, and also imports timber and paper-making materials.

Belfast is the principal port of Northern Ireland and handles the main Irish Sea traffic.

Ownership

The ports, in some cases docks only, previously owned by the main-line railway companies are now under national ownership and are administered by the British

Transport Commission (see pp. 238-40). The Commission owns some 30 per cent of Britain's dock accommodation with a total of over half a million feet of quays. A few of the Commission's ports are docks developed by former canal undertakings, such as the Aire and Calder Navigation which developed Goole. The rest are those formerly owned by the railways. In some cases—e.g., at Southampton and Middlesbrough—the railways owned the main docks in ports where the statutory authority was a harbour board. In other cases—e.g., at Grangemouth, Garston and Grimsby—the port was largely developed by the railway company which was itself the statutory harbour authority. Some railway-owned ports were, and still are, mainly used for the railways' cross-channel services: Folkestone, Harwich, Newhaven, Fishguard, Holyhead, and Heysham are in this category. Among other ports owned by the Commission are Hull, Swansea, Newport, and Cardiff. The shipping arrivals and departures at the Commission's docks, harbours and wharves in 1956 totalled over 100 million net tons, and the total cargo handled was about 65 million tons. At the end of 1956 there were 20,000 people employed there.

Other ports are controlled by a public trust on which are represented users of the port (such as shippers, importers and shipping companies) and other bodies such as Government Departments and local authorities. Examples are London (controlled by the Port of London Authority), Liverpool (Mersey Docks and Harbour Board), Belfast (Belfast Harbour Commissioners) and Glasgow (Clyde Navigation Trust). *The Port of London Authority* has 28 members. Ten of the members are nominated as follows: by the Admiralty (1), the Ministry of Transport and Civil Aviation (2), the London County Council (4), the Corporation of the City of London (2), and the Corporation of Trinity House (1). Eighteen of the members represent various port users: shipowners (8), merchants (8), owners of river craft (1), and public wharfingers (1). The Authority's duties include the maintenance of adequate river channels, the regulation of traffic, the provision and upkeep of moorings and the licensing of wharves and structures in the area under its control. A few ports—Bristol is the most important example—are owned by the town or city council and controlled entirely by a committee of the council.

Finally, there are about 100 ports which are privately owned. Manchester is the only major port so owned—by the Manchester Ship Canal Company—and here the Manchester City Council exercises considerable control by appointing 11 of the Company's 21 directors.

The powers and responsibilities of the port authorities are, in the main, set down in private Acts of Parliament which relate specifically to the ports concerned.

Labour

There are about 150,000 people employed in the operation of British ports. Just under half of these are administrative, clerical and technical staff, and pilots, lightermen and customs officials. Over half are the dock workers (formerly and still popularly called 'dockers') who do the physical work of handling cargo.

Shipping arrivals and departures do not all conform to a regular schedule, with the result that there is sometimes too much work for the dock workers available, sometimes too little. Dock labour was therefore largely casual labour until 1941, when war-time schemes were introduced to control the port registers of employers and workers. The war-time schemes were superseded in 1947 by a permanent scheme administered by the *National Dock Labour Board*. Workers on these registers now receive a guaranteed minimum wage even when there is not enough work for all of them. The Board consists of a chairman, vice-chairman, and eight members appointed by the Minister of Labour and National Service, four to represent employers and four to represent dock workers.

Tanker Terminals

Most of the oil tankers coming to the United Kingdom to discharge crude oil are berthed at special tanker terminals situated near the oil refineries and owned and operated by the oil companies. Existing tanker terminals are at Thameshaven, Shellhaven, Coryton and the Isle of Grain, all in the Thames estuary; at Fawley on Southampton Water; at Eastham and Stanlow in the Manchester Ship Canal area; at Heysham in Morecambe Bay in Lancashire; at Finart, Bowling and Ardrossan on the Clyde (the first two are connected by a pipeline to the refinery at Grangemouth on the Firth of Forth). There are other tanker berths in the rivers Tyne, Tees and Humber on the east coast of England, and in several main ports, such as Swansea (see photograph facing p. 198).

Several new tanker terminals are planned, including one at Hook in Southampton Water for tankers up to 60,000 dead weight tons; one at Tranmere, in the River Mersey, for 45,000 d.w.t.; and two at Milford Haven, in south-west Wales for 100,000 d.w.t. As some of the larger existing tanker terminals are unable to berth fully-laden oil tankers of more than 32,000 d.w.t., the Milford Haven projects have assumed great importance in meeting the new trend in size of tankers.

INLAND TRANSPORT

The dense passenger and freight traffic of Great Britain¹ is carried mainly by road and rail, although coastal shipping and, to a lesser extent, inland waterways play an important part in carrying freight, particularly bulky cargoes. Passenger and freight traffic on the domestic services of British airlines is steadily increasing (see pp. 256, 257 and 260). There are in Great Britain some 19,000 route-miles of railways (51,300 track miles) and nearly 200,000 miles of road, of which only about one-quarter may be classed as main roads. The railway network was developed mainly in the nineteenth century from 1840 onwards (and there are now more railways per square mile in Britain than in any other country, except Belgium), while the building of new roads and the widening and strengthening of old ones to accommodate the increasing motor-vehicle traffic has been, and still is, a feature of the twentieth century.

In 1956, the number of passenger journeys made by public transport (road and rail) in Great Britain was about 17,000 million. In addition, in the summer of 1956, 3,887,906 motor cars and 1,326,210 motor cycles were licensed for use on the roads. The annual mileage of most of the cars is believed to be between five and ten thousand. Journeys by public transport are mainly short and a great many of them are to and from places of work. The resultant concentration of travel in the morning and evening 'rush hours' constitutes a formidable problem in London and other centres of industry and commerce.

A general picture of Great Britain's domestic freight transport system is provided by the figures in Table 26, produced as the result of a special inquiry into goods transport by road made in 1952; they are only rough estimates, but no more accurate or up-to-date figures exist for the system as a whole.

In 1956, British Railways carried 21,473 million net ton-miles² of freight (918 million net ton-miles less than in 1952) and there were 1,173,311 goods vehicles on the roads (about 200,000 more than in 1952) so the share of freight traffic carried by road has increased.

¹ For an account of inland transport in Northern Ireland, see page 251.

² Net ton-miles are calculated by multiplying the tonnage carried by the actual distance it was carried.

TABLE 26

BRITISH DOMESTIC FREIGHT TRANSPORT, 1952

	Tons Carried <i>Millions</i>	Ton-Mileage <i>Thousand millions</i>	Tons Carried <i>Percentage</i>	Ton-Mileage <i>Percentage</i>
Rail	300 (a)	22	24	43
Road	900	19	72	37
Coastal Shipping . .	40	10 (b)	3	20
Inland Waterways . .	10 (a)	0.2	1	—
TOTAL	1,250	51	100	100

Source: *Paper by K. F. Glover and D. N. Miller, read before the Royal Statistical Society, 28th April, 1954.*

(a) Tons originating, including free hauled traffic.

(b) The 'inland equivalent', that is the ton-mileage by inland transport that would result if the coastwise traffic passed by inland means of carriage.

The State has for a long time exercised considerable control over public transport operators, and the scope and degree of regulation in the interest both of public safety and of efficiency has increased steadily throughout the twentieth century.

THE BRITISH TRANSPORT COMMISSION

Today the British Transport Commission has an annual turnover of £700 million and is the largest single employer of labour in the country, employing some 800,000 men and women. Its present role and structure are the result of a series of Transport Acts passed since 1947.

The Transport Acts of 1947, 1953 and 1956

On 1st January, 1948, in accordance with the provisions of the Transport Act of 1947, most of Great Britain's¹ inland transport system passed into public ownership. On that date, the railways, all railway-owned steamships, docks, hotel and road transport interests, most of the country's canals (including all those owned by the railways) and the whole of London's passenger transport system came under the control of the British Transport Commission, a newly created public authority, which was given the duty of providing an efficient, adequate, economical and properly integrated system of public inland transport and port facilities for passengers and goods. In addition, the Commission was to arrange for the gradual acquisition of privately owned long-distance road haulage firms. Road passenger transport outside London was not taken over, but the Commission was given power to prepare area schemes for co-ordinating passenger services by road and rail, including power to acquire road passenger undertakings for this purpose. A considerable amount of road haulage, several waterways and many docks were left outside the Commission's scope.

¹ In Northern Ireland public ownership was brought into effect by the Transport Act (Northern Ireland), 1948 (see p. 251).

The Conservative Government which took office in 1951 announced a new policy for the operation of public transport, including decentralization of the railway administration, greater freedom to adopt normal commercial practice particularly in charging, the partial return of long-distance road haulage to private enterprise, and the revocation of the Commission's power to make schemes for the co-ordination of road and rail passenger services. The policy was put into effect by the Transport Act of 1953, and the actual reorganization of the British Transport Commission was completed by 1st January, 1955. A further Act, the Transport (Disposal of Road Haulage Property) Act, 1956, was necessary to complete the reorganization of the road services.

Today the British Transport Commission resembles in organization, purpose and status a large-scale commercial corporation. It is in keen competition with public and private transport by road, sea and air.

Present Organization

Under the provisions of the 1947 Act, the British Transport Commission is responsible to the Minister of Transport and Civil Aviation who, in turn, is responsible to Parliament. The Minister appoints the members of the Commission (with the maximum membership of 14 members and a chairman) and is empowered to give general directions to the Commission in the national interest and to approve the general outline of programmes of major development and of training, education and research. The Commission was originally given borrowing powers of £275 million, which were increased to £600 million in 1955. The Transport (Railway Finances) Act, 1957, provides for a temporary extension of the purposes for which the Commission may borrow or secure advances (see p. 240). An annual report and statement of accounts is submitted to the Minister who lays it before Parliament.

The Commission itself is a policy-making and not a managing body. It works through six policy-making Committees each dealing with one particular subject in relation to all the Commission's activities, and through Sub-Commissions which are not policy-making but each of which takes a special interest on behalf of the Commission in the activities of one of the 'Divisions' (see below) and serves as a clear and easy channel of approach to the Commission. These Committees and Sub-Commissions are composed of members of the Commission.

There are seven Divisions to carry on various activities of the Commission's undertaking: British Railways, British Road Services, Tilling (bus) Group, Scottish Omnibus Group, British Transport Docks, British Transport Waterways, British Transport Hotels and Catering Services. The management of British Railways is in the hands of six Area Boards (the areas corresponding with the former regions, see p. 242) which leave day-to-day management to the General Managers of the areas. Important matters affecting general policy are reserved to the Commission and are dealt with by the British Railways Division and the Railways Sub-Commission.

Road passenger transport and the underground railways in the London area are operated by the London Transport Executive (see p. 250), which was established as an agent of the British Transport Commission by the Transport Act, 1947.

Since September 1956, the business of British Road Services has been conducted through five limited companies with some 15,000 vehicles altogether. The shares of all these companies are owned by the Commission although two companies may still be disposed of as going concerns. British Road Services' Board of Management controls the operating companies through their Boards of Directors. For purposes

of executive management there are six geographical divisions and one division (Pickfords) for special traffics.

Consultation with coastal shipping operators is provided by the Coastal Shipping Advisory Committee, which was set up under the 1947 Act to consider, and from time to time to report to the Minister on all matters jointly affecting the interests of the British Transport Commission and those of coastal shipping. The 1953 Act extended the scope of the Committee's work to include road haulage. The members of this committee are appointed by the Minister from the Commission and from among representatives of coastal shipping after consultation with interests concerned; it is intended to arrange for road haulage interests to be represented on the committee. The Commission also consults with the operators of coastal liners on questions of rates and charges at the Coasting Liner Conference.

Financial Results

The Commission reported in 1956 that it had earned a working surplus in every year since it came into being in 1948, but in several of those years the surplus earned was insufficient to meet the central charges of the Commission, which include central administrative expenses and interest on stock. The Commission is permitted to balance its accounts 'taking one year with another', but at the end of 1954 it had an accumulated deficit of £39 million. By the end of 1955, following a railway strike and a period of increased costs, the deficit had increased to £70 million, and by the end of 1956 it was nearly £120 million. The Commission is confident that the various corrective measures that it has in hand, particularly projects that will be completed early in the railway modernization programme (see pp. 243-4), will bring its financial position into balance by 1961 or 1962. Meanwhile, in order to place the organization on a sound financial basis during the critical years of reconstruction, the Government will, under the Transport (Railway Finances) Act, 1957, make special advances to the Commission up to £250 million to meet the annual revenue deficits for this limited period. The advances made will be liable to interest and will be repaid in instalments.

Transport Tribunal

The Transport Tribunal, set up under the 1947 Act, has jurisdiction over the charges schemes which govern the maximum charges which the British Transport Commission may make on British Railways, on the road and rail services provided by the London Transport Executive, at its docks, and by tolls for the use of inland waterways. The Tribunal replaced the Railway Rates Tribunal (see pp. 241-2) and has also taken over responsibilities from certain other statutory bodies. Appeals arising from applications for road haulage (goods vehicles) licences are heard by the Tribunal and it has other duties relating to harbours and canals.

Transport Users' Consultative Committees

There are eleven Area Transport Users' Consultative Committees and a Central Transport Consultative Committee for Great Britain, which were set up under the 1947 Act, to give transport users an opportunity of putting forward criticisms and constructive suggestions for improving transport services provided by the Commission. The members of these committees are appointed by the Minister, after consultation with interests concerned, to represent commerce, industry, agriculture, labour, local authorities and the British Transport Commission itself. The area committees in England report to the Central Committee, which reports to the Commission and the Minister, who may give directions to the Commission upon any matter dealt with by a recommendation of the Central Committee. Since 1953,

the Scottish and Welsh Committees also report direct to the Minister. Matters dealt with include the British Transport Commission's proposals for closing branch railway lines, withdrawing passenger train services, closing stations, and complaints by the public of inadequacy of services or facilities.

RAILWAYS

For a hundred years Great Britain has had a widespread railway network and, despite the vast and rapid growth of road and air transport in recent times, the railways remain a vital part of the country's transport system. The passenger services alone show how important a role the railways have to play in this system, particularly in comparison with the role of railways in some other countries. For instance, the service of British Railways' Southern Region carry annually almost the same number of passengers as all the Class I railways of the United States of America, although, of course, the average length of journey is much less. The urban and suburban passenger services for London, Glasgow, South Lancashire and Birmingham carry about $1\frac{1}{2}$ million passengers a day, mainly to and from their work in brief rush hour periods. These services account for about half the annual total of 1,000 million passengers on British Railways. The railways are also indispensable to a great part of the basic freight traffic. Every day British Railways haul a total of some 60 million ton-miles of freight and the flexibility of their operations enables them to deal with sudden heavy movements of bulk freight such as coal, or crops at harvest time. In 1956 British Railways carried a total of 277 million tons of freight.

Britain was the pioneer of railway development which was so essential to industrial and commercial expansion. Railroads were in use around pits and ironworks by the end of the sixteenth century, but the trucks were mainly drawn by horses. In the early nineteenth century various British engineers showed how locomotives could be used and George Stephenson was responsible for improved locomotive design. In 1825 the Stockton to Darlington railway was opened as the first public railroad on which locomotives were used. This was followed by the Liverpool and Manchester railway of 1830 on which George Stephenson's famous 'Rocket' locomotive was employed. The great period of railway building was from 1840 to 1875, with a short lull following the collapse of the speculative railway boom in 1846. Government intervention began in 1846 with an Act of Parliament prescribing a standard gauge of 4 feet $8\frac{1}{2}$ inches for all new lines except extensions of the Great Western Railway, which then had a gauge of 7 feet; it was not completely converted to the standard gauge until 1892. During the 1840s and 1850s some railway companies were amalgamated and arrangements were made between the others to facilitate through traffic from one company's system to that of another. The Railway and Canal Traffic Act of 1854 obliged the companies to provide reasonable facilities and to avoid undue preference between users. The Railway and Canal Traffic Act of 1888 drew up a standard freight classification and schedules of maximum freight charges which came into operation in 1893; alterations in rates had to be approved by a Railway and Canal Commission.

During the first world war the railways all came under centralized Government direction through a Railway Executive Committee. This experience served to emphasize the need for concentration and a comprehensive reorganization of the system. Accordingly, the Railways Act of 1921 amalgamated 123 companies into four large groups: the London, Midland and Scottish, London and North Eastern, Great Western, and Southern. The Railway Rates Tribunal, which was established to take over the functions of the Railway and Canal Commission, was entrusted with the duty of carrying out an annual review of standard rates and fares which were to

be adjusted with reference to the principle of maintaining to the companies a standard net revenue equivalent to that of 1913. In the inter-war years, the railways suffered both from the general industrial depression and from the growing competition of road transport, and the standard net revenue was never earned. The railways experienced sharp competition, partly because road transport often offered cheaper and better facilities and partly because the statutory regulation of the railways' charging system led to the loss of some profitable traffics and the retention of unprofitable ones. Proposals made by the railways in 1938 for relief from statutory regulation of charges were overtaken by the outbreak of war in 1939 when the railways again passed under the control of a Government Railway Executive Committee. After the war came the Transport Act of 1947, bringing the railways under public ownership and causing them to be operated as a single enterprise known as British Railways with six regional sub-divisions—London-Midland, Western, Eastern, Southern, North Eastern, and Scottish. At first they were operated by a Railway Executive, on behalf of the British Transport Commission, but by the Transport Act of 1953 the Executive was abolished and a new organization was set up (see p. 239).

Staff and Assets of British Railways

The following figures summarize the numbers of staff employed and vehicles, ships and track owned by British Railways at the end of December 1956:

Staff, total number	.. .. .	570,547
of which: Administrative Technical and Clerical	.. .. .	74,028
Operative	.. .. .	287,821
Maintenance and Construction	.. .. .	195,585
Permanent Way (standard gauge)		
Railroad mileage (incl. electrified)	.. .. .	19,025
Track mileage (incl. electrified)	.. .. .	51,188
Locomotives		
Steam	.. .. .	17,522
Electric	.. .. .	71
Diesel	.. .. .	94
Diesel-electric	.. .. .	513
Gas-turbine electric	.. .. .	2
Others	.. .. .	5
Passenger carriages (a)		
Locomotive hauled	.. .. .	36,130
Diesel multiple-unit stock	.. .. .	453
Electric multiple-unit	.. .. .	4,939
Freight vehicles	.. .. .	1,117,464
Ships (b)	.. .. .	129
Net tonnage of ships	.. .. .	81,521
Road vehicles		
Motors and tractors	.. .. .	5,207
Articulated motive units	.. .. .	10,639
Trailers for above	.. .. .	29,416
Horse-drawn vehicles	.. .. .	1,224

(a) Including rail motor vehicles.

(b) Including 8 jointly owned and 7 operated but not owned. British Railways operate services on twelve routes to the Continent including two train-ferry services, Harwich-Zeebrugge and Dover-Dunkirk. Services are also operated across the Irish Sea, and on coastal waters and lakes.

At the end of 1956, there were 363 railway refreshment rooms, of which 70 were operated by tenants and 293 by British Transport Hotels and Catering Services, which also operated 36 hotels. Two hotels were operated by tenants. Hotels and catering services staff numbered 15,305.

Development of British Railways

During the first eight years of the British Transport Commission's life to the end of 1956, capital expenditure on British Railways amounted to about £360 million. Some of this was accounted for by maintenance, including arrears of maintenance inherited from the war period, and renewal of rolling stock. Several new lines of development have been completed in recent years, including the electrification of the lines between Wath, Sheffield and Manchester, from London to Chelmsford and from London to Southend, a diesel service between Edinburgh and Glasgow and the introduction of diesel rail cars in various parts of the country. Existing development projects have now been incorporated in a £1,200 million modernization and re-equipment programme announced by the Commission in January 1955, which is based on the premise that work on its main components will be capable of being started during the first five years and completed within fifteen. The Commission expects that the result will ultimately be to improve the financial position of the railways by at least £85 million a year. The programme is to be financed partly from internal sources and partly by the issue of Transport Stock for which a Treasury guarantee will be available.

Major features of the programme are the remodelling of freight services and the progressive displacement of steam by diesel and electric traction. As regards freight services, operations are to be completely reorientated so as to speed up movement, reduce costs, provide direct transit for main streams of traffic and to attract to the railways a due proportion of the full-load merchandise traffic which would otherwise pass by road. Larger wagons are to be introduced, continuous brakes are to be fitted to all wagons, and marshalling yards, goods stations and handling facilities are to be improved. As regards traction, electricity is regarded as the ideal alternative to steam, especially where traffic is dense, but the substantial engineering work involved in converting a length of line to electric traction imposes a limit on the amount of main-line electrification that can be completed during the 15-year period. Thus, it has been decided to electrify, during this period, two major trunk-routes—from London (King's Cross) to Leeds, and from London (Euston) to Birmingham, Liverpool and Manchester; to extend the existing electrification from London (Liverpool Street) to Chelmsford as far as Ipswich, including some branch lines; and to complete the electrification of the main routes of the Southern Region east of a line from Portsmouth to Reading. On the rest of the main-line services it is proposed to introduce diesel traction as quickly as possible. The programme also provides for track improvements, signalling improvements including an extension of automatic train control, and the introduction of multiple-unit diesel trains in many areas.

Development projects that were in progress in 1956 or were due to be undertaken during 1957 included: the electrification of the line from London to Bishop's Stortford and of the line from Manchester to Crewe (due to be completed in 1959, this is a 'pilot scheme' for the electrification from London to Birmingham, Liverpool and Manchester); the extension of various Southern Region electrified services; the introduction of diesel services from Birmingham to Swansea and from London to Hastings; the improvement of passenger stations at Manchester, Glasgow, Plymouth, and Cannon Street (London); and the construction of five new marshalling yards at Stratford and Barking (both in the London suburbs),

Edinburgh, and Margam (in connection with the South Wales steel traffic) which together will cost nearly £10 million.

By 1957, over one-third of the total sum of £1,200 million, to be spent under the fifteen-year programme, was committed to developments, either in progress or authorized. Large individual programmes of expenditure that had been authorized included £92 million for electrification, £33·5 million for diesel main line and shunting locomotives, £32·5 million for diesel multiple-unit trains and £46 million for major works such as track widening, new junctions, and station and depot reconstruction schemes. The following items are some of the main features of the railway modernization programme for 1957 and 1958. Over 200,000 freight vehicles will be provided with continuous braking, thus enabling freight train speeds to be greatly increased. More than 100,000 new freight and service vehicles and over 13,000 road-rail containers will be delivered. Deliveries of locomotives in 1957-58 are expected to include 20 electric main line locomotives, over 160 diesel main line locomotives, and more than 500 diesel shunters. In addition, about 1,700 powered coaches for multiple-unit electric and diesel trains are expected to be delivered. Five diesel-electric *de luxe* trains will come into operation in 1958 on routes from London to Manchester, to Birmingham and Wolverhampton, and to Bristol. New lines, primarily for freight traffic, will be built at Stratford-upon-Avon, at Edinburgh, in Yorkshire and in South Wales.

ROADS

The road system in Britain is complex and to a large extent haphazard. For centuries after the Romans left Britain, road building and maintenance were left mainly to the parish, which was naturally concerned only with local needs. The most effective intervention by the central Government was in the seventeenth century with the institution of turnpike trusts. The maintenance of a length of road was placed in the hands of a trust, made up of private individuals, empowered to levy tolls at the gates it erected at the limits of its jurisdiction. Early in the nineteenth century there were 1,000 of these trusts administering some 22,000 miles of road. The same period was also notable for improvements in construction associated with the names of Telford, who emphasized the importance of solid foundations, and McAdam, who demonstrated the value of an arched surface of broken stone or flint. Turnpike roads made it possible for coaches to reach an average speed of 12 miles an hour. But transport by river and canal retained the advantage in handling bulky traffic and, as the nineteenth century progressed, the railways almost drove long-distance road transport out of existence. Roads held their own in towns where, first, horse-drawn omnibus services and then horse tramways were developed; the first of these were introduced into London and Birkenhead in the early 1860s. Towards the end of the nineteenth century the tramways were electrified and largely taken over by local authorities. London's trams have now been replaced by buses, as have those of most other cities and towns.

While tramways were still being developed, there came the internal combustion engine and the rapid increase in the number of motor cars. In 1909, the Government set up a Road Board to assist in providing new and better roads to meet the needs of the new traffic. In 1919, the Board's responsibilities were taken over by the newly created Ministry of Transport.

In 1956, Great Britain had 189,037 miles of public highway, over two miles for every square mile of territory. There were 8,270 miles of trunk roads, 19,670 miles of Class I roads, 17,646 miles of Class II roads, 48,818 miles of Class III roads, and 94,633 miles of unclassified roads. Roads are classified according to their traffic

value, those of purely local traffic importance remaining unclassified. On maps and signposts the trunk and Class I roads can mostly be identified by the letter 'A' in front of a route number, and Class II roads by the letter 'B'. Trunk roads are the main arteries of national traffic and the whole cost of their upkeep is met from Exchequer funds derived from annual grants voted by Parliament. The Minister of Transport and Civil Aviation is the highway authority for trunk roads in England and Wales and administers approved expenditure on these roads. For Class I, II and III roads the Minister makes grants towards approved expenditure at the rates of 75, 60 and 50 per cent respectively. The highway authorities for these and for unclassified roads are the local authorities—in most cases the councils of counties and county boroughs. In Scotland, the Secretary of State has the same responsibilities for roads as the Minister has in England and Wales.

Development

Economic difficulties since the war have restricted expenditure on major improvements and new construction, and the bulk of expenditure on roads—£110 million in the year ended 31st March, 1956—has been devoted to maintenance and repair, although since 1953 there has been increasing emphasis on new works. In February 1955, the Government announced the first instalment of an expanded programme of road construction and improvement. It is intended that in the four financial years 1955–59 road development works in Great Britain should be authorized, involving an ultimate expenditure of £147 million by the Government and of £20–£30 million complementary expenditure by local highway authorities. The programme includes certain major projects of great national importance. In July 1957, the Government announced a new expanded programme of road works that will ultimately cost £240 million for the four years 1958–62 (thus overlapping one year of the existing programme). The Minister of Transport and Civil Aviation has explained the plan of campaign for the road programme. First, to construct as quickly as possible the first stage of a national network of modern trunk routes; these will be through routes, in many cases confined to motor traffic only. Secondly, to clear away the worst bottle-necks in urban areas and thus to give free outlets from the big cities and from other main sources of traffic to the trunk routes. Thirdly, to press forward with the maximum amount of smaller road works all over the country. The Minister has also announced his intention to give priority as the programme develops to five new major road projects: a trunk road from London to Newcastle, based on the Great North Road; a new motor road from London to Birmingham and Lancashire; two new trunk roads from London to the south-east by-passing the Medway towns, and Maidstone and Ashford; a new road from the industrial Midlands to the South Wales ports; and a road from London westwards to London Airport, the West of England and South Wales. In March 1957, work began on a tunnel under the River Thames from Dartford to Purfleet to provide a new road link between Kent and Essex; it is expected that it will be completed by 1962. In Scotland, it is intended that construction of a new road bridge across the Firth of Forth should begin in the summer of 1958.

ROAD TRANSPORT

Between 1830 and the 1914–18 war, the railways were unchallenged as the chief means of transport in the country; the war, however, greatly stimulated the development and use of motor transport. In the period immediately following the first world war, the growth of public road transport began to make itself felt as a serious competitor of the railways and there was keen competition within the road transport industry itself. In 1928 a Royal Commission on Transport was appointed to

consider the issues involved, and following its recommendations legislation was introduced. The Road Traffic Act, 1930, provided either directly or by regulations for (i) a reclassification of motor vehicles and the re-enactment of the licensing system for drivers; (ii) the prescription of speed limits and a variety of 'safety' measures, including a restriction on the hours during which drivers of public service and goods vehicles could remain continuously on duty; (iii) safety requirements governing the construction and use of motor vehicles; (iv) compulsory insurance against third party risks; and (v) the introduction of a comprehensive licensing and inspection system for public service (passenger) vehicles, under which bodies of Traffic Commissioners were created with the duty, within defined traffic areas, of licensing vehicles, drivers and conductors, and services operated. The Traffic Commissioners consist of a full-time chairman appointed by the Minister and two part-time members chosen by the Minister from a panel of persons nominated by local authorities. Applications for licences for road services are considered at public sittings at which competing operators or local authorities can exercise a right of objection; the Traffic Commissioners have power to suspend or revoke a licence in certain circumstances. Although the Minister can issue general directions to Traffic Commissioners, he has no power to intervene in their decisions, unless an applicant or an objector, being aggrieved at a decision, appeals to him. The effect of this system has been to ensure for road passenger transport the regularity and reliability which has been a feature of the railway services.

In 1933, the Road and Rail Traffic Act was passed; it was based on the recommendations of the Royal Commission and on those contained in a report of a conference of experts, known as the Salter Report. A system of licensing for road haulage vehicles was introduced and three types of carriers' licences were instituted; the 'A' licence for general public haulage; the 'B' licence for public haulage limited to certain goods or certain areas and covering also the carriage of the licensee's own goods; and the 'C' licence for the carriage by traders of their own goods alone. The licensing authorities for goods vehicles are the chairmen of the licensing authorities for public service vehicles in each traffic area, and applications for 'A' and 'B' licences are considered at public inquiries as in the case of road service licences under the Road Traffic Act, 1930; 'C' licences are granted on application without public inquiry. A licence can be suspended or revoked by a licensing authority for breaches of licence conditions committed frequently, wilfully or to the public danger. There is a right of appeal against a decision of a licensing authority to an independent tribunal, the Transport Tribunal (see p. 240). The effect of this system has been to relate the operations of vehicles under 'A' and 'B' licences to approved needs and to eliminate wasteful competition between the different forms of transport.

The Transport Act, 1947, as already noted, established the British Transport Commission, which took over 'A' and 'B' hauliers predominantly engaged on long-distance haulage. Vehicles operating under 'C' licences and those used for carrying certain specialized traffics were not affected by the Act; 'A' and 'B' licensed vehicles which were not acquired by the Commission could be used only on journeys of over 25 miles from base under permits granted by the Commission. By the end of 1951, when the acquisition of vehicles by the Commission was completed, 3,266 undertakings with 41,265 vehicles and 3,018 trailers had been acquired. Carriers' licences were not required for vehicles operated by the various undertakings of the Commission.

The Transport Act, 1953, required the British Transport Commission to dispose of the bulk of its road haulage undertaking, and all vehicles operated by the Commission were made subject to the carriers' licence system.

The Commission was to be allowed to retain a proportion of its road haulage fleet corresponding broadly to the interest the railways had in road haulage when they were taken over on 1st January, 1948.

A Road Haulage Disposal Board was set up to supervise the disposal of the Commission's vehicles. Purchasers of the vehicles were entitled to operate them at once without restriction as to distance, and the 25 mile radius limit was removed from all operators on 1st January, 1955. The Act also established an annual transport levy on all goods vehicles of more than $1\frac{1}{2}$ tons unladen weight and on all goods tractors, out of which the Commission was to be compensated for the capital loss suffered; this levy was terminated at the end of 1956 after having produced about £12½ million. The Road Haulage Disposal Board's sales of the smaller lots of vehicles proceeded well, but there was little response to the offers of the larger units of the trunk services. The Government therefore decided that if the vital trunk services were to be preserved there was no alternative to leaving them in the hands of British Road Services. The Transport (Disposal of Road Haulage Property) Act, 1956, was accordingly passed to enable the Commission to make over to companies under their control more vehicles than permitted under the 1953 Act. In all, 19,000 vehicles were sold during the course of disposals. As from 9th September, 1956, British Road Services have been conducting their business through the medium of five companies: British Road Services, Ltd. (general haulage, 7,750 vehicles); BRS (Pickfords) Ltd. (special traffic and some contracts, 1,350 vehicles); BRS (Contracts) Ltd. (1,000 vehicles); BRS (Parcels) Ltd. (4,400 vehicles); and BRS (Meat Haulage) Ltd. (500 vehicles). The shares of all these companies are owned by the British Transport Commission; those of BRS (Parcels) Ltd. and BRS (Meat Haulage) Ltd. are still subject to disposal at some later date.

At the end of 1956, 1,180,396 goods vehicles were authorized under carriers' licences, including 87,995 under 'A' (public carriers') or contract 'A' licences; 68,906 under 'B' (limited carriers') licences; 998,219 under 'C' (private carriers') licences; and 25,276 under special 'A' licences issued to purchasers of vehicles formerly operated by the British Transport Commission as part of the nationalized road haulage undertaking.

Road Safety Measures

In 1956, there were six and three-quarter million motor vehicles licensed to use Great Britain's roads, of which over three and three-quarter million were motor cars and over a million and a quarter were motor cycles. Traffic density, is therefore, high, presenting serious problems of control and safety. In 1956, 5,367 people were killed on the roads and 262,593 injured. Under the Road Traffic Acts of 1930 (see p. 246) and 1934, the Government introduced a variety of measures designed to improve road safety, such as imposing a speed-limit in built-up areas, requiring all new drivers to pass a driving test, and laying down penalties for dangerous driving. A number of new traffic laws were introduced under the Road Traffic Act, 1956, but they were not all put into force immediately. This Act includes provisions making compulsory the annual testing of all vehicles which are ten years old, or more; enabling local authorities to designate parking places on the roads at which charges can be made by means of parking meters; extending to cyclists penalties for dangerous driving; and placing pedestrians under a legal obligation to obey the directions of police on traffic duty. Vigorous road safety campaigns are conducted by local authorities with the aid of Government grants. The Royal Society for the Prevention of Accidents, the police and education authorities are all actively at work to the same end. There is a system of pedestrian crossings including some

marked with conspicuous white stripes—hence the name ‘zebra crossings’—and illuminated by flashing beacons. The standard of conduct for all road users—pedestrians and drivers—is set out in *The Highway Code*, the third edition of which was published in May 1957. A failure to observe the provisions of this code does not of itself render a person liable to criminal proceedings of any kind but it may be taken into account in any such proceedings. Drivers of motor vehicles—including motor cycles, motor scooters and powered pedal cycles—all have to pass a driving test before being granted a substantive licence to drive; until they pass the test they may obtain a ‘provisional’ licence which necessitates their displaying ‘L’ (Learner) plates and, in all cases of vehicles constructed to carry passengers, they must be accompanied by a qualified driver. Under a new law that came into operation on 1st October, 1956, as part of the Road Traffic Act, 1956, drivers who have not renewed their licences for ten years or more must pass the driving test before they can obtain a new substantive licence.

INLAND WATERWAYS

In 1761, James Brindley completed the Bridgewater Canal to take coal from the collieries owned by the Duke of Bridgewater at Worsley to Manchester. This marked the beginning of canal building in modern Britain which played an important part in promoting the industrial and commercial expansion of the late eighteenth and early nineteenth centuries. Most of the present network—except, notably, the Manchester Ship Canal which was built between 1888 and 1894—was completed by 1840 when the development of railways brought to an end the golden age of canals. As railway competition developed, many canal companies were reduced to a precarious position, and, often at the instance of the companies, about one-third of the canal mileage passed to the control of the railways. During the first world war, Government control of railways included railway-owned canals. In 1917, the main canals not owned by the railway companies were placed under the control of a Canal Control Committee of the Board of Trade, being returned to their owners at the end of the war. Government control was again the rule in the second world war and, in 1948, the canals passed direct from Government control to the British Transport Commission.

The System

There are some 2,400 miles of navigable inland waterways in Great Britain, of which some 600 miles are now used only a little or not at all by commercial traffic. Some 1,000 miles are narrow waterways which can generally be used only by boats not exceeding 7 feet in width with a load varying from 25 to 30 tons; the remainder are broad waterways which can be used by craft with from 50 to 400 tons capacity. Broad waterways are mainly the canalized rivers—e.g., the Severn, Lee and Stort Navigation, Trent Navigation, Weaver Navigation, and Aire and Calder Navigation canals; while narrow waterways are mainly the canals in the interior, e.g., the Grand Union, the Shropshire Union, and the Birmingham network. The canals in Scotland are broad.

The British Transport Commission is responsible for 2,164 miles, of which 1,430 miles are in commercial use. The canals in England and Wales under the control of the Commission are grouped into four divisions based on the main navigable river estuaries:

1. The North-Eastern Division is based on the Ouse and Humber rivers and the ports of Hull, Grimsby, Goole and Immingham.

2. The North-Western Division is based on the Mersey estuary and its waterways are connected with Liverpool and Birkenhead, Ellesmere Port, Weston Point Docks and Manchester, and with Hull via Leeds.
3. The South-Western Division is based on the Severn estuary and its waterways are related to the ports of Avonmouth, Gloucester, Sharpness, Barry, Lydney, Cardiff, Newport and Swansea.
4. The South-Eastern Division is based on the Thames estuary and its waterways give access to the Port of London and to the Midlands.

Canals in Scotland, which are separately administered by the British Transport Commission, are the Caledonian Canal, the Crinan Canal, the Forth and Clyde Canal, the Monkland Canal and the Union Canal.

Most of the traffic on the waterways is carried by independent carriers or by traders in their own craft. The British Transport Commission, however, at the end of 1956 owned 23 tugs and 1,141 carrying craft with a carrying capacity of 41,140 tons, including 219 power-driven craft with a carrying capacity of 8,391 tons.

Survey of Waterways

Since assuming control, the British Transport Commission has taken steps to strengthen the commercial organization so as to secure increased traffic, improved dredging methods and equipment; it has brought better types of craft into service, established a research organization and undertaken various development works including the elimination of dangerous bends and the opening up of bottle-necks. It has spent over £2 million on arrears of maintenance and on new plant and equipment. In 1956, total traffic amounted to 10.4 million tons, of which 5 million tons were coal, 2.1 million tons liquids in bulk, and 3.3 million tons general cargo. Nearly all this traffic is carried on 1,200 miles of waterway, and 85 per cent of it on only 325 miles, indicating a serious problem of moribund canals.

In April 1954, the Commission appointed a Board of Survey to examine its inland waterways, to report on whether they were being used to the best possible advantage and to suggest what should be done with those which could no longer be put to economic commercial use. The Board of Survey reported in 1955. It recommended, *inter alia*, that a separate organization, British Transport Waterways, should be set up for the waterways (this has been done, see p. 239); that certain waterways of a total mileage of 771, which had insufficient commercial prospects to justify their retention for navigation, should be transferred to other authorities such as River Boards; and that responsibility for the canals in Scotland, which were running at a loss, should be transferred to the Secretary of State for Scotland.

In 1955, the Commission authorized the expenditure of £500,000 as a first instalment of schemes to develop to the full those waterways which are of real value to the national transport system. In January 1956, a programme of further development works costing £5½ million was announced and, in February 1956, the Ministry of Transport and Civil Aviation instituted a further and wider inquiry into the economics of the whole system.

LONDON TRANSPORT

London's transport system, in its modern sense, may be said to have begun when in 1829, four years after the opening of the Stockton and Darlington Railway, the first omnibus—horse-drawn—appeared on the London streets. Trams, also horse-drawn, appeared in 1861. In 1863 the first underground steam railway, the Metropolitan, was built by digging a great trench for the line and roofing it over. In 1870

a better method for building a railway inside a city was found when the Tower Subway was constructed. The line was laid in an entirely underground tunnel shaped like a tube and this became the world's first tube railway. In 1890 the City and South London, the first electric tube railway in the world, was opened, and it was followed in 1900 by the Central London Railway, called the 'twopenny tube' because for a time all journeys on it cost twopence. Soon after this, buses and trams ceased to be horse-drawn and used petrol and electricity respectively for their motive power, and trams, buses and underground railways rapidly developed into the vast network of London's transport system.

Until 1933 there was no unified operation. The large number of transport interests included: the main line railways with their suburban services; an Underground Group controlling most of the underground railways which was associated with the London General Omnibus Company's buses, Green Line Coaches and three tramway companies; the independent Metropolitan Railway Company; London County Council tramways; 13 municipal tramway undertakings; and some 60 small independent bus undertakings. But in 1933, the whole system, except the main line railways' suburban services, was vested in a public corporation, the London Passenger Transport Board. During the second world war, London Transport was taken over by the Government and operated, like the main line railways, through the Railway Executive Committee. In 1948, on the establishment of the British Transport Commission (see p. 238), the London Transport Executive took over control.

The London Transport Executive is responsible for the operation of passenger road and rail services in the London area, with the exception of the main line railways, suburban services of British Railways, and taxicabs, which are all privately operated by companies or owner-drivers.¹

The Executive consists of a chairman and from four to eight members; in 1957 there were four full-time and three part-time members. The chairman and full-time members each have special functional responsibilities apart from their general responsibility for running the London Transport system.

The operation of London's transport is a vast undertaking. It serves an area of 2,000 square miles, extending for an average distance of 25 miles from Charing Cross in the centre of London. It covers, in whole or in part, 10 counties, and includes the cities of London and Westminster, 27 other metropolitan boroughs, 2 county boroughs, 48 municipal boroughs, 59 urban and 29 rural districts. The total population of the area approaches 10 million.

From north to south the railway network stretches 18 miles, from east to west 32 miles and from north-west to east 49 miles. The total length of the railway over which London Transport trains operate is 253 miles, of which a third is underground, including the longest tube tunnel in the world, 17½ miles. London Transport trains serve 277 stations.

Diesel buses and coaches travel over roads which have a total length of 2,977 miles, and trolleybuses (which use electricity) over 253 miles of road.

To carry traffic over all this area, the London Transport Executive in December 1956 owned 4,026 railway cars, 7,793 buses and coaches, and 1,614 trolleybuses. The total staff employed at the end of 1956 was 87,237, of whom 12,017 were women. The total number of passenger journeys in 1956 was 3,913 million, or about 75 million every week.

¹ During 1956 in the Metropolitan Police District, which covers the counties of London and Middlesex and parts of Essex, Kent, Surrey and Hertfordshire, annual licences were issued for 5,898 taxicabs; licensed taxicab drivers at the end of 1956 numbered 9,051.

The challenge to the efficiency of London Transport presented by this vast traffic is being met by a continuous process of development. Thus, since the end of the war, all remaining trams have been replaced by buses, extensions to the Underground railway have been built and more efficient light alloy trains have been introduced. Current development plans include a new tube railway from the north-east to the west-end of London, and replacement of the remaining trolley-buses by diesel buses.

PUBLIC TRANSPORT IN NORTHERN IRELAND

With the exception of passenger transport in the city of Belfast, which is provided by the Corporation, public road transport, road and rail services within Northern Ireland are mainly provided by the Ulster Transport Authority, a public body which was established under the Transport Act (Northern Ireland), 1948.

This body provides a country-wide omnibus service and also offers a comprehensive road freight service, both for the carriage of sundries and for the use of firms not wishing to use their own vehicles.

There are 433 miles of railroad open for traffic. Of these, 266 miles are operated by the Great Northern Railway Board, which is a joint undertaking of the Government of Northern Ireland and the Government of the Republic of Ireland. The Northern Ireland members of the Board are drawn from the Ulster Transport Authority which is responsible for the remaining 167 miles of railway.

The Great Northern Railway is operated as a single unit and statistics for the Northern Ireland part are not separately available. The scope of the Ulster Transport Authority's operations is indicated by the following figures for the year ended 30th September, 1956:

Railroad mileage (open for operation)	167 miles
Road route mileage (omnibus)	2,670 miles
Locomotives	48
Diesel rail cars and trailers	58
Railway coaching vehicles	267
Railway freight vehicles	2,352
Omnibuses and coaches	914
Goods motor vehicles and trailers	1,120
Passengers carried during year	100,084,650
Merchandise carried during year	1,617,549 tons
Livestock carried during year	873,930 head

Roads

There are 13,657 miles of public roads in Northern Ireland, comprising 348 miles of trunk roads, 960 miles of Class I roads, 1,747 miles of Class II roads, 2,760 miles of Class III roads, and 7,842 miles of unclassified roads. The Ministry of Commerce is responsible for the maintenance and improvement of the trunk roads and makes grants from the Road Fund (which is derived from such sources as the proceeds of taxation of mechanically propelled vehicles registered in Northern Ireland and from driving licence fees) to help the local authorities who are responsible for the other roads. During the four years ended 31st March, 1956, a total of £17.1 million was spent on work on all types of roads in Northern Ireland.

CIVIL AVIATION

Responsibility for the general development and supervision of United Kingdom civil aviation rests with the Minister of Transport and Civil Aviation.¹

Scheduled public air transport services are reserved to the two public corporations—British Overseas Airways Corporation (BOAC) and British European Airways (BEA)—and their associates. Scheduled services are those operated regularly or systematically between two places, one of which is in the United Kingdom, for the transport of passengers, mail or cargo for remuneration, in such a manner that each flight is open to use by members of the public.

Non-scheduled or charter flights are operated in the main by independent air transport companies, although the Corporations undertake such flights as opportunity offers with aircraft not required for their scheduled services at any particular time. Some of these independent firms have large fleets of aircraft and many of them operate scheduled services as associates of one or other of the Corporations.

Early Development

British airmen were among the first to carry mails (at the time of the Coronation of H.M. King George V in 1911) and the first to operate regular mail and passenger services. The actual inauguration of British civil air transport came on 25th August, 1919, when a daily passenger service was opened between London (Hounslow) and Paris (Le Bourget) by a company called Aircraft Transport and Travel Limited. The year 1919 was also marked by notable pioneer flights including the crossing of the Atlantic by John Alcock and Arthur Whitten Brown in June (both were later knighted for their achievement) and the first flight between England and Australia by Captain (later Sir) Ross Smith and his crew in November and December.

In 1923, a Civil Air Transport Subsidies Committee recommended the merger of the four existing small British companies into one organization capable of developing overseas routes. In April 1924, the merger took place and there came into being Imperial Airways Limited, which received a Government grant of £1 million spread over the next ten years. As a substantial shareholder the Government was represented on the Board of Directors.

Imperial Airways Limited proceeded to pioneer the commercial development of intercontinental air-routes, following up, in most cases, the exploratory work of the Royal Air Force. Pioneering involved organizing ground services upon which civil aviation could rely. The route to the Far East came first. In 1927, a link was established between Cairo and Basra and by 1929 there was a through service from England to India. In 1931, the first service was established to Central Africa. The first mail service between London and Australia was begun in December 1934, followed by a passenger service in 1935.

In 1937, crossings of the Atlantic were made simultaneously by Imperial Airways with the modified 'Empire' class flying-boat and by Pan American Airways. In 1939, a transatlantic service was operated by both companies. The British Overseas Airways Corporation was established by the British Overseas Airways Act, 1939, and took over the undertakings of Imperial Airways Limited and British Airways Limited in 1940.

During the second world war the British Overseas Airways Corporation operated essential overseas air services in support of the war effort. By the end of the war it

¹ Up to 1945, civil aviation was administered by the Department of Civil Aviation of the Air Ministry. Between 1945 and 1953 the Ministry of Civil Aviation was the responsible Government Department and, in October 1953, the Ministries of Civil Aviation and of Transport were amalgamated. In the rest of this section, reference will usually be made only to 'the Minister' or 'the Ministry'.

was carrying more than twice as many passengers as in 1939 and more than three times as much freight. The routes, moreover, had efficient radio and radar systems which had been installed for war purposes and which were adapted for civilian use. There were also about 700 aerodromes in the United Kingdom, although most of them, having been constructed for war purposes away from large towns, were unsuitably placed for civil use.

The one serious obstacle to a continued expansion of British civil air transport after the war was the absence of any new British civil aircraft to take the place of the pre-war types. The British aircraft industry throughout the war had concentrated entirely on the production of fighters and bombers for the Allied Forces, leaving the production of all transport aircraft to the Americans. Since the evolution of a new airliner takes from five to ten years, there was an awkward gap in the natural development of British civil air services which could be filled only by the use of uneconomical converted military types, or the purchase of foreign aircraft. Both these expedients were adopted, together with the use of the highly successful interim short-range *Viking* aircraft, while the British aircraft industry concentrated on the development of the turbo-jet and turbo-prop airliners, e.g., *Comets*, *Viscounts* and *Britannias*.

The Corporations

As already noted, the British Overseas Airways Corporation (BOAC) was set up in 1939. The Civil Aviation Act, 1946, set up two additional public corporations; British European Airways (BEA) to cover the United Kingdom and Europe, and British South American Airways (BSAA) to operate to South America and the Caribbean, leaving the North Atlantic and Eastern Hemisphere routes to BOAC. In 1949, BSAA was merged into BOAC by the Airways Corporations Act of that year. The statutory provisions (now laid down by the Air Corporations Acts, 1949 to 1956) relating to the powers and constitution of BEA and BOAC are as follows:

Operations. Scheduled services are reserved to the two Corporations, working alone or through associates. They can also engage in charter work. They may not manufacture airframes, aero-engines or propellers.

Constitution. Each Corporation consists of a chairman, deputy chairman, and not fewer than five or more than eleven directors. Appointments are made by the Minister who, in the case of BOAC, may, if he wishes, appoint two deputy chairmen.

Finance. Each Corporation may, with Treasury consent, borrow either by raising temporary loans or by issuing stock. The Treasury may guarantee redemption or repayment of, and payment of interest on, any stock issued and temporary loans raised. By section 42 of the Finance Act, 1956, the Corporations may also, until 31st March, 1958, raise money by means of interest-bearing redeemable loans from the Exchequer. Under the Air Corporations Act, 1956, the borrowing powers of BOAC and BEA are limited to £160 million and £60 million respectively. This Act also provides that BOAC may, with the consent of the Treasury, borrow from the International Bank or the Export-Import Bank of Washington in order to buy aircraft manufactured in the United States of America and spare parts and equipment for such aircraft. Provision was made in earlier Acts for Exchequer grants up to a limit of £8 million a year (for both Corporations together) until April 1956, so as to enable the Corporations to build up their organization and services over a period of years. (For 1946-47 and 1947-48 the maximum was £10 million.) BOAC has operated without Exchequer grant since 1952-53 and BEA since 1955-56. The Corporations are not exempt from liability for any taxes or rates.

Accounts. Statements of accounts in a form approved by the Minister and the Treasury have to be prepared by the Corporations for each financial year. The accounts are audited by auditors appointed annually by the Minister.

Annual Reports. Each Corporation must also make an annual report to the Minister, and the Minister must lay a copy of this report and of the accounts before both Houses of Parliament. In addition, each Corporation must submit before the beginning of every planning period (each three-year period, beginning 1st April, 1947) a programme of the services it proposes to provide and of any other activities it proposes to engage in, as well as an estimate of its receipts and expenditure on revenue and capital account during the period.

Labour Relations. Each Corporation must, unless it is satisfied that adequate machinery already exists, consult with any organization which it considers appropriate with a view to establishing machinery for settling terms and conditions of employment and for discussing matters affecting the safety, health and welfare of its employees and other matters of interest to both parties, including efficiency in operating the Corporation's services. In 1946, the *National Joint Council for Civil Air Transport* was set up as the body through which terms and conditions of service between the Corporations and the 18 Trade Unions representing the employees are negotiated. A number of the independent air transport companies have since become members of the Council.

Ministerial Control. The Corporations conduct their own affairs as commercial businesses. The Minister can give general directions on matters affecting the national interest but in practice this power is rarely, if ever, used, since it has been found much more suitable to proceed by means of close consultation and discussion with the Corporations. In fact, the Minister has maintained closer control over them than has been the case for the other nationalized industries. During the Exchequer grant period (1946-56) the Minister had to decide in consultation with the Treasury what grants, within the ceiling of £8 million, should be given to each Corporation in any particular year. This necessitated a close examination of the Corporations' programmes of air services and financial estimates. The Minister also keeps in close touch with the Corporations regarding plans for new aircraft and new routes since he has to negotiate the necessary rights with foreign governments. He also provides most of the aerodromes from which the Corporations operate and the navigational aids and communications necessary to the conduct of their flights. Contact between the Corporations and the Ministry is, therefore, close, mainly in the form of daily informal exchanges of information between their staffs.

Independent Companies

The Government considers that non-scheduled or charter services are mainly the domain of the independent companies. The Corporations are not precluded from engaging in this work but they do not maintain aircraft specially for it. The operation of scheduled services by independent companies under associate agreements with the Corporations was introduced in 1948. Applications to operate these services were considered by the Air Transport Advisory Council (see p. 261), which recommended to the Minister whether or not approval should be given. In the main, agreements were of short duration, the routes being those which the Corporations did not, at the time, plan to operate, e.g., some internal routes, short-haul ferry services across the English Channel and a few holiday routes to the Continent.

The opportunities for independent companies to take part in air transport developments were increased in 1952. In May of that year the Minister outlined

the principles which would be followed in shaping the Government's policy for air transport development. These were, broadly, to combine public and private enterprise in the best interests of British civil aviation; and to promote sound development, reduce the cost to the taxpayer and give greater opportunities to private enterprise without impairing the competitive strength of Britain's international services and without undermining the existing international networks of BOAC and BEA.

This policy is being implemented within the existing legislation so that independent companies seeking to take advantage of new opportunities to operate scheduled services continue to be appointed associates of one of the Corporations. Applications by independent companies continue to be made to the Air Transport Advisory Council, but are considered under new terms of reference issued to the Council in July 1952. Under these terms of reference, the Corporations' position is safeguarded by reserving to them the sole right to operate first and tourist class services on their established routes. Independent companies and the Corporations alike, however, are eligible to apply for the right to develop new routes not so reserved and new types of scheduled services: for example, international services which do not serve the same traffic areas as services by BEA or independent companies already approved; services operated solely for the carriage of freight; and 'coach class' services to certain Commonwealth and Colonial territories overseas, providing a lower standard of service than the tourist class and so generating a new class of traffic. It is expected that even lower fare air services will be developed on world tourist air routes in which independent airlines will participate.

The Air Transport Advisory Council considers applications in the light of its terms of reference and, after hearing evidence from interested parties, makes recommendations to the Minister. Approval of the scheduled services of independent companies as associates of the Corporations is now normally given for seven years with extension to ten years in special circumstances, for example, where the purchase of new aircraft is involved. In this way, it is intended to give independent companies sufficient long-term security to justify capital outlay and expansion.

Operations

The latest available information about the services, fleets and results of the two Corporations, and the activities of the independent companies are summarized below.

British Overseas Airways Corporation

The British Overseas Airways Corporation (BOAC) operates scheduled services to the Middle and Far East and to Australia, with terminals at Sydney, Tokyo, Hong Kong, Singapore, Colombo, Karachi, Bahrain, and Aden; to Africa with terminals at Johannesburg, Nairobi, Accra/Lagos and Dar es Salaam; and to North America and the Caribbean with terminals at New York, Chicago, San Francisco, Montreal, Jamaica and Trinidad. There are regional services between New York and Bermuda, Nassau and Montego Bay; the services between New York and the last two points operate as extensions of the London-New York route. The routes to Central and South Africa are operated in partnership with Central African Airways and South African Airways, and the route to Sydney in partnership with Qantas Empire Airways of Australia. Qantas carries on the service from Australia by operating routes to North America—formerly operated by British Commonwealth Pacific Airlines which went out of existence on 31st March, 1954—which connect at San Francisco with BOAC's San Francisco to London service, and thus provide a Commonwealth round-the-world air service. Tasman Empire Airways, jointly

owned by the Australian and New Zealand Governments, operates services between Australia and New Zealand and from New Zealand to Fiji and other islands of the South Pacific.

This network of services (see front end-paper map) is supplemented by the activities of subsidiary and associated enterprises overseas in which BOAC participates financially or with which it has technical or management agreements.

The airlines in which BOAC has a controlling financial interest include *Aden Airways Ltd.*,¹ operating in the southern Red Sea area; *Bahamas Airways Ltd.*, providing services between the islands of the Bahamas and to Florida (USA); *British West Indian Airways Ltd.*, which provides services throughout the Caribbean area and to New York; and *Gulf Aviation Company Bahrain Ltd.*,¹ which operates in the Persian Gulf area. Companies with which BOAC is associated either financially or through advisory and other agreements include *Middle East Airlines Company*¹, which operates services from the Lebanon throughout the Middle East and to Europe; *West African Airways Corporation* and *East African Airways Corporation*, serving West and East Africa; *Malayan Airways Ltd.*, which operates services in the Federation of Malaya, Singapore, North Borneo, Brunei and Sarawak; *Hong Kong Airways*; *Cyprus Airways Ltd.*; *Iraqi Airways*; *Kuwait Airways*; and *Arab Airways*¹, which provides services for Jordan. BOAC, like BEA, is also associated with *International Aeradio Ltd.* (see p. 263).

To implement its policy of extending the benefits of air travel to a wider public by charging lower fares, BOAC has introduced tourist services on many routes and in 1956-57 tourist passengers accounted for 57 per cent of those who travelled on the Corporation's services.

On all its services, BOAC carried, in 1956-57, 409,684 passengers, 7,484 tons of freight and 4,145 tons of mail. The figures in 1947-48 were 115,675 passengers, 2,447 tons of freight and 2,088 tons of mail.

BOAC's fleet in May 1957 consisted of: 10 Mark 102 *Britannias*, which came into service on the Johannesburg route on 1st February, 1957, to Australia on 2nd March, 1957, to Tokyo on 16th July, 1957, and to Ceylon in September 1957; 19 *Argonauts*; 14 *Constellations* (five of which are awaiting disposal); 16 *Strato-cruisers*; 10 *DC.7Cs*; and 2 *Yorks*. In May 1957, orders had been placed for the following British aircraft; 5 Mark 102 *Britannias*; 18 Mark 312 *Britannias*; 1 Mark II *Comet*; 19 Mark IV *Comets*; and 12 *Viscount 700Ds*; it had also been decided to order 35 Vickers *VC.10s*. In addition, orders had been placed in the United States of America for 15 Boeing jet aircraft.

The larger Mark 312 *Britannias*, the first of which was delivered in September 1957, are expected to begin service on the North Atlantic route by 1958.

The *Comet I* (with which the world's first scheduled jet service was started on 2nd May, 1952) had been progressively introduced into the Corporation's fleet until April 1954 when, following accidents which involved the loss of two aircraft, it was withdrawn from service pending the report of a Court of Inquiry. This report was published in February 1955. The Court found that the cause of the accident to the *Comet* wrecked off Elba in January 1954 was the structural failure of the pressurized cabin brought about by fatigue. The Court thought it possible that the same cause accounted for the loss of another *Comet* near Naples in April 1954. It made a number of recommendations designed to prevent future similar accidents and these were accepted by the Government. BOAC's faith in the future of the *Comet* is

¹ BOAC's interests in these companies are held by Associated British Airlines (Middle East) Ltd., a company in which the Corporation has a major interest.

demonstrated by the order it has placed with de Havillands, the manufacturers, for the Mark IV *Comets* which will incorporate the improvements in structural design that are the outcome of research and of the findings of the Court of Inquiry. Delivery of these aircraft will begin in 1958.

In the year 1951-52, BOAC for the first time made a net profit of nearly £275,000, after allowing for interest on capital and before crediting the Exchequer grant of £1½ million. In 1952-53, when the profit (before providing for interest on capital) was reduced from £1·2 million to £104,000 mainly owing to an increase in costs, BOAC abstained from claiming any Exchequer grant, and the deficit of £839,000 remaining after paying interest on capital was carried forward. In 1953-54 the profit was £2 million, and after paying interest on capital, providing for future income tax and profits tax and allowing for capital and other surpluses, there remained a balance of £936,911 to be applied to the reduction of the accumulated deficiency. In 1954-55, a year made difficult by the withdrawal of the *Comets* from service in April 1954, the profit fell to £1·4 million. At the end of March 1955, the Corporation's accumulated deficiency was £862,000, but during 1955-56 BOAC wiped out this deficiency, and showed for the first time an accumulated surplus of nearly £18,000. In 1956-57, the profit was £1·8 million, and the accumulated surplus had risen to £440,000.

Over the whole ten-year period up to the end of March 1957, the capacity on BOAC services increased from 89·5 million to 282·1 million ton miles; operating revenue increased from £14·6 million to £49·0 million; operating costs were reduced from 57·7 pence per ton mile to 39·0 pence; and the break-even load factor (the proportion of aircraft space it is necessary to sell in order to cover all costs of operation and administration including interest on capital) fell from 115 per cent to 64 per cent.

British European Airways

British European Airways (BEA) is the seventh largest airline in the world judged by the annual number of passengers carried: 2,461,065 in 1956-57, when it operated on its own behalf, in conjunction with its associated companies and subsidiaries, a network of services covering 26,169 unduplicated route miles serving 69 airports in the United Kingdom, Europe and North Africa, within a periphery on which the farthest points to the north, south, west and east are Bergen, Benghazi, Lisbon and Beirut. Its services within the United Kingdom include a number which cannot be operated commercially with the equipment now available, but which meet a vital social need. These include services to the Highlands and Islands of Scotland, winter services to the Isle of Man and inter-Channel Islands services. Tourist fares have been introduced on all BEA's domestic routes and on practically all its international routes. BEA maintains a close working relationship with BOAC, whose aircraft of necessity fly through a number of European stopping points on their way east and south. BEA also co-operates with other airlines in order to create 'through travel' facilities. In addition to 2,461,065 passengers, BEA carried 22,524 tons of freight and 7,541 tons of mail in the year 1956-57. The figures in 1947-48 were 511,522 passengers, 2,610 tons of freight and 1,558 tons of mail.

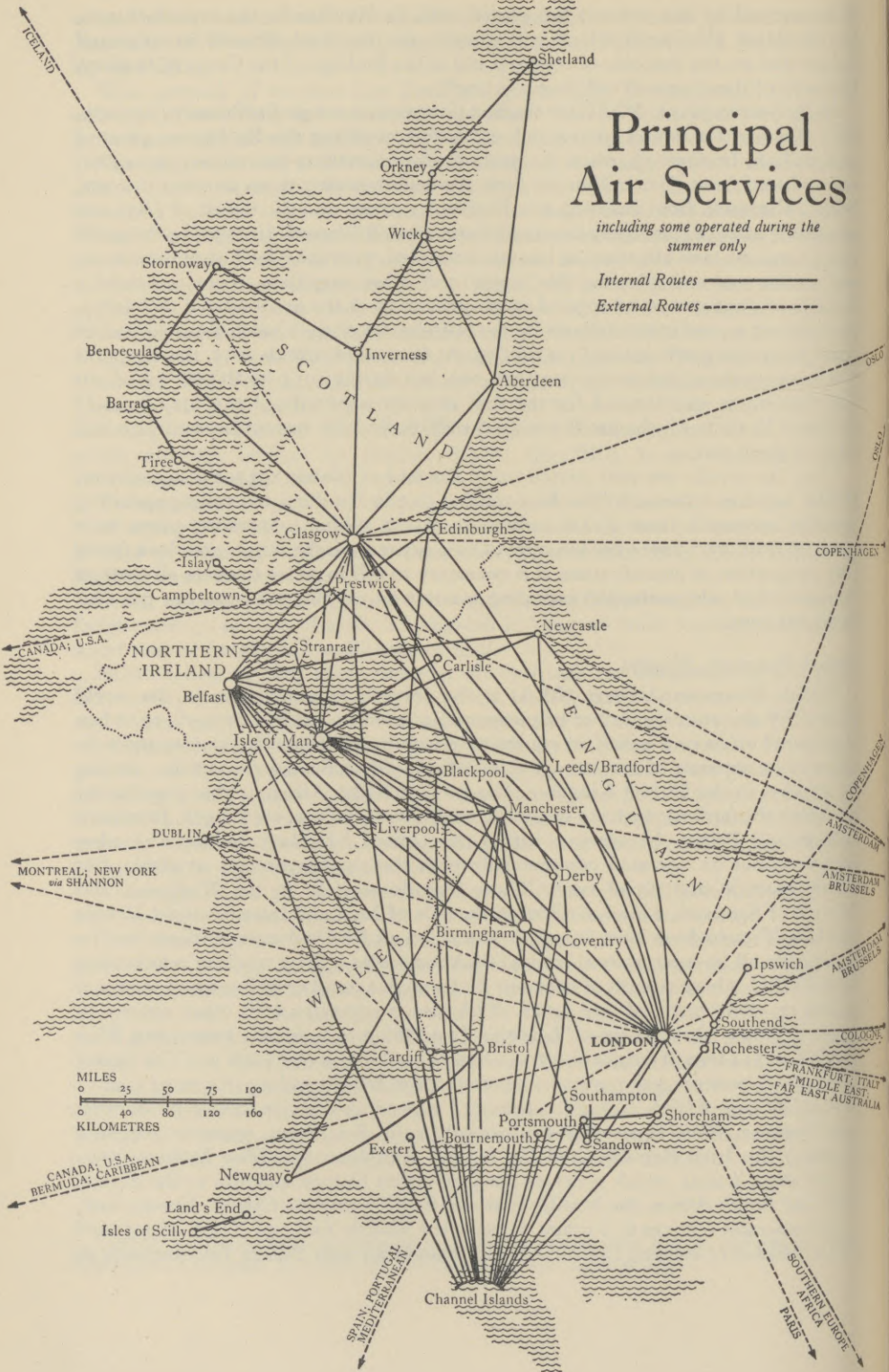
A subsidiary of BEA, *Gibraltar Airways Ltd.*, operates services between Gibraltar and Tangier. BEA is associated financially with *Aer Lingus*, working primarily between the Irish Republic and the United Kingdom; *Aerolinee Italiane Internazionali (Alitalia)*, which operates services within Europe and also to the Sudan, East and South Africa, the Middle East and South America; *Cyprus Airways Ltd.*, and which operates services to Turkey, Greece, the Middle East and North Africa; and *Malta Airways Company Ltd.* BEA is also associated with *Société Internationale de*

Principal Air Services

including some operated during the summer only

Internal Routes —————

External Routes - - - - -



Télécommunications Aéronautiques (SITA), a Belgian company which provides communications circuits for subscribing operators; and, like BOAC, with *International Aeradio Ltd.* (see p. 263).

BEA's fleet in May 1957 comprised 25 *Viscount 701s*, 12 *Viscount 802s*, 19 *Elizabethans*,¹ 38 *Pionairs*, 8 *Pionair Leopard* freighters, 4 *Hérons*, and 3 *Rapides*. Aircraft on order at that date consisted of 12 *Viscount 802s*, 14 *Viscount 806s*, and 20 *Vanguards*. In August 1957, BEA ordered six Mark IVB *Comet* jet airliners for delivery in 1959-60 for longer routes.

The *Viscount V.701* 'Discovery' class was brought into regular scheduled service on 16th April, 1953, on the routes to Istanbul and Cyprus, thus inaugurating the world's first commercial operations with propeller-turbine aircraft. During 1955-56, the 28 *Viscounts* carried 617,432 passengers on both European and internal services. A larger version of the *Viscount*, the *Viscount 800*, was brought into service in February 1957 between London and Paris and, by 1st July, it had also been introduced on the routes from London to Dublin, to Copenhagen, to Nice, and to Amsterdam. Work is already in hand on the production of a new fleet of *Vanguards*, an airliner providing exceptionally capacious freight holds as well as accommodation for 90 or more passengers. It is hoped that these aircraft, of which BEA has ordered 20, will be delivered in 1959-60.

Since 1950, BEA has operated various scheduled services with helicopters, in order to obtain experience in the civil operation of helicopters which can be used to assist the design and production of a commercial twin-engined British helicopter, and the development of navigational aids and ground facilities. At first, BEA worked with the American type *Sikorsky S.51*, but towards the end of 1951 the first British-built and designed helicopter suitable for scheduled flying, the *Bristol 171*, became available and, after working for a period with one lent by the Ministry of Supply, BEA took delivery of two in June 1953, one of which has since been sold. This, like the *S.51*, is a single-engined helicopter. A prototype twin-engined helicopter, the *Bristol 173*, has been developed on which BEA have gained some flying experience, but the commercial version needed by BEA for the operation of passenger services is not likely to be available for airline service for some years. At the end of 1956, BEA's helicopter fleet consisted of one *Bristol 171*, one *Bell 47B* (used for training purposes) and three Westland *Sikorsky WS.55s*.

As part of the process of obtaining experience, BEA has operated the following scheduled passenger or freight helicopter services: in 1950-51 from Cardiff to Liverpool; in 1951-54 from Birmingham to London; in 1954-55 from London Airport to Eastleigh (Southampton); from July 1955 to May 1956 from London Airport to a site adjoining the Waterloo Air Terminal; and from July to October 1956 between Nottingham and Leicester and Elmdon (Birmingham).

Over the period 1947-48 to 1956-57, BEA's capacity increased from 22 million to 139 million ton miles, operating revenue from £4 million to £23.9 million, total costs were reduced from 83.6 pence per ton mile to 41.0 pence, and the break-even load factor on total costs fell from 115 per cent to 63.9 per cent. BEA is faced with the problem of securing adequate revenue from short-haul routes aggravated by a marked seasonal variation in its traffic.

In 1954-55 BEA achieved its first net profit of £63,000. In 1955-56 it earned a record net profit of £603,614, which was sufficient to wipe out its accumulated deficit and leave a surplus of £64,528. In 1956-57, a year of political and economic difficulties, BEA's net profit was £216,770.

¹ BEA expected to have sold all their *Elizabethans* by the end of 1957, as these are being replaced by *Viscounts*.

Independent Companies

The scheduled services that the independent companies operate as associates of BOAC or BEA (see p. 254) include internal services; passenger services on certain international routes, chiefly from places outside London to Europe, the Channel Islands and the Canary Islands; cross-channel vehicle ferry services; overseas 'Coach Class' services; inclusive holiday tours and various domestic and overseas all-freight services. In 1956-57, 637,413 passengers were carried by the independent companies on scheduled services, compared with 377,228 in 1954-55 and 61,446 in 1950-51; in 1956-57, 96,605 passengers also travelled on inclusive tours. The total traffic of these companies on scheduled services increased from just over 1 million ton-miles in 1950-51 to over 20 million ton-miles in 1956-57. But by far the greater part of the independent companies' operations consists of air trooping and general charter work; in 1956, these activities together accounted for 77 per cent of the total capacity ton-miles of the independent operators. The general charter work covers a wide range of business, including transporting the staff of public or private concerns operating overseas; taking seamen to ships in overseas ports; taking parties to football matches and race meetings in the British Isles; carrying livestock, machinery and other valuable or fragile cargo; and bringing perishable foodstuffs and flowers from the continent of Europe to the United Kingdom market. There are also several firms that specialize in non-transport aerial activities, notably aerial survey and pest control.

The independent air transport operators have a total fleet strength of over 250 aircraft. The types include *Yorks*, *Bristol Freighters*, *Hermes*, *Vikings*, *Dakotas*, *Viscounts*, *Supertraders*, *DC.4s* and *Solent* flying boats. A number of these companies are members of the British Independent Air Transport Association Ltd. The larger of them have subsidiary companies abroad, and in some cases provide the management of small foreign airlines. Much charter business is now arranged through the Air Section of the Baltic Exchange, the London market for shipping space (see also p. 231), where business from any part of the world is handled between brokers representing, on the one side, the owners of aircraft available for hire and, on the other, the prospective shippers of cargo or organizers of passenger trips. Inquiries for the charter of aircraft were first received on the Exchange as long ago as 1925, but it was not until 1947 that an Air Section was formed. To assist the market, the Baltic Exchange set up an air freight advisory committee but this was dissolved on 1st February, 1949, when the Airbrokers' Association was formed. Among other aims, the Association seeks to promote and establish uniformity in transactions and usages in the airbroking trade, to establish in London a world market for chartering aircraft to carry cargo and passengers, to represent the interests of its members to Government Departments and other bodies, and to provide commercial arbitration machinery for the assistance of its members.

A recent development has been the increasing participation of shipping finance in independent air companies: e.g., the Clan line has acquired a 50 per cent non-controlling interest in the Hunting Group, Furness Withy and Blue Star Line have both acquired a substantial interest in Airwork Ltd., the Peninsular and Oriental Steam Navigation Company Ltd. (P and O) has acquired a majority shareholding in another independent company, Britavia, and the Bibby Line has acquired a substantial holding in Skyways Ltd.

Powers and Duties of the Minister

The Civil Aviation Act of 1949, which superseded both the Ministry of Civil Aviation Act, 1945, and the Civil Aviation Act, 1946, gives the Minister the duty of 'organizing, carrying out and encouraging measures for the development of civil

aviation, for the designing, development and production of civil aircraft, for the promotion of safety and efficiency in the use thereof, and for research into questions relating to air navigation'.

The Minister's duties in regard to the development of civil aviation cover his relationship to the Corporations (as laid down in the Air Corporations Act of 1949) and his general responsibility for carrying out policy; participation in the International Civil Aviation Organization; responsibility, in concert with the Foreign Office and Commonwealth Relations Office, for dealing with other countries in civil aviation matters; and the work of the *Air Transport Advisory Council*. This body was established by the 1946 Act primarily to bring to the Minister's notice important representations from the public concerning any inadequacy in the services provided by the Corporations. It was also laid down that its duties should include the study of any question related to the air transport services which the Minister may refer to it. Under this provision, the Minister has given the Council the task of considering and making recommendations to him on applications from independent companies to operate scheduled services as associates of one of the Corporations. This has, in fact, provided most of the Council's work, which has been increased following the Government's decisions in 1952 (see pp. 254-5).

The Act requires that the chairman of the Council must be a lawyer and, of its two to four members, at least one must be experienced in the operation of air transport services and one in other forms of transport. The Council makes an annual report to the Minister who lays it before Parliament.

The supervision of design, development and production of civil aircraft has been delegated to the Ministry of Supply, which is also responsible for the provision of all Service aircraft and carries on an extensive programme of research and development to meet civil and Service needs. The Minister of Transport and Civil Aviation is specifically debarred from 'producing' aircraft, and any dealings he may have in aircraft, engines and equipment are subject to Treasury approval.

In exercising his responsibility for safety, the Minister regulates the operation of aircraft and controls the licensing of flight crews. On all safety matters the Minister may call upon the advice of the *Air Safety Board*, a standing advisory body of experts responsible to him for keeping under continuous review the needs of safety in British civil aviation and for recommending measures calculated to promote safety, in respect of both the operation of British civil aircraft throughout the world and the efficiency of the system of ground facilities provided for all civil aircraft operating over the United Kingdom.

On airworthiness matters the Minister is advised by the *Air Registration Board*, to which he has delegated certain functions relating to the design, construction and maintenance of civil aircraft. The Board is a non-profit-making incorporated body which was set up in February 1937 and consists of 18 members, of whom 16 represent the interests concerned with civil aviation and two are appointed by the Minister. The Board is responsible, *inter alia*, for the investigation of aircraft for the purpose of making recommendations to the Minister for the issue of Certificates of Airworthiness. Persons engaged in the maintenance of civil aircraft must be the holders of appropriate licences issued by the Board, or must be members of firms approved by the Board for the purpose.

The Minister is authorized (as are local authorities, subject to his approval) to establish and maintain aerodromes for civil aviation. All civil aerodromes not under the Minister's direct control, which are used for commercial operations, are subject to his licensing, inspection and regulation.

The Minister is responsible for determining the conditions, e.g., use of aerodromes and choice of routes, under which aircraft may fly within the United

Kingdom and of those under which passengers or cargo may be carried. He is also responsible for various other matters, including the use of signals to and from aircraft, the prevention of interference (e.g., from displays of lights and signs from shops) and with the effectiveness of navigational aids. The Minister is jointly responsible with the Minister of Health for sanitary control at his aerodromes, and he also assists the appropriate Departments in the application of customs and immigration regulations.

Aerodromes

There are approximately 100 civil aerodromes in the United Kingdom and, in addition, about 50 Service aerodromes are available for civil use. Those under civil control include 26 directly controlled by the Ministry, three in the Channel Islands and one in the Isle of Man administered by the local governments, and 26 aerodromes licensed for public use, of which 16 are owned by municipalities. Customs facilities are provided at 12 of the Ministry's aerodromes and at 12 others. The Ministry advises the Colonial Office on civil aviation matters, and also assists United Kingdom dependencies overseas in equipping and maintaining civil aerodromes and in providing necessary technical facilities to accepted international standards.

The main airports used by international scheduled services in 1956-57 were:

for European services: London, Renfrew, Birmingham (Elmdon), Manchester (Ringway);

for North Atlantic services: London, Prestwick, Manchester (Ringway);

for Middle East, Africa and Far East services: London.

Substantial increases in aircraft and passenger movements at the principal aerodromes have continued from 1945 to 1956. In the latter year, all United Kingdom aerodromes handled nearly 6 million passengers. Of this total, London Airport dealt with 3 million. Outside the London area, Manchester (Ringway) handled the largest number, 387,328; followed by Glasgow (Renfrew), 373,948; Belfast (Nutt's Corner) 270,413; Prestwick, 243,307; and Isle of Man (Ronaldsway) 215,709. The number of movements of aircraft engaged on commercial transport operations in 1956 was 293,464 for all United Kingdom aerodromes. The Central Terminal Area at London Airport was opened on 17th April, 1955. On that day the airport was divided into two parts for traffic purposes, 'London Airport North' and 'London Airport Central'. Broadly the long-haul services and Royal Dutch Airlines (KLM) continued to be handled at the North terminal; the bulk of the European short-haul services have been transferred to London Airport Central.

Gatwick Airport, 25 miles south of London, is being developed as the main alternate to London Airport, to be used for diversions and as a base for Channel Island services and the services of independent airlines; while Blackbushe, west of London, will be used as the supplementary aerodrome to handle aircraft which for any reason cannot use the main alternate. Prestwick is being developed as the second international airport in the United Kingdom.

Air Traffic Control

The main air traffic control centres are in London for Southern England, Preston for the North, and Prestwick for Scotland and the Atlantic, while each airport has its own traffic control unit. An airliner flying into Britain is directed by one of the control centres on to a specific route and height in the Control Zone. From this it is passed to the airport control tower. It is brought to within a few miles of the airport by the Approach Controller and then handed over to the Aerodrome Controller for landing and taxi-ing instructions.

Radar plays an important part in air traffic control, monitoring the flight of aircraft and guarding their safe separation from each other when in flight and when landing or taking off. Even in bad weather a pilot can be brought down to within sight of the runway by means of the radio and radar aids now in use, such as the Ground Controlled Approach system (GCA), operated by a mobile radar unit on the airport, which provides the control officer on the ground with a picture of the aircraft's position in the air, and the Instrument Landing System (ILS), which operates an indicator in the pilot's cockpit to guide him along the correct course and angle of descent required for the approach. Meteorological information is provided by the Meteorological Office of the Air Ministry (see p. 45).

Navigational Aids

Adequate radio navigational facilities are essential to enable aircraft to remain safely within controlled airspace and to make accurate estimates of their times of arrival.

The airways are marked by a system of medium frequency radio ranges, radio beacons and very-high-frequency (VHF) fan markers that help the pilot to steer his aircraft along the required route. During the next two or three years a number of very-high-frequency (VHF) omnidirectional radio ranges will be installed at strategic points in the country. This system may eventually replace many of the present medium frequency ranges and beacons. In addition, the coverage provided by the four Decca 'chains', now operating in Britain under the Decca Air and Marine Navigator system, will enable any aircraft fitted with the appropriate receivers and automatic flight log to follow any of the air patterns at present planned.

A vital part of the technical services provided by the Ministry is a network of radio stations giving communication between ground and air. About fifty of these stations, at aerodromes and other places, provide rapid and efficient communication operating in the VHF band to aircraft in flight over and near the United Kingdom. Special stations at Birdlip (Gloucestershire) and Prestwick (Scotland), operating in the high frequency (HF) band, maintain communication with aircraft on the long-distance routes such as the North Atlantic and South African routes. There is also an extensive system of point-to-point communication between aerodromes and air traffic control centres in the United Kingdom, and to places abroad. Over this system are transmitted such messages as flight plans and weather, so vital to safety and regularity. The main United Kingdom signals centre is at Croydon (near London), where a station, specially designed for the purpose, sends and receives traffic over a network of teleprinter and radio circuits. Its handling capacity is about 30,000 messages a day.

On routes outside the United Kingdom, British airline operators rely upon ground organization provided by the countries over which they fly. In January 1947, the Airways Corporations (which at that time included BSAA) took the initiative in forming a company, registered in the United Kingdom, called *International Aeradio Limited* (IAL), for the purpose of helping countries in need of assistance in providing radio communications, air traffic control and navigational facilities for civil aviation. Airlines of other countries have accepted invitations to become shareholders, and the membership is broadly representative of international civil aviation. IAL operates by entering into contracts with Governments to provide whatever degree of assistance is required to enable States or Administrations to fulfil the international obligations resting on them under the Chicago Convention on Civil Aviation for the provision and maintenance of ground facilities for civil aviation. In 1957, International Aeradio Ltd. was operating either directly, or through subsidiary or associated companies, in 26 countries. It has over 40 stations all over the

world as well as at Yeadon (Yorkshire), Cranfield (Bedfordshire) and London in the United Kingdom. In all overseas areas, IAL trains locally engaged staff up to the standards required for the services it provides; this policy has been so successful that more than 80 per cent of overseas staff are locally recruited.

The *Air-Sea Search and Rescue Service*, operated by the Royal Navy and the Royal Air Force, is available to civil air operators within the United Kingdom area and along the overseas routes wherever there are Royal Navy and RAF stations.

THE POST OFFICE

The Post Office with its staff of some 366,000 is a Government Department. It is also the oldest of Britain's State undertakings. In 1657, under the Protectorate of Cromwell, an Act of Parliament was passed which declared that 'there shall be one general post-office and one officer, styled the Postmaster-General of England and Comptroller of the Post Office'.

The ministerial head of the Post Office is the Postmaster-General who, with the Assistant Postmaster-General, is responsible to Parliament for his Department. He is subject to the overriding authority of Parliament and the Cabinet, and, on many questions, of the Treasury. The Postmaster-General is chairman of the Post Office Board, composed of the principal permanent officials of the Department, which discusses and gives advice on matters of general policy, and he normally presides over meetings of the Post Office Advisory Council, on which the principal users of the Post Office services are represented. In addition, there are more than 130 local Post Office Advisory Committees, which represent various local interests; the local Head Postmaster and Telephone Manager attend meetings to discuss the local Post Office services and problems. More of these committees are being formed.

Under the Postmaster-General, the permanent head of the Post Office is the Director General, who is supported by three Deputy Directors General and an Engineer-in-Chief. At the next level there are eight Directors responsible respectively for Postal Services, Inland Telecommunications, Finance and Accounts, Radio Services, Mechanization and Buildings, External Telecommunications, Establishments and Organization, and Personnel. The Comptroller and Accountant General, who is one of the Deputy Directors General, is responsible for the whole of the accounting system and advises on financial matters. In addition, responsibility for their several specialist functions rests with the Solicitor, the Public Relations Officer, the Directors of Savings and of Contracts, and the Controllers of Supplies and of Factories. The Post Office Headquarters is in St. Martin's-le-Grand in the City of London.

Six of the main divisions of work at Headquarters are carried down into the organization of the three directorates—Scotland, Wales and the Border Counties, and Northern Ireland, each under the control of a Director of the Post Office, and, in England, seven regions—the North West, the North East, the Midlands, the South West, the Home Counties, and London (which is divided into two functional regions, Postal and Telecommunications), each under the control of a Regional Director. In the United Kingdom there are 472 head post offices and over 24,000 subordinate post offices, and, at 31st March, 1957, some 5,900 telephone exchanges.

The staff at headquarters and in the directorates and regions is divided into two main groups: general civil service grades (administrative, executive and clerical) and special grades recruited directly by the Post Office for its engineering and operational activities.

The work of the Post Office falls into two main categories: (1) direct services—mail services, telecommunications, remittance and savings bank business; (2) agency services—broadcasting services and business undertaken on behalf of other Government Departments.

Mail Services

The development of postal communications in Britain can be traced from the time when horsemen carried dispatches to the Tudor Court up to modern airmail transport. There was a great expansion in the postal services in the eighteenth century with the introduction of mail-coaches in 1784. In the first half of the nineteenth century the Post Office was quick to take advantage of Britain's vigorous period of engineering and railway development, and the first dispatch of mails by train was made in 1830 between Liverpool and Manchester.

The heavy charges, based upon the actual distance a letter was carried, were among the factors which inspired Rowland Hill in his great work of postal reform that led to the establishment of a uniform postage rate. In 1840, a uniform inland rate of postage of one penny per half-ounce payable in advance came into operation, prepayment to be made by means of adhesive postage stamps. Since the business world found cheap postage a boon and since it proved ultimately a great financial success, it was imitated by almost every country in the world.

The inauguration of the penny post (the rate remained unchanged until 1918)¹ was followed by a rapid extension of the scope of the postal services, beginning in 1841 with the introduction of the registered post to ensure additional safety for valuable mail. In 1845, Rowland Hill became the permanent head of the Post Office, and it was during his term of office that the Post Office Savings Bank was established, in 1861, to meet the needs of the small investor. The money order system, which had operated as a private venture from 1792 to 1838, was supplemented in 1881 by the issue of postal orders for fixed amounts. Letterboxes had been instituted in London in 1855 to facilitate the increased postal traffic, and in 1883 the parcel post was introduced. By the end of the nineteenth century a regular delivery of letters was assured to every house in Britain. During the twentieth century the volume of mail has steadily increased and, with the exception of the two war periods when facilities had to be curtailed, the Post Office's services have been developed to match the needs of the traffic. In the seventeen years from 1938-39 to 1955-56 the parcel post increased from 185 million items a year to 238 million, registered postal traffic from 62 million to 130 million and other posted correspondence from 8,240 million to 9,700 million. Every day the Post Office handles nearly 28 million letters and parcels. Each year the Post Office deals with an ever-increasing volume of Christmas mail; in 1956, 735 million letters and cards and about 24 million parcels were posted in England and Wales during the three-week Christmas period.

The guiding principles of the postal services—speed, reliability and economy—have motivated all developments in the history of the Post Office. Improvements include the provision of motor mail van services² linking rural districts, postal sorting carriages on the railways, special mail trains on certain routes and the ingenious apparatus by which bags of mail are delivered and collected by trains running at express speed. For speedy transmission of mails within the central area of London, the Post Office has for 29 years operated an automatically controlled underground railway that runs for 6½ miles connecting Paddington in the west with

¹ The minimum postage rate for inland letters is now 3d. for one ounce.

² In 1919, the Post Office inaugurated its motor transport with 48 vehicles; this fleet now numbers 37,000, of which over 13,500 are motor postal vans.

Whitechapel in the east and serving six intermediate stations. The Post Office has set up a Mechanization and Buildings Department at Headquarters to speed the further mechanization of the postal services and to ensure that new buildings are designed to accommodate mechanization plant. Particular attention is being given to the use of electronics in handling the mails.

The Post Office Research Station has developed a partly electronic letter-sorting machine. The prototype has been tested on actual operations and 20 units are now being made for further field trials in busy centres. A parcel-sorting machine has been developed, and new parcel offices being erected in London, Birmingham, Leeds and Manchester are being designed to accommodate units. Machines are being developed for sorting letters and packets separately, and for 'facing' letters in the correct position ready for stamp-cancelling by other machines. Experiments are being undertaken with machines for selling postal orders. The main post offices are being equipped with machines for issuing parcel post labels printed with the appropriate value, and the date and name of the office, thus avoiding the use of stamps and eliminating the operation of cancelling the stamps.

Airmail Services

Railways and motor vans as means of transport for mails are supplemented by ships and aeroplanes. The figures for the year ended March 1956 show that total overseas civilian correspondence amounted to 420 million items and Forces' mail to 53 million, and that 50 per cent of these items travelled by air. First-class mail to all European countries is sent by air or by surface transport, whichever offers earlier delivery, without payment of any special air fee. The Post Office dispatches about 31 tons of letter mail a week to European destinations by this 'all-up' service, mainly in aircraft of British European Airways, whose network of services enables many of the letters posted in London for Europe to be delivered the following day. The air parcel service to Europe, introduced on 2nd April, 1949, is now operating to 28 destinations,¹ and about 10 tons of parcel mail are dispatched weekly to Europe by air.

First-class mail and second-class mail are dispatched by air to countries outside Europe upon payment of special airmail rates of postage. Air parcel services are also available to over 100 countries outside Europe. Light-weight air letters costing 6d. each are popular, and 47 million were posted in the year ended March 1956.

Telegraphs

All private telegraph systems in Britain were transferred to the control of the Postmaster-General in 1870. Teleprinter-working for the transmission of inland telegrams was introduced generally in 1928 and conversion to the present automatic switching system was completed in mid-1954. It is now one of the most up-to-date systems in the world and gives direct connection between any of the 500 larger telegraph offices. The Post Office accepted 20.5 million inland telegrams in 1955-56, and the average time between handing in an inland telegram and its receipt at the delivery office was 16 minutes, compared with 48 minutes in 1946. In recent years inland telegraph traffic has decreased while the costs of running the service have increased, resulting in a deficit which has been partly offset by increased charges.

Telex

The Telex Service provides communication between subscribers with the speed of the telephone and the authority of the printed word. The printed copy of the

¹ Spain and the Balearic Islands are considered as a single destination.

message is produced on teleprinters at both the sending and receiving subscribers' installations. Calls may be made between telex subscribers in the United Kingdom, and to subscribers in certain countries overseas, including parts of the United States of America. At the end of 1956 there were 3,000 inland subscribers and about 80,000 on the whole international network; the number of subscribers is increasing rapidly. The service is available day and night, and messages may be transmitted to a subscriber even though his teleprinter is unattended, and thus are available for attention when his office opens.

The United Kingdom is divided into 50 charging areas, each with its telex centre. The call charges are based on the distance (measured in a straight line) between the telex centres, the minimum charge being for a three-minute call. Calls are connected at telex exchanges staffed by telegraphists, but it is likely that a completely automatic service will be achieved within the next few years, when subscribers will be able to dial all calls within the United Kingdom, and many overseas calls, for themselves.

Inland and overseas telegrams may be sent to the Post Office by telex; no charge is made for the calls, and the telegrams are charged for at normal rates. Arrangements can also be made for incoming telegrams to be received by telex.

Telephones

At the end of March 1956, there were 5,944 telephone exchanges in the United Kingdom; three-quarters of these have been converted to automatic working. During the year 1955-56, 226 new automatic exchanges were opened for service. Some of these replaced smaller automatic exchanges of early and obsolete type which had outgrown their capacity. At many of the automatic exchanges callers can not only dial numbers in the same city or town but can also dial numbers in adjacent towns up to a distance of about 15 miles. Plans are being made for dialling over longer distances in the future, and experiments are being made with electronic switching systems which may eventually supersede the electro-mechanical system now in use. The total expenditure on telephone development, mainly new cables and new exchange equipment, has increased from £50 million in 1951 to £84 million in 1955, and by the end of 1957 it is expected to reach £89 million.

During the year ended 31st March, 1956, some 427,000 new telephones were provided for subscribers. By the end of 1956 there were over 7 million telephones, including nearly 70,000 telephone call offices for public use.

During the year ended 31st March, 1939, the total trunk calls amounted to 112 million; in the year ended 31st March, 1956, the Post Office handled a total of 333 million; of these, 87 million were at the cheap night rate, which was instituted in 1934. To meet this increasing traffic, about 12,000 trunk circuits over 25 miles in radial length have been provided since the end of the second world war, making a total of over 21,000 such circuits. The number of local calls handled during the year ended 31st March, 1956, was 3,865 million, an increase of 82 per cent compared with the year 1938-39.

About 850 exchanges now operate the automatic time service, first introduced in 1936, by which callers in 86 cities and towns are able to obtain the correct time automatically by dialling the three-letter code TIM or a figure code which connects to the speaking clock at Holborn Exchange, London, or to a similar clock in Liverpool. By the end of 1956, the average daily total of calls made to this service was approximately 275,000.

The 999 emergency dialling service is available to well over 90 per cent of the subscribers connected to automatic exchanges. Callers using this service are given priority of answer and are connected as quickly as possible to the police, ambulance

or fire brigade, and in certain coastal districts to lifeboat and coastguard stations.

A telephone weather forecast service, covering a 20-mile radius from London, was inaugurated in March 1956, and will later be provided in other areas.

Overseas Telecommunications

All the overseas telephone services from the United Kingdom have, for a great many years, been developed and operated by the Post Office. The overseas telegraph services, on the other hand, were shared until 1950 between the Post Office and Cable and Wireless Ltd. This company, which was brought into public ownership on 1st January, 1947, had developed a large and valuable telegraph cable network (some 150,000 nautical miles of submarine cable) of world-wide extent, and a large number of radio circuits. It operated not only in the United Kingdom, but in most parts of the Commonwealth as well as in some foreign countries. Between 1947 and 1951 the Governments of the United Kingdom, Canada, Australia, New Zealand, South Africa, India, Ceylon and Southern Rhodesia took over the operation of the overseas telegraph services in their own countries; in Pakistan, the Government took over these services on 1st July, 1957. Cable and Wireless Ltd. retained its cable network and continued to operate its cable and wireless service in some Colonial and foreign territories. With the acquisition of the Company's United Kingdom services, the Post Office operates all overseas telecommunications from the United Kingdom.

The overseas telegraph, telex and telephone services are operated, under the general title of *Post Office Cable and Wireless Services*, through five London stations having international circuits.

Telegraphs. Most of the telegraph services in the European countries are worked from the Central Telegraph Office in St. Martin's-le-Grand, London, from which there are direct circuits to most countries on the Continent. The extra-European services, with some services to Europe, are operated from Electra House, Victoria Embankment, London. In all, the Post Office transmitted 11 million telegrams to countries abroad and received a similar number for delivery in Britain in the year ended 31st March, 1956.

Telex. The International Telex Exchange, in the Central Telegraph Office, St. Martin's-le-Grand, provides a teletypewriter service to 30 countries abroad. In November 1954, the separate international and inland services were amalgamated. In 1955-56, over one million outgoing international calls were made.

Telephones. Telephone service to European countries is through the Continental Exchange in London, from which some 580 direct telephone circuits radiate to 18 continental countries. These circuits, over which calls can be connected to almost every country in Europe, are also used to send and receive pictures and to relay speech and music for broadcast transmissions. In 1955-56, 1,956,000 outgoing calls were made. Automatic dialling by operators to subscribers in certain European countries has been introduced on a small scale, and will be developed progressively. Extra-European services are connected through the International Exchange (also in London) over radio circuits which provide service with most countries outside Europe and with many of the larger liners at sea. The number of outgoing radio calls made in 1955-56 was 108,000.

On 25th September, 1956, the transatlantic telephone cable—the first long-distance submarine telephone system in the world—was inaugurated. The cable provides 29 telephone circuits with the United States of America and six with Canada. One remaining telephone circuit is used to provide six new telegraph channels to supplement the existing telegraph cables between Britain and Canada

and thus to improve communications with Australia and New Zealand via Canada. The system provides a secure service that is dependable day and night and quite free from the uncertainties, distortions and fadeouts that affect the transatlantic radio-telephone circuits. The whole project was undertaken jointly by the United Kingdom Post Office, the American Telephone and Telegraph Company and the Canadian Overseas Telecommunication Corporation, who jointly maintain it. During the first nine months of its operation 220,000 calls were made.

In April 1957, officials of the Governments of Canada and of the United Kingdom, representatives of Cable and Wireless Limited and the Canadian Overseas Telecommunication Corporation discussed plans for the laying of another transatlantic telephone cable with 60 two-way circuits, which it is hoped would be completed in 1961. A plan has also been agreed between the United Kingdom Post Office, the Great Northern Telegraph Company and the Danish and Icelandic Administrations for the laying of a combined telephone and telegraph cable between Scotland and Iceland by way of the Faroe Islands. In addition to improving telecommunications with Iceland and the Faroes, it will contain a number of telephone and telegraph connections for the use of civil aviation services, especially for the control of the transatlantic air routes. It is expected that the cable will be brought into operation in 1959.

The United Kingdom is a member of the International Telecommunication Union, which has its headquarters at Geneva and is the co-ordinating body for telecommunications throughout the world.

Ship-to-Shore Radio Communications

In addition to the radio stations for overseas telecommunications, the Post Office has 12 coast radio stations in the United Kingdom. These stations provide for radiotelegraph and radiotelephone communications with ships at sea at ranges up to 300 miles approximately. There is also a long-distance station at Burnham-on-Sea, which communicates with ships in all parts of the world.

These coast stations play an important part in the services concerned with safety of life at sea. They keep continuous watch on the international radiotelegraph and radiotelephone frequencies for distress calls from ships or aircraft and take immediate action, by radio and by advising the appropriate shore authorities, to obtain assistance for any vessel in distress. During the year ended 31st March, 1956, the stations handled 247 cases of casualties to shipping and aircraft, including 129 distress calls.

In addition to the services for safety of life at sea, the stations exchange radiotelegrams with ships, connect radiotelephone calls between telephone subscribers ashore and suitably equipped ships, broadcast navigational warnings and weather bulletins, and operate direction-finding services for ships. During the year ended 31st March, 1956, the stations handled 914,886 radiotelegrams and 72,697 radiotelephone calls; they broadcast 1,650 navigational warnings and 10,791 weather reports; and they gave 797 radio bearings to ships.

The stations also operate a free medical advice service whereby the Master of a ship may obtain advice on the treatment to be given in cases of sickness or injury aboard ship. In the year ended March 1956, the stations dealt with 213 medical messages in this service.

The Post Office Counter: Agency and Direct Services

Largely as a result of the extension of social legislation and the widening scope of the social services, the volume of work measured on a time basis at post office counters has increased greatly compared with the total for 1938-39. In the 17 years

to 1955-56 the value of transactions with the public increased from just over £1,000 million to £4,358 million.

At the post office counter the citizen can draw his pension and his family allowance, buy a licence for his gun, dog, sound radio or television receiving set (see p. 438), renew his car licence, buy National Insurance stamps (see p. 347), National Savings stamps and certificates, and Premium Savings Bonds (see p. 310), and bank his savings. In these and many similar transactions the Post Office is an agent for other Government Departments. In 1955-56, the Post Office paid out 50 million postal drafts in payment of benefits under the National Insurance Scheme.

Counter sales include also an increasing volume of direct Post Office business: during the year ended 31st March, 1956, about 600 million postal orders were issued by post offices.

For over ninety years the Post Office Savings Bank (see p. 311) has provided facilities for small savings. About half the people in Britain have savings accounts or other holdings with the Post Office; in 1956 there were over 22 million active Savings Bank accounts.

VII. LABOUR

MANPOWER

The total working population¹ of Great Britain at the end of 1956 was just over 24 million, some 48 per cent of the total population, and included about 73 per cent of persons of normal working age (15 years to 59 years for women, 15 years to 64 years for men). In fact, about 96 per cent of British men of working age are today in or seeking gainful work. The remaining 4 per cent consist mainly of those continuing their education, of the severely disabled and of some persons of private means. The proportion of women of working age in or seeking gainful work is much lower, about 48 per cent, as many housewives have no wish to take employment outside the home, or if they have, are prevented by household duties from doing so. Besides those of normal working age, there are more than a million older men and women still at work. The great majority of the working population work for a wage or salary, but between $1\frac{1}{2}$ and $1\frac{3}{4}$ million are employers or self-employed.

The make-up of the working population has been affected during the century by decreases in both birth and death rates, the result of which has been that the proportion of both the total population and the working population over the age of 35 has increased considerably. Changes in social habits have also had their effect. The minimum working age has been raised to 15 years. The proportion of those over the normal working age who are occupied has declined (though the great increase in the number of older persons has meant that the actual number who are working has increased). The proportion of men aged 20 to 64 who are at work has remained high and fairly uniform. Among women, on the other hand, there has been a steady increase during the century in the proportions employed in the age groups 15 to 59, but this has been offset by the raising of the minimum working age and by a decrease in the proportion of women employed above the age of 59. There has been a considerable increase in the employment of married women during this century, most noticeably in the last twenty years.

The proportion of women at work is generally higher for single than for married women of the same age and for younger as compared with older women of the same marital status. Thus in 1951 only 16 per cent of married women aged 55 to 59 were at work compared with 37 per cent of married women aged 20 to 24. About one-half of the female labour force is under 35 years of age, though an increasing number of middle-aged women have recently been taking work, including part-time work.

The total working population (including men and women in the armed forces) rose considerably during the second world war when housewives, including mothers of young children, manned war factories at great personal inconvenience, while men

¹ The total working population represents the estimated total number of persons aged 15 and over who work for pay or gain, or register themselves as available for such work. The total comprises the armed forces, men and women on release leave not yet in employment, all persons—employers and workers on their own account as well as employees—in civil employment (including persons temporarily laid off but still on the employers' pay-rolls) and wholly unemployed persons registered for employment. Part-time workers are counted as full units.

served in the armed forces. From the end of the war until mid-1947 the size of the working population declined as women left industry. At the same time the expansion of the population of working age, a feature of the British economy for two centuries, slowed down, largely as a result of the low birth rates of the 1930s, and in the case of women it actually halted. Further, the raising of the school-leaving age in 1947 removed the 14 age group from the working population. However, after remaining fairly steady from mid-1948 to mid-1949, the total working population has been rising slowly, apart from seasonal fluctuations and from checks which occurred in 1952 and, to a lesser extent, in 1956-57.

The broad changes in the manpower position in Great Britain between mid-1948 and mid-1957 are shown in Table 27. Figures for mid-1957 are provisional.

TABLE 27
GENERAL MANPOWER POSITION (Great Britain)

Thousands

	End- June 1948	End- June 1956	End- June 1957
Total Working Population: (a)			
Men	15,657	16,188	16,111
Women	7,123	7,919	7,858
TOTAL	22,780	24,107	23,969
H.M. Forces (including Women's Services):			
Men	807	745	687
Women	39	16	15
TOTAL	846	761	702
Ex-Service men and women on release leave who have not yet taken up employment	92	6	6
Registered unemployed:			
Wholly unemployed	273	191	235
Temporarily stopped (b)	9	39	15
Number in civil employment:			
Men	14,549	15,310	15,253
Women	7,020	7,839	7,773
TOTAL	21,569	23,149	23,026

Source: Ministry of Labour and National Service.

(a) See footnote, p. 271.

(b) The figures for the 'temporarily stopped' have been excluded from the computation of the total working population, as they are already included in civil employment.

Deployment of Labour

Nearly 44 per cent of those in civil employment are employed in the mining and manufacturing industries and only about 4½ per cent in agriculture and fishing.

Over half of those in manufacturing are in the metals, engineering, vehicles and chemicals groups of industries, in which the total labour force has approximately doubled in the last 20 years.

Most industries employ women as well as men, but there are jobs, such as underground work in coal mines, which are forbidden to women. The industrial groups in which women are chiefly employed are in the metal-using industries, in the manufacture of textiles and clothing, in the food, drink and tobacco industries, and in the distributive trades and professional and miscellaneous services.

An analysis of the total number in civil employment by broad industrial groups is given in Table 28. Figures for mid-1957 are provisional.

TABLE 28
ANALYSIS OF CIVIL EMPLOYMENT (Great Britain)

Thousands

Industry or Service	End- June 1948	End- June 1956	End- June 1957
<i>Basic Industries:</i>			
Coalmining (total manpower) ..	794	781	789
Other mining and quarrying ..	82	77	76
Gas, electricity and water	321	376	377
Transport and communications ..	1,787	1,730	1,725
Agriculture and fishing	1,178	1,032	1,027
<i>Total, basic industries</i>	4,162	3,996	3,994
<i>Manufacturing Industries:</i>			
Chemical and allied trades	441	529	528
Metals, engineering and vehicles ..	3,944	4,624	4,554
Textiles	931	935	923
Clothing	649	679	671
Food, drink and tobacco	750	912	897
Other manufactures	1,422	1,590	1,564
<i>Total, manufacturing industries</i> ..	8,137	9,269	9,137
Building and contracting	1,450	1,541	1,509
Distributive trades	2,484	2,870	2,891
Professional, financial and miscellaneous services	3,954	4,173	4,197
Public administration:			
National Government Service ..	682	561	552
Local Government Service	700	739	746
TOTAL IN CIVIL EMPLOYMENT ..	21,569	23,149	23,026

Source: Ministry of Labour and National Service.

The figures in Table 28 for the manufacturing and basic industries include those engaged on administrative and clerical work, so that the numbers engaged on productive processes are smaller than those given for the industries as a whole. The

1951 Censuses of Population (see pp. 6-7) showed that less than a third of men at work and less than a quarter of women at work were employed in manual occupations in mining or manufacturing industry. On the other hand, there were in Great Britain at the time of the 1951 Censuses of Population over 1,400,000 women clerical workers (including typists), over 800,000 in retail trade, over one million women domestic workers or charwomen (including those in hotels, institutions and offices), 500,000 women in various other forms of personal service (including catering), nearly a quarter of a million nurses, and 220,000 women teachers.

At the end of 1956, the unemployed constituted nearly two per cent of insured employees in Great Britain. Unemployment was mainly short-term. The total number of persons unemployed for more than six months in Great Britain was about 0.2 per cent of the number of insured employees. Three-quarters of these long-term unemployed were men and women over 40 years of age, some 40 per cent of whom were concentrated in certain areas where unemployment had been especially severe between 1921 and 1939.

Unemployment in all areas has been very greatly reduced since the pre-war years, both because of changes in the general economic situation and because of specific measures taken by the Government to promote a balanced distribution of industry in order to prevent the recurrence of severe unemployment in the areas previously most seriously affected (see pp. 134-5).

Indeed, in Great Britain as a whole, the number of vacancies on the registers of employment offices has in most months since the second world war been greater than the number of unemployed, and the demand for certain types of skilled tradesmen greatly exceeded the supply.

The expansion and technological advance of Britain's industry has also created a greater need for more scientists, engineers and technicians. Facilities for scientific and technical education are accordingly being expanded (see pp. 376-7 and 408).

Considerable changes in the distribution of persons between various industries and occupations have taken place during the twentieth century. Some short-term changes were brought about by the two world wars and by the severe trade recession and unemployment of the inter-war years, but the following appear to be the main long-term trends:

1. A continuance at a decreasing rate of the decline in agricultural employment which was rapid at the end of the nineteenth century.
2. A general increase in administrative and clerical employment, including public administration, and a very large increase in the employment of women in clerical work, including typing.
3. A decline in employment in certain large old-established industries, notably coalmining and cotton textiles.
4. A very large increase in employment in the metals, engineering and vehicles group of industries and the chemicals group of industries. Employment in these industries approximately doubled between 1931 and 1951. Expansion has been most marked in those sections of the industries making relatively new types of products, e.g., cars, aircraft, electrical and electronic apparatus and plastics. The rate of increase in certain branches of these industries was accelerated during both world wars.
5. A decline in indoor private domestic service in which the number of women employed has fallen by about a million since 1900.
6. A considerable increase in the numbers employed in the distributive trades.

This trend was reversed during both world wars—e.g., the number in the distributive trades fell by 930,000 during the last war, and although increasing is still below the 1939 level—but appears to be fairly continuous in time of peace.

Northern Ireland

The total working population of Northern Ireland—including employers and self-employed but excluding certain unpaid helpers—is about 550,000. The Government of Northern Ireland does not publish up-to-date monthly estimates of total working population, but at end-May 1956 the number of male employees was 297,000 and of female employees 176,000. The industry with the largest number of employees is the linen industry; there are only some 20,000 employees in agriculture. Most agricultural work in Northern Ireland, however, is done by small farmers and their families without hired help and the total number of persons engaged in agriculture is about 150,000.

GOVERNMENT EMPLOYMENT AND TRAINING SERVICES

The provision of employment services in Great Britain has been one of the principal functions of the Ministry of Labour and National Service since its inception in 1916. Northern Ireland has its own legislation in these matters which embodies the main principles of the corresponding legislation in Great Britain, but owing to the much smaller area of administration and the less favourable employment situation, the facilities available are not so comprehensive in their scope as is the case in Great Britain, and administrative arrangements are in some respects on different lines. The responsible Department is the Ministry of Labour and National Insurance.

The following account, therefore, of services in Great Britain applies in general to Northern Ireland except where otherwise stated. The scope of the services in Great Britain has gradually been extended to include the provision of vocational guidance, and, in suitable cases, of vocational training. The Employment and Training Act, 1948, provided a permanent legislative basis for these wider services. The main services are provided through the country-wide network of some 1,200 local Employment and Branch Employment Offices, which act as Employment Exchanges. Local Employment Committees, composed of representatives of employers, workers and other local interests, are attached to most Employment Exchanges as advisory bodies to secure for the Department the full benefit of local knowledge and the close co-operation of employers and workers. There are additional services intended to meet the needs of men and women who are qualified, or who are likely to qualify, for professional, administrative, managerial, senior executive and higher technical and scientific posts at home and overseas. These are operated in Great Britain as follows:

1. The Technical and Scientific Register, kept centrally in London, which deals with qualified scientists, engineers, architects and surveyors.
2. Regional Nursing Appointments Offices (11) and Nursing Appointments Offices (over 160), which deal with recruitment for training and employment in nursing, midwifery, radiography, physiotherapy, occupational therapy and medical laboratory technical work.
3. The Professional and Executive Register held at certain of the larger Employment Exchanges of the Ministry of Labour and National Service. At these Exchanges a service is maintained for all other persons qualified for professional and senior executive posts; ex-regular officers of the armed

forces; and young men suitable for training for management in industry and commerce. Information about this service can be obtained from any local office of the Ministry.

General Services for Adults

All the offices referred to above accept on their registers both employed and unemployed persons seeking employment. Their primary function is to introduce suitable persons seeking employment to employers requiring employees, thus providing an efficient service to employers and job-seekers and meeting the needs of the national economy.

The Employment Exchanges holding the Professional and Executive Register are also ready to give information about the professions and allied occupations to young men and women aged 18 and over who have not already established themselves in a profession or in the business world, and to older people who wish to change their careers. Information about this service can also be obtained from any local office of the Ministry.

A special responsibility of the local employment offices is recruitment under the Vocational Training Schemes. Two of these schemes—that for the disabled and that for men and women who need this kind of help if they are to obtain suitable employment after a period of voluntary service in the regular armed forces—are directed to the resettlement of the individual and cover a comprehensive range of skilled trade from agriculture to watch and clock repair, from radio and television servicing to clerical work. Unemployed men and women have also been recruited for this wide range of trades in some circumstances. The third Vocational Training Scheme is directed to the filling of urgent vacancies in industries which are important to the national economy and which at the same time suffer from shortages of skilled labour. Any suitable man or woman without an employable skill is recruited under this scheme, which includes about 20 skilled courses including agriculture, engineering and draughtsmanship.

Training under all these schemes is given mainly at Government Training Centres, of which there are 14 in different parts of Great Britain and, for some trades, in technical colleges or in an employer's establishment. Courses vary in length according to the occupation; most last for six months. Maintenance allowances are paid during training, and men and women with dependants receive higher rates. These maintenance allowances are higher than the rate for unemployment benefit. During the period from the beginning of the post-war training scheme on 2nd July, 1945, to 11th March, 1957, the number of trainees placed in employment was 130,908.

Training schemes for particular groups of crafts have been drawn up in consultation with representatives of employers and workers, who have agreed that trainees should be accepted in industry for work which makes full use of the knowledge acquired during the course. In trades where it is usual for the employee to provide his own tools he is given these free on taking up a job in his training trade. The job itself is found whenever possible by the Employment Exchange (local office).

The Ministry of Labour and National Service provides a service to industry through its Scheme of Training Within Industry for Supervisors. TWI, as it is usually called, endeavours to develop the supervisory skills—or at least to lay the foundations for their development—in three training programmes: Job Instruction, to impart information to others, whether in giving directions to experienced workers or instructing the inexperienced; Job Relations, the promotion of good working relationships between the people supervised, and between them and the

supervisor; Job Methods, making the best use of manpower, machines and material by improvements in the working methods employed.

The service to industry is mainly directed to the training of firms' TWI Trainers, who will then train the supervisors in their own organizations. The Ministry is prepared to extend a measure of these services to overseas branches of British firms. It is prepared also to train suitable persons to develop the scheme in their own territories. The arrangements may be made by the Government of the country concerned or (where appropriate) by the International Labour Organization.

A further service to industry is afforded in the provision of courses of instruction carried out at the Ministry's Technical Staff College, Letchworth, Hertfordshire, in the training and teaching of industrial instructors. These courses provide practical tuition in demonstrations and trade talks on the workshop floor, followed by trade lectures, each member of the course gaining practical experience by taking his turn as instructor to the remainder of the class. These courses have been made available to overseas countries for the training of suitable persons to undertake craft instruction in their own territories.

In recent years it has been the Government's policy, with the support of the representatives of employers' and workpeople's organizations, to promote the employment of older men and women. The National Advisory Committee on the Employment of Older Men and Women, appointed in 1952 by the Minister of Labour and National Service to advise and assist him in carrying out this policy, has presented two Reports; the first in October 1953 (*Cmd. 8963*) and the second in December 1955 (*Cmd. 9628*).

The first Report recommended that the following general principles should govern employers' engagement and retirement policy: (1) that the test for engagement should be capacity and not age; and (2) that all who can give effective service should have the opportunity, without regard to age, to continue in work if they so wish. It also made recommendations for overcoming some of the difficulties that might prevent these principles from being applied.

These recommendations were accepted by representatives of employers, workpeople and the nationalized industries on the National Joint Advisory Council (see p. 286), and have been put into practice by the Government and many leading employers. Since the Report was published, evidence has shown a steady increase in the willingness of employers generally to consider older workers for jobs on their merits, and to retain the services of older employees if they wish to remain and can continue to work effectively.

The second Report reviewed the progress made since the first Report and discussed future developments. The Committee recommended that in bringing this Report to the notice of employers and workers the Minister should emphasize two points: (1) the continuing need for firms to examine the age-structure of their establishments; and (2) the desirability of industries promoting research into aspects of the employment of older workers that are their particular concern. The Committee has now turned its attention to the encouragement of research into specific problems associated with the employment of older workers.

Services for Foreigners

Foreigners are admitted to the United Kingdom to take up employment with a particular employer, provided they are in possession of a permit issued to the prospective employer by the Ministry of Labour and National Service (the Ministry of Labour and National Insurance for Northern Ireland if the proposed employment is in Northern Ireland). Employment is limited to a maximum of one year in the first instance but may be extended on application by the employer. A foreigner

already in the United Kingdom, for example as a visitor, may not enter employment unless official approval has previously been obtained by his prospective employer. Approval is subject to the same conditions and requirements as are applied to the grant of permits to foreigners while still abroad.

The general conditions which must be satisfied before a permit is granted are: that the proposed employment of a foreigner is reasonable and necessary in the circumstances; that adequate efforts have been made by the employer to find suitable labour from among British subjects (or foreigners long resident in the United Kingdom); and that the wages and conditions of employment proposed for the foreigner are not less favourable than those commonly accorded to British employees for similar work in the district concerned.

In considering applications for permits, various other factors must be considered according to the nature of the proposed employment. Special arrangements have been applied to the admission of foreigners for nursing, teaching, various forms of entertainment, and in particular industries. Permits for unskilled workers in industry are granted only where the employment is productive and where there is a general shortage of labour. To encourage visits and exchanges of young workers between Britain and other countries, applications from prospective employers for permits for student employees are granted freely under properly sponsored arrangements, organized mostly through unofficial channels.

A foreigner who has been allowed to take employment under a permit, or by official approval when already resident in the United Kingdom, may not change his employment, unless his prospective employer has obtained prior approval from the Ministry to employ the foreigner. From 40,000 to 50,000 permits are issued each year to bring in individual aliens to work in Britain. Of these, approximately one-half are for domestic workers in hospitals, schools, other institutions and private households, and one-eighth for student employees.

The permit system applies to individual aliens. After the second world war, far greater numbers were being admitted under various schemes organized by the Ministry of Labour and National Service, notably the resettlement of members of the Polish Forces who felt themselves unable to return to post-war Poland, and the recruitment of European Volunteer Workers from the Displaced Persons' camps in Germany, Austria and Denmark.

More recently, the United Kingdom Government has agreed to admit a number of Hungarian refugees who fled from their country following the uprising in October 1956. By the end of May 1957, over 21,000 Hungarian refugees had been admitted, of whom over 5,000 had emigrated, principally to Canada, and nearly 700 had returned to Austria, or to Hungary and other Eastern European countries. Of those remaining in Great Britain, about 2,700 were undergoing training for work in the coal mines, and about 9,000 refugees, and their dependants, had been resettled in a variety of occupations.

Despite the difficulty in finding accommodation for the refugees, particularly those with dependants, by the end of May 1957 only some 2,000 refugees who definitely intended to settle in the United Kingdom had not been placed in work of some kind.

Youth Employment Service

The Ministry of Labour and National Service is also responsible in Great Britain for two specialized employment services: the Youth Employment Service and the Disablement Resettlement Service.

The purpose of the Youth Employment Service is to help young people leaving school and young workers under 18 to get a good start in their working life.

The service is under the general direction of the Central Youth Employment Executive, staffed by officers of the Ministry of Labour and National Service, the Ministry of Education and the Scottish Education Department. This joint executive is appointed by the Minister of Labour and National Service, who is responsible to Parliament for the Youth Employment Service as a whole. The Minister has appointed a National Youth Employment Council and separate Advisory Committees for Scotland and for Wales to advise him on questions relating to the service.

Locally the service is operated in most areas through Youth Employment Offices established by local education authorities (in Scotland by education authorities) in accordance with the schemes submitted by them to the Minister of Labour and National Service and approved by him. In those areas where such schemes are not in operation, the service is operated by the local office of the Ministry of Labour and National Service.

The main functions of the service are to collect and disseminate information on careers, provide talks in schools, give vocational guidance, help to find suitable employment and keep contact with young workers to assist them in settling down. A further function is to assist employers in filling their vacancies for young people. Local Youth Employment Committees, made up of teachers, employers, workers and other appropriate interests, assist the service in an advisory capacity.

In Northern Ireland, the Youth Employment Service is operated by the Ministry of Labour and National Insurance; in addition local education authorities in some areas provide a Vocational Guidance Service. In these areas, there is close liaison between the Ministry and the authorities.

Disablement Resettlement Service

The Disabled Persons (Employment) Act, 1944, on which all the Ministry's work for disabled persons is based, declares that its purpose is 'to make further and better provision for enabling persons handicapped by disablement to secure employment or work on their own account', and the Disablement Resettlement Service is designed to help disabled persons to get and keep suitable work. The service is available to all persons over school-leaving age who are substantially handicapped as a result of injury, disease or congenital deformity.

The Ministry of Labour and National Service is responsible for the administration of the service. At each of its local offices a Disablement Resettlement Officer, working under the direction of the Manager and in co-operation with other officers, has the special duty of advising and assisting disabled persons in obtaining suitable employment. This officer is in touch with all the hospitals in his area and visits any patient who wishes to discuss the question of future employment. His work involves close co-operation with doctors, local authorities and voluntary welfare agencies.

The help given by the service falls under four main headings:

1. *Vocational Guidance.* This is given at local offices by Disablement Resettlement Officers in consultation, as necessary, with the local Disablement Advisory Committees, Hospital Resettlement Clinics and Medical Interviewing Committees, and also by vocational psychologists in the Industrial Rehabilitation Units (see paragraph 3).

2. *Placing in Ordinary Competitive Employment.* On the basis of a disabled person's qualifications and aptitudes and with medical guidance, the Disablement Resettlement Officer endeavours to find work most suitable for the individual, either immediately or after a course of industrial rehabilitation or vocational training. To a limited extent this is facilitated by the main provision of the Disabled Persons

Employment Act, 1944, namely, that all employers of 20 or more persons are required to employ a quota (at present 3 per cent for almost all industries) of registered disabled persons. Registration is voluntary. The number of disabled persons registered at April 1957 was 764,446. At the same date 48,955 registered disabled were unemployed, 45,139 being considered capable of ordinary employment. This latter figure is estimated as about 5.9 per cent of the total number of registered disabled persons. In addition, persons so severely disabled as to be classed as incapable of ordinary employment are to an increasing extent being found suitable work in unsubsidized competitive undertakings.

3. *Industrial Rehabilitation and Vocational Training.* Industrial rehabilitation is provided at residential and non-residential units run by the Ministry of Labour and National Service where physical and mental toning-up is given and, for those who need it, vocational guidance as to the best kind of employment to take up.¹

There are vocational training facilities for the disabled at Government Training Centres, educational institutions and employers' establishments (see p. 276). For the more seriously disabled there are special residential training colleges run by voluntary organizations with the financial assistance and technical help of the Ministry of Labour and National Service. There are also arrangements for the training of special categories of disabled persons such as the blind.

4. *Sheltered Employment.* Remploy Ltd., a non-profit-making public company, with no share capital, was established in Great Britain in accordance with the provisions of the Disabled Persons (Employment) Act, 1944. Its objects are to provide training and employment facilities for registered disabled persons who are unlikely to obtain work except under special conditions. Its powers are wide enough to cover the provision of special factories and workshops, hostel accommodation and facilities for home workers. The directors are appointed by the Minister of Labour and National Service; funds for capital development and to meet operational costs are provided by loans and grants under the Ministry of Labour Vote. At the end of 1956 Remploy Ltd. operated 90 factories and employed 6,200 severely disabled men and women, including approximately 140 homeworkers.

Facilities for the employment of blind persons are provided by local authorities directly or through voluntary bodies, with the financial assistance of the Ministry of Labour and National Service. At end-December 1956 there were 69 workshops for the blind in which there were 268 blind persons in training and 3,812 in employment. The Ministry also helped to finance the provision of training or employment for 821 severely disabled sighted persons in 44 workshops provided by 36 voluntary undertakings or local authorities. Some 1,250 blind persons were also working at home under homeworkers' schemes.

TERMS OF EMPLOYMENT AND WORKING CONDITIONS

At the beginning of the nineteenth century industrial workers lacked legitimate means of defending their standards of living or of ameliorating their working conditions. The traditional methods of fixing wages had become obsolete, trade unions were regarded as criminal conspiracies, and there was no protective legislation setting minimum standards of safety, health and welfare in places of work.

The first attempt at protective legislation was the Health and Morals of Apprentices Act, 1802, but the first effective Factory Act was that of 1833 which created an inspectorate employed and paid by the central Government to enforce its provisions.

¹ For an account of medical rehabilitation of the disabled, see p. 360.

Since that date, legislation extending, strengthening, adapting and consolidating the statutory protection for employees has been passed at an accelerating rate. The progress in standards has owed much to the recommendations of strengthened inspectorates, much to the example of progressive employers and much to the persistent pressure of trade unions and disinterested reformers.

Trade unions ceased to be actionable conspiracies in 1824 but their status as legal entities was not properly established until 1871. This latter step had been made acceptable to public opinion by the leaders of certain craft unions, who had abandoned the revolutionary and financially unsound policies of earlier trade unions to pursue a limited practical objective, i.e. the improvement of their members' wages and conditions through skilful and honest negotiation from positions of financial strength.

After 1880 the organization of unskilled workers became more extensive and effective and the whole tone of trade unionism became more militant and political. As many employers were still hostile to trade unionism and were unwilling to negotiate with trade unions or to recognize agreements made on an industry-wide basis, many of the first 30 years of the twentieth century were marked by widespread and prolonged strikes. Since 1932, however, the strike rate (in terms of man-days lost) has been very much lower, and arrangements for the negotiation of terms of service and the peaceful settlement of disputes have become general and are on the whole satisfactory.

Today, minimum standards have been established by statute or collective agreement for both the terms and conditions of employment and the working conditions of the substantial majority of British workers. The fixing of terms and conditions of employment, however, involves principles, methods and machinery quite different from those for the determination of working conditions. Terms and conditions of employment of the majority of workers are determined by collective agreements between employers' associations and trade unions, and the fixing by statute of minimum wages and terms of employment is confined to those trades or industries where the organization of employers or workers or both is inadequate to negotiate collective agreements and to ensure their observance.

Standards for working conditions, on the other hand, are laid down by statute, e.g., the Factories Acts, 1937 and 1948, and it is the duty of Government inspectors and local authority inspectors to enforce their provisions. The various Acts of Parliament and statutory regulations made thereunder prescribe standards of safety, health and welfare for a large proportion of workers, and regulate the hours of work for women and young persons. Health, safety or welfare requirements, additional to these statutory requirements, have, in some cases, been the subject of collective agreement.

Many employers provide working conditions superior to those prescribed by statute or agreement, and various Government Departments and voluntary bodies advise and assist in improving these standards.

LABOUR RELATIONS

The structure of labour relations in Britain is established mainly on a voluntary basis, and rests on the organization of employers and workers into employers' associations and trade unions. These organizations¹ discuss and negotiate terms and conditions of employment and other matters affecting the workpeople at their work.

¹ The few monopolist employers—the central Government and the public corporations operating the nationalized industries—and some other employers negotiate directly with the trade unions representing their different types of employees.

In some cases these negotiations are conducted simply by *ad hoc* meetings, which are held when necessary; in other cases voluntary joint machinery has been established on a permanent basis. Normally these arrangements suffice to settle all questions which are raised, but provision is often made for matters not so settled to be referred for settlement to independent arbitration. In certain trades where the voluntary organization of employers and workers is not adequate for the effective regulation of the workers' remuneration, provision has also been made by the State for statutory regulation under the Wages Councils Acts, 1945 to 1948, the Catering Wages Act, 1943, the Agricultural Wages Act, 1948, and the Agricultural Wages (Scotland) Act, 1949.

Employers' Organizations

Many employers in Great Britain are members of employers' associations, some of which have their origins in the nineteenth century. They are generally organized on an 'industry basis', some being purely local in character and dealing with a section of an industry only, while others have a national scope and concern themselves with the whole of an industry. In some cases the local associations are organized into district or national federations.

The central organ of employers' associations is the *British Employers' Confederation*, to which the majority of employers' associations and federations in the principal industries are affiliated. It deals with matters affecting the interests of organized employers in their relations with their workpeople, and is recognized by the Government as the principal channel of consultation between Government Departments and representatives of organized employers as a whole on all such matters.

The Confederation acts as an advisory and consultative body for its member organizations, providing them with information and statistics, ascertaining and acting upon their collective views and representing these nationally to the Government and to the public, and also internationally, for example, to the International Labour Organization.

While the main function of employers' organizations consists in the safeguarding of the interests of their members, a number consider that this purpose can be furthered by the provision of advice and assistance to member firms and by such special services as the organization of general training courses and special courses on, for example, work study and its application. Where employers' organizations do not themselves provide such services they make arrangements for putting their members in touch with the appropriate specialist agency.

Trade Unions

In nearly all industries and occupations some workers—and in some industries nearly all workers—are organized into trade unions. These have grown up gradually and independently over a great many years, and consequently their form and organization vary considerably. Trade unions started more than two hundred years ago among the skilled craftsmen and spread later to the general labouring and unskilled classes. More recently trade unionism has increased among clerical, supervisory, technical and administrative workers.

The qualification for membership of some unions is occupational, e.g., they may recruit clerks or fitters wherever employed, while in others the qualification is industrial, i.e. they seek to recruit all persons in an industry, whatever their occupation. In a number of unions recruitment is based on a combination of these principles. A few large unions recruit members in a number of different occupations and industries.

At the end of 1956 the total membership of British trade unions was about

9,662,000. There were 666 separate trade unions, but about two-thirds of all trade unionists were in the 17 largest unions.

The basic unit of organization in most British trade unions is the local branch or lodge. Every member of the union belongs to a branch or lodge. He may attend its meetings, put forward suggestions about terms and conditions of employment, discuss the work and policy of the union, and take part in the election of branch officers. The branch takes action on certain matters considered purely or mainly of local interest but refers wider issues to the union's national or regional bodies.

Many unions also have shop stewards or other representatives at the place of work to enrol members and collect dues, to report any encroachment on agreed or customary conditions of work and in some cases to act as representatives of members at their place of work for the settlement of grievances.

In most large unions the central organization is along the following lines. Elected officials, including a General Secretary assisted by clerical and specialist staff, are in charge of the work of the head office and are responsible to a National Executive Council or Committee which may be part- or full-time, and which is usually elected by, and responsible to, annual or biennial conferences of delegates from the branches.

Executive committees or councils play an important part in the government of the unions; between conferences they are the highest authorities and carry out policy decisions made by delegates.

Most unions also have some kind of regional, district or area organization, while in large unions there is usually also a system of regional, district or area committees or councils.

Trade unions may affiliate to one or more federations or confederations whose main purpose in most cases is to represent all or most of the trade unions in an industry in negotiation with employers. The scope and authority of these federations and confederations vary greatly in different circumstances.

All the trade unions of any size or importance except the National Union of Teachers, the National Association of Local Government Officers and certain civil service staff associations are affiliated to the *Trades Union Congress* (TUC), the national centre of the British trade union movement. The objects of the TUC are to promote the interests of all its affiliated organizations and generally to improve the economic and social conditions of the workers. Its membership comprises 186 organizations, of which 13 are federations of some 190 separate unions, so that some 360 unions in all are affiliated directly or indirectly. These represent over 8 million workpeople. The TUC deals with all general questions which concern trade unions both nationally and internationally and gives assistance on questions relating to particular trades or industries at the request of the trade union concerned. The congress of delegates, which constitutes the TUC proper, meets for a week every year to discuss matters of general interest to trade unionists and to employees generally. The General Council, elected annually, represents the TUC between congresses. A large part of its work consists of acting as a spokesman for British trade unionists on matters affecting their general interests, of co-ordinating trade union activities and determining disagreements between trade unions, of providing a number of educational and other common services and of preparing a report and agenda for the annual congress.

Both the TUC and a number of affiliated trade unions have in recent years paid increasing attention to the education of their members not only in general economic questions and trade union practice but also in production subjects, including work study and costing, which had not hitherto been thought to concern trade unions. The TUC itself holds regular one-week courses on production and management

subjects and on industrial relations, as well as a two-week course on trade union subjects. It also organizes week-end schools and summer schools. These are open to members of any affiliated union, usually by nomination from the union. A number of the larger unions hold similar courses. In addition, arrangements are made for union officials to attend courses on production questions at technical colleges. Some unions also make use of industrial consultants for this purpose.

The Trades Union Congress is recognized by the Government as the principal channel of consultation between the Government Departments and representatives of organized workers on matters affecting the interests of employees generally.

There is also a separate Scottish Trades Union Congress, to which trade unions may affiliate in respect of their membership in Scotland.

The TUC is a non-political body, but individual trade unions can, by a ballot vote of members, decide to set up a political fund, financed by a separate levy, which any member can refuse to pay without loss of his normal trade union rights and benefits. About 80 unions, including most of the largest, have such a fund and, in every case but one, it is used to support the Labour Party.

Branches of various trade unions in a locality often voluntarily affiliate to a local trades council, which acts as a forum for the discussion of matters of common interest and as local agent of the Trades Union Congress, by which it is annually registered. There are about 535 trades councils in England and Wales alone, grouped together in 22 federations.

Voluntary Joint Negotiating Machinery

At National Level. While in some industries all matters affecting terms and conditions of employment are discussed on an *ad hoc* basis between the employers' organizations and the trade unions concerned, in other industries there are standard procedures for dealing with such matters by joint discussion at a national level. In many industries there are, for this purpose, bodies composed of representatives of both sides of the industry with, in some cases, an independent chairman. Some are known as Joint Industrial Councils, of which there are over 130. The functions of these bodies vary considerably, some being simply negotiating bodies, while others deal with a wide range of subjects affecting the interests of the industry concerned. Provision is sometimes made in the constitution of such bodies that, where it is not found possible to reach agreed terms of settlement in a particular dispute, the matter should be referred to some form of conciliation or arbitration by independent persons, including the methods provided under the Conciliation Act, 1896, or the Industrial Courts Act, 1919 (see p. 285).

At District and Factory Level. Similar arrangements exist at district and factory level in many industries, where matters are discussed either between the appropriate representatives of the two sides on an *ad hoc* basis, or through regular machinery provided by District Joint Industrial Councils or similar bodies and Works Councils (see p. 286). Such bodies discuss how agreements reached at a national level may be applied to their district or factory, but as a rule have no power to alter the terms of such national agreements. They also discuss new problems which may arise, and if no solution can be found at factory or district level the matter may be referred to the national body.

Statutory Wage-Regulating Machinery

In certain industries in which, owing to the lack of organization among employers and workers, voluntary negotiating arrangements do not exist for the effective settlement of terms and conditions of employment or are inadequate to secure their observance by voluntary methods throughout the industry, statutory bodies known

as Wages Councils, Catering Wages Boards and Agricultural Wages Boards have been set up. These are composed of equal numbers of representatives of employers and workers in the respective industries, with the addition of certain independent members. Wages Councils and Catering Wages Boards are empowered to submit proposals for the fixing of minimum remuneration and of holidays with pay to the Minister of Labour and National Service, who is then required by the Acts concerned to make Orders giving statutory force to such proposals, subject only to his right to return them to the Board or Council for further consideration.

Orders relative to employment in agriculture are made by the appropriate Agricultural Wages Board (England and Wales or Scotland). Such Orders are effective only in the County Agricultural Wages Committee area in respect of which they have been made, but there is a national minimum enforceable in England and Wales and also one for Scotland.

State Provision for Conciliation, Arbitration and Investigation

Matters which prove difficult to settle by negotiation are sometimes referred by agreement to independent conciliators or arbitrators, and one way in which the parties can find such persons is by invoking the help of the Minister of Labour and National Service. Under authority derived from the Conciliation Act, 1896, and the Industrial Courts Act, 1919, the Minister has certain powers to assist industry to settle disputes which it is not found possible to resolve through an industry's own machinery and procedure. These powers are all intended to supplement and not to supersede the industry's own machinery.

To assist conciliation in industry, a staff of conciliation officers forms part of the Ministry of Labour and National Service. The duties of these officers are to keep in touch with the course of relations between employers and workers at national, district, and, in some cases, factory level, and to assist them, if requested, to settle their problems by joint discussion and negotiation.

Disputes which cannot be settled in this way may, at the request of both parties, be referred to voluntary arbitration, either by a single arbitrator, or an *ad hoc* Board of Arbitration, or by the *Industrial Court*, a permanent tribunal established under the Industrial Courts Act. The Court is normally constituted of three members—the president, one member representing employers and one representing workpeople. At present, provision is also made by an Order under emergency legislation for disputes and 'issues'¹ about terms and conditions of employment, to be reported to the Minister in certain circumstances by one of the parties, and to be referred, if all other means of settlement have been exhausted, to an *Industrial Disputes Tribunal*, whose award can be legally enforced. This tribunal consists of a chairman and two other independent members appointed by the Minister of Labour and National Service, together with one member representing employers and one representing workpeople. These representatives are drawn from panels appointed by the Minister after consultation with the British Employers' Confederation and the Trades Union Congress respectively.

The Minister is also empowered to appoint a Court of Inquiry or Committee of Investigation into a dispute, whether existing or apprehended. These procedures are primarily means of informing public opinion of the facts of a dispute and not means of arbitration. The report of a Court of Inquiry has to be laid before Parliament. Although the recommendations contained in the reports of such bodies are

¹ A dispute concerns the terms of employment or conditions of labour of workmen. An issue concerns the observance by an employer of the 'recognized terms and conditions' in his trade or industry.

not binding on the parties, they usually provide the basis of a settlement of the difference.

The machinery for negotiation and conciliation of disputes has reduced the need for direct industrial action, i.e. strikes and lock-outs. Time lost by stoppages of work caused by industrial disputes has been substantially less in the last twenty years than formerly. The average time lost in the 24 years 1933-56 was two million man-days or about a tenth of a day per worker per year compared with an average of 21 million man-days in the 23 years 1910-32. The reduction has been in the size and duration of strikes and not in their number.

Liaison between the Government and Industry

As will be seen from the foregoing paragraphs, the Government is in contact with representatives of employers and workers at all levels on matters affecting their common interests. At local and district level the conciliation officers of the Ministry of Labour and National Service keep in touch with the representatives of both sides of industry, while, at national level, officers of the Department attend the meetings of many Joint Industrial Councils as liaison officers. Standing arrangements also exist for consultation between the Government, the British Employers' Confederation and the Trades Union Congress through the *National Joint Advisory Council*, which was set up in 1939 to advise the Government on matters in which employers and workers have a common interest. It meets quarterly under the chairmanship of the Minister of Labour and National Service. Its membership consists of representatives of the British Employers' Confederation and the Trades Union Congress, together with representatives of the managements of nationalized industries. Among the subjects which it has considered in recent years are the machinery for settling industrial disputes, joint consultation in industry, industrial training and recruitment, double day shiftworking, and the economic situation with special reference to production, wages and prices.

Joint Consultation in Industry at Factory Level

In addition to the arrangements already described, the purpose of which is mainly but not exclusively for discussion and settlement of terms and conditions of employment, there are, in many industries, national agreements which recommend the establishment, in firms of sufficient size, of machinery for joint consultation between management and workers on problems of common interest. This generally takes the form of a Works Council. In some industries the constitution and functions of Works Councils are laid down in the agreement, while in others model constitutions are made available. In other industries, where no national agreement on the subject has been reached, the practice of joint consultation in the factory is becoming increasingly widespread.

The range of subjects which Works Councils can fruitfully discuss is wide and includes hours of work (within the framework of agreements), safety, health, efficiency of production, absenteeism, labour turnover, training, education, recreation and employees' services generally. The constitution and functions of these bodies vary widely from one firm to another. It is the general practice, however, to exclude from their scope all questions relating to wages and conditions of employment, and other matters covered by negotiation between organizations of employers and workers. It is the policy of the Government to foster the development of voluntary joint consultation throughout industry, not only because of its effect on production but also as a most important means of maintaining good relationships between management and employees.

At individual factory level, Personnel Management Advisers of the Ministry of Labour and National Service are often approached by firms seeking advice on the establishment of Works Councils or on ways in which their activities can be made more effective.

Labour Relations of Public Authorities

The above broad description of labour-management relations in industries where employers and employees are strongly organized applies in general to the public as well as to the private sector of industry. There are, however, some special features both in the public service and in the nationalized industries.

Non-industrial employees in central Government service, where salaries and conditions of service are under the direct control of the Treasury, are permitted and encouraged to join the appropriate Civil Service staff associations (trade unions) and there is a highly developed system of negotiation and joint consultation by means of the National and Departmental Whitley Councils¹ (see p. 64), corresponding to the Joint Industrial Councils in industry. The two sides of the National Whitley Council are parties to a Civil Service Arbitration Agreement which, subject to certain limitations, provides that if there is failure to reach agreement by negotiation a Department or Association may report the dispute to the Minister of Labour and National Service for reference to the Civil Service Arbitration Tribunal. The Tribunal is an independent one appointed by the Minister by virtue of his powers under the Industrial Courts Act, 1919. Industrial employees of the central Government are organized by trades and not by Departments. Negotiations regarding their wages and conditions of employment take place on Trade Joint Councils and Departmental Joint Councils.

In local government services there are separate National Whitley Councils for the main grades of employees (e.g., manual, clerical and technical employees, and road-menders, see p. 70) which deal with wages and conditions of service as well as other matters. There are corresponding Regional and District Councils.

In the nationalized industries, the main corporations, though not subject to detailed governmental control, have a statutory duty to establish satisfactory arrangements for collective bargaining in their industries and for joint consultation with their employees; but in carrying out these duties they are free to choose the arrangements that suit them. In nearly every case a complex system already existed before nationalization and has been taken over and modified. The arrangements, therefore, as in industry generally, vary substantially. The main difference from private industry is that the corporations are not members of employers' associations. In some industries they are sole or main employers, but even where part of the industry is in private hands, as for example in air or road transport, the corporations are separately and directly represented on wage-negotiating bodies.

Northern Ireland

The system of labour relations in Northern Ireland is based on the same principles as that of Great Britain and, in these matters, the Minister of Labour and National Insurance has powers and duties broadly similar to those of the Minister of Labour and National Service in Great Britain. About 90 per cent of trade unionists in Northern Ireland are members of trade unions whose headquarters are in Great Britain.

¹ Named after Mr. J. H. Whitley, former Speaker of the House of Commons and chairman of a committee which investigated industrial unrest from 1916 to 1919.

WORKING CONDITIONS: THE LEGISLATIVE BACKGROUND

Employers have a duty at common law to take reasonable care of their employees and provide a safe system of working, while employees have a duty of care to each other. In addition, minimum required standards of safety, health and welfare are laid down in a number of statutes.

The principal Acts involving enforcement of standards of safety, health or welfare are: the Public Health Acts; the Employment of Women, Young Persons and Children Act, 1920; the Children and Young Persons Act, 1933; the Employment of Women and Young Persons Act, 1936; the Young Persons (Employment) Act, 1938; the Factories Acts, 1937 and 1948; the Mines and Quarries Act, 1954; and the Shops Act, 1950. There are a number of other Acts dealing with particular requirements or particular occupations.

Powers of Local Authorities

Local authorities, under the Public Health Acts, have power to regulate the provision of suitable sanitary conveniences in houses and at places of work and to treat workplaces which are dirty or badly ventilated or overcrowded as nuisances whose abatement can be enforced. They have also wide powers under the Children and Young Persons Act, 1933, as modified by the Education Act, 1944, to regulate hours and conditions of employment of children in their areas within the limits laid down by national legislation. The general effect of the national legislation is to forbid the employment of children under 13 years of age, and to forbid the employment of children between the ages of 13 and 15 during school hours, or before 6 a.m. or after 8 p.m. on any day, or for more than two hours on schooldays or on Sundays. The employment of children in any industrial undertaking before they reach the age of 15 is prohibited.

Shops

The Shops Act, 1950, empowers local authorities to ensure that shops in their area observe the requirements of the Acts with regard to closing hours and the working conditions of employees, which include special requirements about the hours of work of young persons. In general, shops are required to be closed on weekdays by 8 p.m. (9 p.m. on one late day) except on the early closing day when they are required to be closed by 1 p.m. With certain exceptions, shops are required to be closed on Sundays. The hours of work of employees under sixteen are restricted to 44 per week, and those of employees between sixteen and eighteen to 48 per week. Local authorities also have powers to ensure reasonable minimum standards of ventilation, temperature, lighting, sanitary accommodation and washing facilities in shops.

Industrial Premises

About a quarter of a million industrial premises (factories, shipyards, docks and warehouses) and over 25,000 building and civil engineering sites come under the Factories Acts, 1937 and 1948, which are administered by the Ministry of Labour and National Service and enforced by H.M. Inspectors of Factories in the Ministry. Any person intending to use premises as a factory has to notify the Inspector of Factories of his intention not less than one month before he begins to occupy them.

Under the Acts, every accident causing three days' incapacity or more must be reported to H.M. Inspectors of Factories; provision is also made for compulsory

notification and investigation of certain industrial poisonings and diseases, and, in addition, a number of general and specific requirements for safety, health and welfare are laid down.

Safety requirements include provisions for the fencing of prime movers, transmission machinery and dangerous parts of machinery; the sale, hire or use of power-driven machinery without effective guards of certain parts; the cleaning of machinery in motion; the training and supervision of young persons employed at certain machines; the examination of hoists and lifting equipment, steam boilers and steam and air receivers; the construction of floors; precautions against falls, against gassing, and against explosions of inflammable dust or gas; means of escape in case of fire; the protection of the eyes; the handling of dangerous substances; and the lifting of heavy weights.

There are also general requirements with regard to health, covering cleanliness of workrooms, the provision and maintenance of proper accommodation and ventilation and of suitable temperatures and lighting, the avoidance of over-crowding and the provision of sanitary accommodation; and with regard to welfare, the provision of washing facilities, lockers or other accommodation for outdoor clothing, drinking water, first-aid and seats.

All young persons under 18 years of age must, on entry to employment in factories, at docks, or on building operations, be medically examined by doctors appointed by the Chief Inspector of Factories and known as Appointed Factory Doctors, and they must be re-examined annually until they reach the age of 18. The hours permitted to be worked by women and young persons between the ages of 16 and 18 are limited to 48 in a week and 9 in a day, although some overtime is allowed (up to six hours a week but not more than 100 hours a year nor in more than 25 weeks in a year). Young persons under 16 years of age are limited to 44 hours a week. Adequate intervals for meals must be arranged for women and young persons and the employment of women and girls at night is, in general, prohibited. Women and young persons are also prohibited from working in six specified processes concerned with lead compounds.

These requirements for safety, health and welfare are supplemented or modified by regulations providing for safeguards against special risks to health or safety. The regulations cover particular industries, processes, and types of machinery, and they include provision for the compulsory periodic medical examination of workers in certain specified industrial processes.

Mines and Quarries

The safety, health and welfare of workers in mines and quarries are the subject of comprehensive legislation. Protective legislation in mines began with an Act of 1842, which forbade the employment of women underground, and successive measures laid down detailed requirements for the safe conduct of operations and dealt with such matters as ventilation, dust suppression, support of workings, the safe use of electricity, rescue and first-aid. The latest stage was reached when the Mines and Quarries Act was passed in 1954. This Act established the basic modern principles of safety, health and welfare, leaving the details to be dealt with in statutory regulations; it both consolidates the previous law and brings it up to date. Apart from technical matters, it also covers such subjects as the general responsibilities of owners and managements, the appointment and duties of officials, training, welfare, the powers of official inspectors, statutory qualifications of managers and under-managers, employment of women and young persons, and inspections on behalf of workmen.

The Ministry of Power is generally responsible for the administration of these

enactments, while the Mines and Quarries Inspectorate, which is part of that Ministry, is directly responsible for their enforcement.

Agriculture

In agriculture, special attention has been paid to the protection of workers against risks of poisoning, due to the use of toxic chemicals, and the Agriculture (Poisonous Substances) Act, 1952, imposed necessary safeguards. The Agriculture (Safety, Health and Welfare Provisions) Act, 1956, provides for securing the safety, health and welfare of persons employed in agriculture by means of regulations made by the ministers concerned with agriculture in Great Britain (see p. 158).

Transport

The general safety legislation covering the main forms of transport protects transport workers as well as members of the public against accidents involving moving vehicles. In the interests of road safety, the hours of driving and the rest periods of drivers of buses and goods vehicles are regulated by the Road Traffic Acts. In addition, there are certain statutory provisions concerned entirely, or mainly, with the safety, health or welfare of the employees, e.g., the statutory Rules and Orders made under the Railway Employment (Prevention of Accidents) Act, 1900. Merchant seamen are protected by the far reaching and detailed requirements of the Merchant Shipping Acts and the regulations made thereunder concerning, *inter alia*, the engagement and discharge of seamen, limitations on the employment of young persons at sea, standards of crew accommodation, scales of provisions, medicines and medical stores, care and repatriation of seamen left behind at ports abroad, and the seaworthiness of the ships in which they work.

Employment of Young Persons

The Young Persons (Employment) Act, 1938, extended the restrictions on the hours of work of young persons (48 per week under 18 years and 44 per week under 16 years) to certain occupations not covered by the Factories Acts, the Mines and Quarries Act, 1954, or the Shops Act, 1950.

Northern Ireland

The safety, health and welfare of employees in Northern Ireland have been the subject of legislation similar to that in Great Britain but embodied in separate statutes to meet the special requirements of Northern Ireland. Provision for the safety, health and welfare of workers in factories, workshops, ship and building yards and certain other working premises is embodied in the Factories Acts (Northern Ireland), 1939 and 1949. The Minister of Labour and National Insurance is responsible for the administration of these Acts and for their enforcement by a factory inspectorate, forming part of his Department.

WORKING CONDITIONS IN PRACTICE

Earnings

Minimum or standard time rates for British manual workers, as determined by agreements or wages orders, vary mainly between 3s. and 4s. an hour for men and between 2s. and 2s. 8d. for women. Actual earnings are usually higher. Higher rates are sometimes paid, and piece rates, shift rates and overtime rates raise the level of average earnings. The Ministry of Labour and National Service conducts a six-monthly survey of earnings and hours of work in some of the principal industries in Great Britain. The survey made in April 1957 covered about 7

million workers and showed the average hourly earnings in all the industries covered to be as follows:

Men 21 years and over	..	..	..	..	5s. 0·0d.
Youths and boys under 21 years	..	..	..	..	2s. 4·1d.
Women 18 years and over	..	..	..	..	3s. 0·4d.
Girls under 18 years	..	..	..	..	1s. 11·5d.
All workers	..	..	..	..	4s. 4·6d.

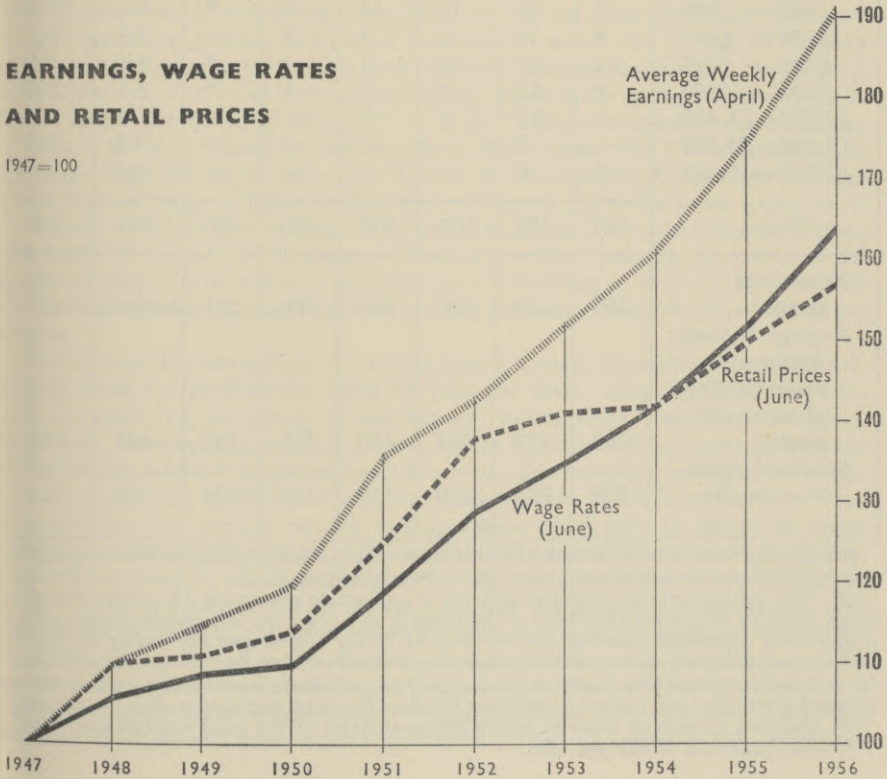
Average weekly earnings were:

Men	..	..	..	..	..	..	..	241s. 6d.
Youths	..	..	..	..	..	..	..	105s. 0d.
Women	..	..	..	..	..	..	..	125s. 10d.
Girls	..	..	..	..	..	..	..	83s. 11d.
All workers	..	..	..	..	..	..	..	204s. 7d.

The principal industries not covered by this survey of earnings were agriculture, where the average weekly earnings for regular adult male workers were 175s. 1d. in the half year October 1956 to March 1957; coalmining, where according to information collected by the National Coal Board, the average weekly cash earnings for men were 319s. 9d., plus 15s. 9d. in kind, in April 1957; railway services, in which average weekly earnings in March 1956 (including those of non-manual workers but excluding those of higher paid salaried staff), were 227s. 8d. for men

**EARNINGS, WAGE RATES
AND RETAIL PRICES**

1947=100



and 135s. for women; and dock labour, in which average weekly earnings of dock workers employed by the National Dock Labour Board for April to June 1957 were 273s. od.

TABLE 29
INCOME FROM EMPLOYMENT BY OCCUPATION (a)
percentage distributions

Employment income of income unit (b)	Analysis for 1952 by occupation of head of income unit						All income units in 1952	All income units in 1954
	Self-employed	Managers and technical	Clerical and sales	Skilled manual	Unskilled manual	Retired and unoccupied		
Nil	62	—	—	—	—	69	19.0	18.5
£1— £99	8	*	3	1	7	13	5.2	5.7
£100— £199	19	*	17	6	14	10	10.1	8.2
£200— £299	5	2	18	13	25	5	12.7	9.9
£300— £399	2	4	23	29	32	1	19.5	13.9
£400— £499	1	9	16	25	12	1	13.8	14.2
£500— £599	1	14	11	14	6	*	8.4	12.0
£600— £699	*	15	4	7	3	—	4.5	7.2
£700— £799	1	17	4	3	1	*	2.6	4.4
£800— £999	*	15	2	2	*	*	2.1	3.6
£1,000—£1,499	—	11	2	*	—	1	1.2	2.5
£1,500—£1,999	—	7	—	—	—	—	0.5	
£2,000 and over	*	6	—	—	—	—	0.4	
TOTAL ..	100	100	100	100	100	100	100	100
Number in sample ..	230	259	330	807	388	571	2,598 (c)	2,463
Average Income: Arithmetic mean (in £s) of those employed ..	202	933	383	420	315	168	404	444
Standard deviation (in £s) ..	206	934	220	159	149	204	351	n.a.

(a) Employment income includes income from wages, salaries, pensions from employers, casual earnings of non-professional workers, bonuses, tips, etc.

(b) The income unit is defined as follows: (1) all single persons of 18 or over, whether living alone or with other members of their family, are regarded as separate income units: if they have dependent children of their own (of under 18), as may happen in the case of widows and divorced and separated people, their children form part of their income unit; (2) married couples living together are assumed to pool their incomes and each couple is counted as a single unit, and their children of under 18 are also included in their income unit.

(c) Includes 13 income units in which the occupation of the head was not discovered.
* = less than half of one per cent.

The difference between men's and women's earnings in industry is due mainly to the fact that women are for the most part engaged on different tasks from men and are paid less than men on the grounds that these tasks are unskilled or semi-skilled. In the relatively few instances in the field of manual employment where men and women are employed on the same work, collective agreements frequently provide for equal remuneration.

There are no similarly detailed and comprehensive figures for the rates of pay and earnings of non-manual workers, as these are often based on individual contracts, except in the public service, teaching and retail distribution. The rather limited evidence suggests that the majority of male non-manual workers—the clerks and shop-assistants—have average earnings little different in range from those of manual workers, but the earnings of women in these occupations are somewhat higher than in manual occupations. The pay of shop-assistants is on scales prescribing weekly minima of from about £6 8s. 6d. to £8 11s. for men and £4 11s. 6d. to £6 6s. for women. The Office Management Association makes periodical surveys of clerical salaries. The latest survey, of 1st March, 1956, which covers 1,023 establishments, employing 81,797 workers, shows that the average weekly salaries for young inexperienced clerks ranged mainly from 54s. 10d. to 82s. 10d. for youths and from 53s. 9d. to 75s. 9d. for girls, while average salaries for adult male clerks ranged from £8 for the lowest grade of skill and responsibility to £14 for the highest. Corresponding women's salaries were 25–30 per cent less.

The starting salaries in many professional and technical careers are often in the range of £350 to £500 a year; such posts offer increments and opportunities for promotion, but as recently as 1954–55 only about 0·8 per cent of all employees were earning over £2,000 a year, only about 0·3 per cent over £3,000 and less than 0·1 per cent over £6,000. Additional information about the spread of incomes in different occupations is available from unofficial sources; for example, the national sample surveys of personal incomes and savings made in the spring of 1952 by H. F. Lydall and in the spring of 1954 by T. P. Hall. Table 29 is based on these sources.

Most of the senior posts in business, the professions and the Civil Service are in the range of £1,000 to £5,000 a year. The posts with salaries of £5,000 to £10,000 a year include those of Cabinet Ministers, chairmen and some other members of the boards of nationalized industries, judges of the High Court and Court of Appeal, and Lords of Appeal, the Permanent Secretary to the Treasury, the clerks of the largest municipal authorities, a few persons outstanding in their professions and the top-management of large businesses. A few persons in business draw still higher salaries.

Women have the same right of entry as men to nearly all public offices, administrative posts and professions. They are paid the same salary for doing the same work in medicine, dentistry, physiotherapy, radiography, university teaching, journalism, broadcasting and architecture, and as Ministers of the Crown, Members of Parliament, salaried magistrates and solicitors, pharmacists working in hospitals, and administrative, professional and technical workers in local government. Professional men and women earning fees also have equal pay. In almost all other occupations, however, a woman in Britain doing the same job as a man is at present paid less for doing it, although the position may be quite different in a few years' time. The Government has stated that it accepts the principle of equal pay, and steps are being taken to put it into effect by stages in the public services. In January 1955, the Chancellor of the Exchequer announced Government acceptance of a scheme for progressive increases in the salary scales of non-industrial women civil servants to make these identical with men's scales by 1961; in April 1955, the Minister of Education announced approval of similar proposals by the Burnham

Committee (the advisory body concerned with teachers' salaries) for equal pay for women teachers; and in the same month it was decided that equal pay for women in the administrative departments of local authorities should also be introduced by stages. Since then similar proposals have been agreed for certain other salaried workers, including the staffs of the National Health Service and of the electricity and gas authorities and of the British Transport Commission. Women's salaries outside the public service are beginning to be similarly adjusted.

Hours of Work

While, as already stated, the hours of work of women and young persons between the ages of 16 and 18 in industrial and certain other occupations are limited by law to 48 a week and those of young persons under 16 to 44 a week, normal hours of work for all ages and sexes are usually shorter. Agreed weekly hours mainly vary between 42 and 46, averaging between 44 and 45, and may be worked as either a five- or a five-and-a-half-day week according to the industry and the rule of the particular establishment. Hours actually worked are somewhat longer owing to overtime working. The survey conducted by the Ministry of Labour and National Service in April 1957 into earnings and hours of manual workers showed that average weekly hours actually worked were as follows:

Men	48.5 hours
Youths and boys	44.9 hours
Women	41.5 hours
Girls	42.4 hours
All workers	46.6 hours

Holidays with Pay

With a few exceptions, manual workers (including shop assistants) in industries covered by agreements or statutory Orders are entitled to paid holidays of twelve days or two weeks. Moreover, payment is made for bank or statutory public holidays which are as follows: in addition to Good Friday and Christmas Day, there are Bank Holidays in England, Wales, Northern Ireland and the Channel Islands on Easter Monday, Whit-Monday, the first Monday in August and the first weekday after Christmas (Boxing Day), and in Scotland on New Year's Day, the first Monday in May, and the first Monday in August. Many agreements provide that payment should also be made for specially proclaimed holidays.

Safety

Safety depends in practice at least as much on the education and voluntary efforts of the employers and of the worker as upon safety regulations. There are over a quarter of a million workplaces in Great Britain subject to the Factories Acts. The total strength of the Factory Inspectorate including medical and other specialists was 383 before decisions to strengthen it, and in particular to triple its chemical and engineering staff, were reached in the autumn of 1956. When the decisions have been fully implemented, its strength will be about 440. In June 1957 there were 1,698 mines (including 841 main coal mines) and 4,803 quarries, including 238 opencast coal sites; the total strength of the mines and quarries inspectorate was 147. Except in coal mines, prevention of accidents by frequent inspection is impracticable. The concern of both trade unions and employers' associations with safety helps to maintain safety standards, and the requirements about accident notification (see p. 288) help inspectors to take up the means of prevention with employers, machinery manufacturers and interested organizations. But the voluntary co-operation of managements and employees in individual workplaces is

obviously essential to the safety drive. The Accident Prevention Movement, a voluntary educational campaign, is strongly supported by the Factory and Mines and Quarries Inspectorates. Inspectors inquire into safety aspects of machine design and specification, circulate expert advice by personal exhortation, lectures and literature, and encourage the appointment of Safety Officers and the formation of Works Safety Committees. An Industrial Health and Safety Centre in London is maintained by the Ministry of Labour and National Service. The Industrial Safety Training Centre in Birmingham is a voluntary organization for education and training in practical safety methods. The Royal Society for the Prevention of Accidents helps the Accident Prevention Movement by providing publicity and by organizing conferences and courses for Safety Officers. The British Colour Council has evolved a code of safety colours.

Organizations in industry are now concerning themselves to an increasing extent with the promotion of safety at work and the provision of information and advisory services to their members. They participate also in Joint Standing and Advisory Committees established by the Chief Inspector of Factories. Representatives of the Trades Union Congress, the British Employers' Confederation, the nationalized industries and the Ministry of Labour and National Service meet on the Industrial Safety Sub-Committee of the National Joint Advisory Council.

In road, rail and air transport most of the work is outside the scope of the Factories Acts, but elaborate safety codes have been laid down by the British Transport Commission, the London Transport Executive and the Air Corporations.

Fatal and serious industrial accidents have tended to diminish during the twentieth century. They rose somewhat in factories during the early years of the second world war. Since then, however, there has been a further decline, though accidents sufficiently serious to cause at least three days' absence still happen to three per cent of male factory employees every year and one per cent of female factory employees. Most of these accidents are due to quite ordinary causes—the handling of goods, the use of hand-tools, or falls—and only a sixth are caused by power-driven machinery. Fatal accidents reported in 1956 in factories and other places of employment subject to the Factories Acts numbered 687. Fatal accidents in mines and quarries numbered 376. The total of fatal industrial accidents in factories, mines and quarries and railways, and on trading and fishing vessels numbered 1,367.

Health and Welfare

Employers frequently achieve health and welfare standards considerably higher than those prescribed by law. They are helped to do this by the inspectorates, by Government Departments and agencies (e.g., the Medical Research Council), by employers' associations and trade unions and by such expert voluntary bodies as the Central Council for Health Education and the Industrial Welfare Society.

An increasing number of firms in Britain provide a whole-time or part-time doctor, an industrial nurse, and a canteen with hot meals, pay part or all of the cost of clubs and sports grounds, operate retirement and sickness insurance schemes supplementing the State insurance schemes, and afford training and educational facilities. Some have their own rehabilitation centres or support convalescent homes.

The public corporations operating the nationalized industries have set out to be model employers and to standardize and improve the varied provisions for safety, health and welfare made by the undertakings which they took over. They have established safety and first-aid organizations and medical services and have taken part in or supported research designed to reduce the risks of accidents or occupational

disease. They have provided or arranged for convalescent homes and, in some cases, rehabilitation centres. They have extended the provision of canteens and other facilities at the place of work, and have made increased contributions to social welfare. Where necessary, they have undertaken considerable housing programmes to provide accommodation for their employees.

Prompt and effective action in the field of industrial health depends, among other things, on an adequate industrial health research service, properly integrated both with industrial health services and industrial research. Apart from field investigations carried out by H.M. Factory Inspectorate of the Ministry of Labour and National Service and its specialized medical and technical branches, this is provided by Government agencies such as the Medical Research Council, the Department of Scientific and Industrial Research (including the National Physical Laboratory), and the Government Chemist; by the Departments of Industrial Health and Social Medicine of the universities: and by the research departments of various large industrial concerns. Co-ordination is provided by a number of general and special committees.

Welfare standards vary considerably from one factory to another. Between a third and a half of the factory workers of the country are employed by small firms employing fewer than 250 workers, many of which, largely for economic reasons, have not raised their standard of welfare as much as the larger firms.

The amenities provided by large factories depend partly on the employees' needs and desires. The requirements of a factory where the work is light, and many employees are women or young persons, are different from those of an engineering or steel works, where work is arduous and dirty, and undertaken mainly by men.

Progressive firms are careful to find out what their employees want, and welfare policy is often decided in consultation with the workers, whether through regular consultative machinery or by other means.

During and since the second world war the provision of meals for workers at their place of work has become usual in large undertakings and quite common in smaller ones. At the end of 1956 over 19,000 industrial premises were providing their workers with canteen facilities. There were also some 1,000 colliery canteens providing meals for about 98 per cent of coalminers. Any surplus earned by canteens is used to improve the canteen or to finance some other welfare services. Losses are borne by the firms.

Human Relations in Industry

In recent years there has been a considerable growth of interest in 'human relations' in industry, i.e. relations between management and their workers as individuals, as distinct from relations between organizations of employers and organizations of workers. This has led to more widespread attention being given to all aspects of personnel management and to the establishment of more personnel departments. Practically every large industrial firm and many small ones now have a personnel department staffed by one or more specialist officers. While the form of organization of personnel departments varies, the personnel officer is generally responsible for advising all levels of management on the development of good human and industrial relations. This officer also has particular duties with regard to recruitment, selection, education and training, transfer of labour, the application of wage agreements, the promotion of joint consultation and the supervision of working conditions and employee services.

Since the end of the second world war, there has been an intensification of the educational and training activities arranged by industry. Short-term training is almost entirely the responsibility of individual firms, but in over 100 sections of

industry and commerce, employers and trade unions have agreed to establish national or regional schemes of apprenticeship and other long-term training.

Both voluntary and official organizations have been concerned with the promotion of better human relationships in industry. The voluntary organizations include bodies which deal with management problems and provide a service to subscribing firms, professional associations linking individuals who have a common interest in particular functions of management and administration, and bodies which provide specialist services usually on a fee-paying basis.

In 1945, the Ministry of Labour and National Service established a Personnel Management Advisory Service which has done much to promote good personnel management and to assist firms by discussing problems of personnel policy. The service is staffed by a team of experienced Personnel Officers recruited from industry.

In March 1953, the Department of Scientific and Industrial Research and the Medical Research Council set up two committees which are concerned with research into the human factor in industry. They are known respectively as the Committee on Human Relations in Industry and the Committee on Individual Efficiency in Industry.

The Committee on Human Relations has approved a number of projects for research into factors influencing the effectiveness of incentive payment schemes, factors facilitating and restricting the introduction of new techniques and methods in industry, characteristics of management organization affecting productivity, industrial education, training and promotion, and the problems of the effective employment in industry of special groups such as older persons and married women.

The Committee on Individual Efficiency has concerned itself with research into such matters as the influence of equipment and tool design on operator efficiency, factors affecting the efficient utilization of industrial engineering techniques, and training methods in industry.

The results of the work sponsored by these two committees are now appearing. The committees themselves are shortly to be replaced by new machinery to be set up by the Department of Scientific and Industrial Research and the Medical Research Council.

VIII. FINANCE

PUBLIC FINANCE

Public finance is concerned with the way public authorities (i.e. the central Government and local authorities) finance their activities—how their expenditure is decided upon and how their revenue is obtained.

Moneys administered by public authorities¹ can be roughly divided into two categories:

1. The moneys of the central Government, raised mainly by taxation, but also in part by borrowing, and paid into and out of the Exchequer² in accordance with the proposals of the Government, as approved by Parliament (principally the House of Commons).

There are also funds administered for special purposes by central Government Departments and wholly or partially maintained by receipts which do not come from the Exchequer. The only important one is the National Insurance Fund, administered by the Minister of Pensions and National Insurance, used for the payment of benefits under the National Insurance Scheme (see pp. 347-50).

2. The funds of local authorities, obtained partly from rates (local taxes on dwelling houses and other real estate) and income from property and trading receipts, partly from grants and loans from the Exchequer, and partly from loans raised in the open market.

The following broad account of Government finance will be concerned mainly with the Exchequer and only incidentally with local government³ and other public funds.

Financial control, as exercised by the House of Commons, is based on law parliamentary rights and custom.

As the power of Parliament grew in late medieval and Tudor times, the principle that taxation by the Crown required parliamentary consent was gradually evolved. The principle was established, at the end of the constitutional struggles of the Stuart period, by the Bill of Rights, 1689.

In medieval, Tudor and Stuart times, it is broadly true to say that once the King was granted the right to raise a given sum by taxation, he was free to spend it as he chose. In the eighteenth and nineteenth centuries, the House of Commons gradually developed the modern system of controlling expenditure through the device of Appropriation, which was embodied in its final form in the Exchequer and Audit Departments Act, 1866.

¹ For an account of public finance in Northern Ireland and its relationship to that of the United Kingdom, see pp. 305 and 308.

² The term 'Exchequer' took its name from the 'chess-board', or table with chequered cloth, round which the King's financial officials sat for accounting purposes in the twelfth century.

³ For further information on local government finance, see pp. 70-72.

From the very early days of Parliament it had been established that such financial control as Parliament possessed should be exercised by the House of Commons. This control became effective, as regards taxation, in the seventeenth century, but as regards expenditure it was not effective until the nineteenth century. The controlling power of the House of Commons is acknowledged today in the Speech from the Throne at the opening of a new session of Parliament, which is addressed to both Houses but contains a special paragraph addressed to the Commons alone.

The Commons have traditionally claimed that the Lords have no power to modify financial provisions, though they may reject such provisions; thus, to minimize the chance of rejection, the practice was started in 1861 of embodying the main financial provisions for the ensuing year in a single Bill. Since the passing of the Parliament Act, 1911, however, the assent of the House of Lords is no longer needed for a Bill certified by the Speaker to be a Money Bill (see pp. 32 and 33-34).

Today, the authority of the House of Commons has to be obtained for all expenditure by the central Government itself and for the raising of revenue by taxation or borrowing. All Government revenue is paid into the Government account with the Bank of England—known as the Exchequer Account or the Consolidated Fund. With certain exceptions (the main one, as previously stated, being National Insurance benefits), all payments by the Government come out of this account.

The following sections outline the machinery by which expenditure and revenue are authorized and controlled, the purposes on which public money is spent and the sources from which revenue is obtained.

ESTIMATES AND EXPENDITURE

Classification of Expenditure

Central Government expenditure falls into two main groups:

1. Expenditure which is specifically authorized by Act of Parliament without limitation to any particular year. This expenditure includes the interest, sinking fund and cost of management of the National Debt, the financial provision made for members of the Royal Family, and salaries and pensions of judges and certain high officers whose independence of the Government is thought to be better guaranteed by permanent grant than by annual vote. These Consolidated Fund Services represent a permanent charge on the Consolidated Fund.
2. All other Government expenditure, which is authorized from year to year and which includes all expenditure on defence, on the social services and on the general administration of the country. These are called Supply Services because the House of Commons, when voting money, is granting to the Crown 'such aids or supplies as are required to satisfy . . . the pecuniary necessities of the Government'. It should be noted that some of this expenditure may also depend on legislation, such as the National Health Service Acts, relating to a specific object of expenditure.

Authorization of Expenditure

The Estimates for these Supply Services are considered by the House of Commons in Committee of Supply (that is, in Committee of the whole House with the Chairman of Committees, instead of the Speaker, in the Chair). The Committee usually discusses public policy relevant to the Estimates, though any Estimate could be examined in detail if members wished and if time allowed (see also p. 36).

Estimates for Supply Services in the financial year beginning on 1st April are submitted to the Treasury by each Department in the preceding November and

December. Estimated expenditure is grouped under main headings called 'Votes' which are further broken down into subheads and items. If the House of Commons approves the Estimates, the sums asked for are voted and later confirmed in the Appropriation Act; this Act appropriates the money to specific Votes. Inside each Vote, a 'virement', the spending of money on one subhead instead of on another, is permissible so far as Parliament is concerned, but only with Treasury consent. Departments are free to distribute expenditure within subheads as they please subject to Treasury approval of the type of expenditure involved.

An excess of expenditure, or a new service not covered by the Vote, or a virement of a magnitude or character which the Treasury considers should be brought to the attention of Parliament, requires a Supplementary Estimate. The Treasury exercises the same power of scrutiny over this as over the ordinary Estimates.

Scrutiny of Expenditure

Control of expenditure is maintained by the Treasury, by the Comptroller and Auditor General, by the Select Committee on Public Accounts of the House of Commons and by the Select Committee on Estimates.

The Treasury

The power of the Treasury to control expenditure derives from the responsibility of the Chancellor of the Exchequer for the financial policy of the Government.

A central function of the Treasury is to present the Civil Estimates to the House of Commons. In considering the Estimates submitted by Departments, the Treasury has to weigh the advantages of administrative proposals against the monetary and economic cost, taking into account current Government policy, to decide the relative merits of expenditure proposed by different Departments and to eliminate any overlapping, uneconomic or wasteful expenditure where this has escaped the net of departmental financial control. Quite apart from the scrutiny of Estimates, throughout the year the Treasury keeps a close control over such matters as rates of pay and the aggregate size of the staff in all Government Departments, in addition to exercising a general supervision over all departmental expenditure. The Treasury also lays down general rules of financial and accounting procedure for Departments and prescribes the principles on which departmental contracts shall be made and the limits within which losses may be written off.

The Comptroller and Auditor General

Control over issues of money to Departments and the audit of accounts is exercised by the Comptroller and Auditor General, who holds a permanent appointment as an officer of Parliament. Since 1866 he has had two functions: as Comptroller of the Exchequer he controls entries and issues of public money to and from the Exchequer Account, and as Auditor General he audits departmental accounts and submits the Appropriation Accounts to Parliament. His statutory function is to ensure that all expenditure is properly incurred, e.g., that no payments are made which go beyond any relevant statutory authority, and that Treasury sanction has been obtained wherever necessary. In addition, however, he has been encouraged by successive Committees on Public Accounts (see the next paragraph) to examine departmental expenditure with a view to drawing attention to any cases of apparent waste or extravagance.

The Select Committee on Public Accounts

The accounts of each Department and the reports of the Comptroller and Auditor General thereon are considered by the Select Committee on Public Accounts (PAC).

This was set up in 1861, by Mr. Gladstone, for the purpose of ensuring that expenditure was properly incurred in accordance with the Estimates and with any relevant Acts of Parliament, but it has since developed much wider powers. Nowadays it may consider whether full value has been obtained for the sums spent by Departments and it examines cases in which the administration appears to have been faulty or negligent. The Committee has therefore become a powerful instrument for the exposure of waste and inefficiency. It embodies its findings in Reports which may be discussed in the House of Commons. Its recommendations are considered by the Treasury in consultation with Departments and put into effect, so far as they are accepted, according to Treasury instructions. If the recommendations are not acceptable, a reasoned reply has to be submitted to the Committee, which may either accept the objections or return to the charge in subsequent Reports.

Select Committee on Estimates

This Committee was originally set up in 1912 but was re-formed in 1929 with wider terms of reference. Under these terms it has been re-appointed annually except during the war years. The Committee's functions are to examine the Estimates, to suggest the form in which they should be presented, and to report whether there are any economies which could be made without altering the policy implied in the Estimates. It is customary for the Committee to select each year a few aspects of Government-voted services for review. In practice, the Estimates for the current year are not affected, but the Committee's recommendations may reinforce Treasury control and influence the nature of expenditure in succeeding years.

THE BUDGET

'Budget' is an old word meaning a bag containing papers or accounts. The use of the word in public finance originated in the expression 'The Chancellor of the Exchequer opened his Budget', which was applied in Parliament to the annual speech of the Chancellor of the Exchequer explaining his proposals for balancing revenue and expenditure.

The Budget speech is the main occasion of the year for reviewing the financial state of the nation, and its formal basis is the Chancellor's proposals for raising money by taxation. By the time the Budget is introduced (usually in April) the Estimates of expenditure under various headings will have been presented to Parliament and published, and the expected total of Government expenditure for the year will be known. The Chancellor estimates the yield of the revenue on the basis of existing taxation and proposes such changes in taxation as will provide whatever surplus or deficit he considers desirable on economic grounds. These proposals are later embodied in detail in a Finance Bill.

The Budget speech also gives figures relating to certain payments of a capital nature for which the Government has statutory power to borrow and which are therefore excluded from the Budget expenditure met from revenue. These items and others are set out in the part of the Budget which lies 'below the line'.¹

Budget Policy

The original purpose of the Budget was purely financial—to provide money for Government expenditure. From an early stage, however, it was appreciated that taxation would affect the distribution of income and property and the level of expenditure on particular goods and services. At a later period it came to be realized

¹Items 'below the line' are: (1) receipts applicable by statute to debt interest which would otherwise be paid out of revenue; (2) receipts applicable to debt redemption; and (3) payments for which the Treasury has power to borrow.

that taxation also affected the nation's total expenditure and therefore the general level of economic activity. Since the second world war, Budgets have been consciously designed in greater or lesser degree to bring the total demand for goods and services into balance with the supplies which could be made available.

Direct taxation on income and property affects the distribution of wealth because the rates vary according to the size of income and property, the proportion of a high income taken in tax being much greater than the proportion of a small one; at the same time, the services provided by the Government (whether in cash or kind) are generally available to all, irrespective of wealth, but in some cases they are specially designed to benefit people with lower incomes. Indirect, or outlay taxes (see p. 304) do not affect the distribution of income; their main purpose has always been the raising of revenue, but by discouraging or encouraging consumption of particular goods they can be used to influence the allocation of resources and the pattern of trade.

The Budget affects the general level of expenditure and, therefore, the total demand for goods and services, in the following way: if there is an increase in Government expenditure without an increase in taxation then total demand for goods and services will tend to rise; the same thing will happen if there is a decrease in taxation without a decrease in Government spending. In this way the Budget can be used to counter unemployment. On the other hand, if there is an increase in taxation without an increase in Government expenditure or a decrease in Government expenditure without a decrease in taxation then the total demand for goods and services will tend to fall. In this way the Budget can be used to counter inflation.

For some years after the war, budgetary policy was mainly designed to avoid inflation by holding down consumer demand for goods and services so that it would not hamper exports, investment or (since 1950) the defence programme. The Budgets of 1951 and 1952 aimed also to hold down investment in the interests of exports and defence. By 1953, however, as total demand had fallen while productive capacity had increased, some unused resources became available; in consequence, there was a reduction of taxation in the 1953 Budget, which aimed particularly at encouraging higher investment and production. These aims were continued in the 1954 Budget, when, however, changes in taxation were much smaller than in 1953. The Budget of April 1955, which gave further tax reliefs, was followed in October by a Supplementary Budget which had the purpose of reinforcing measures, including a tighter credit policy, instituted earlier in the year with the object of curtailing excessive internal demand and of strengthening the balance of payments position. The Budget of April 1956 was designed to continue the drive against over-spending and to provide new inducements to savers. During 1956, as a result of budgetary and other measures, inflationary pressure was reduced and the balance of payments improved; consequently, in the Budget of 1957, it was possible to make some reductions in the burden of taxation. These included income tax relief on higher earned incomes and increased child allowances for older children, and concessions in entertainments duty, petrol duty, purchase tax, and taxation of United Kingdom corporations trading overseas.

Sources of Revenue

Money to meet 'Ordinary' (mainly current) Budget expenditure of the central Government is in normal years derived from taxation. Taxes can be divided into two groups, direct and indirect, which correspond roughly to the duties collected by the Board of Inland Revenue and by the Customs and Excise Department. The most important Inland Revenue duties—income tax (including surtax), profits tax and estate duty (death duty)—are levied directly on the income or property of those

who, in general, have to bear them. Income tax on individual (though not on corporate) incomes and estate duty are progressive taxes, that is, larger incomes and estates bear a proportionately higher rate of tax. Stamp duties, although not a direct tax, are also collected by the Board of Inland Revenue. Taxes on motor vehicles are collected by local taxation authorities, which are the county or county borough councils in England and Wales and the corresponding councils in Scotland; the proceeds are paid by the local authorities to the Exchequer.

TABLE 30
INCOME TAX AND SURTAX PAID BY PERSONS WITH DIFFERENT INCOMES
AND FAMILY RESPONSIBILITIES IN 1957-58
(to nearest £)

Income before tax	Single persons		Married couples without children		Married couples with two children		
	Income all earned income	Income all investment income(a)	Income all earned income	Income all investment income(a)	Earned Income		
					Two children not over 11 (b)	Two children over 11 but not over 16 (b)	Two children over 16 (b)
200	2(c)	2(c)	—	—	—	—	—
300	15	15	—	—	—	—	—
400	33	59	9(d)	31(d)	—	—	—
500	56	93	28	59	—	—	—
600	82	136	48	93	3	—	—
700	112	178	74	136	17	6	1
800	145	221	102	178	36	24	12
900	178	263	136	221	59	42	31
1,000	211	306	169	263	86	69	52
2,000	542	731	499	688	414	393	372
5,000	2,093	2,518	2,028	2,453	1,898	1,877	1,855
10,000	5,659	6,318	5,579	6,238	5,419	5,398	5,377

Source: *Financial Statement (1957-58)*.

(a) *Age Relief*. Where the taxpayer (or his wife) is over 65 and his total income does not exceed £700, age relief is given; this reduces the tax payable to that chargeable on the earned income scale. Where the total income exceeds £700, marginal relief is given so that the full tax on the investment income scale is not payable until the marginal relief runs out.

(b) The figures shown comprise income tax for 1957-58 and surtax (if any) for 1956-57, payable in 1957-58. The increases in child allowances for older children provided for in the Finance Act, 1957, have therefore been taken into account in these figures only for income tax and not for surtax.

(c) *Age Exemption*. Where the taxpayer is over 65 and his total income does not exceed £250, no tax is payable. Where the total income slightly exceeds £250, marginal relief is given so that the full tax is not payable until the marginal relief runs out.

(d) *Age Exemption*. Where the taxpayer (or his wife) is over 65 and the total income does not exceed £400, no tax is payable. Where the total income slightly exceeds £400, marginal relief is given so that the full tax is not payable until the marginal relief runs out.

Income Tax, Surtax, and Profits Tax

Income tax is imposed at a standard rate for the year of assessment beginning on 6th April. For 1957-58 the standard rate is 8s. 6d. in the £. The tax imposed on an individual is graduated by means of personal allowances, by reduced rates of tax on the first sections of taxable income, and by the surtax. In the case of a married couple the incomes of husband and wife are aggregated and are treated as one income, but a higher personal allowance is given than for a single person.

Examples of the amounts of income tax paid yearly by people with different incomes and family responsibilities are shown in Table 30, p. 303.

Most wages and salary earners pay their income tax under a PAYE ('Pay-as-you-earn') Scheme, under which tax is deducted at source, thus enabling them to keep up to date in tax payments.

Companies are liable at the standard rate of tax on their total income irrespective of its amount; they are also subject to profits tax of 30 per cent on profits distributed as dividends, and of 3 per cent on undistributed profits.

In general, income arising from sources within the United Kingdom is subject to United Kingdom income tax, even though the person entitled to the income is not resident in the United Kingdom, except in the case of certain United Kingdom Government securities. Where the income arises from sources outside the United Kingdom, tax is not chargeable unless the owner becomes chargeable as a resident. The United Kingdom has entered into agreements with many countries providing for relief from double taxation; where such agreements are not in force, the United Kingdom allows unilateral relief.¹

Estate Duty

Estate duty is chargeable on the value of property (whether settled or not) which passes or is deemed to pass at death. Estates with a net capital value of £3,000 or less are exempt from duty, but on estates of a higher value there is a progressive duty ranging from 1 per cent to 80 per cent.

Indirect Taxes

Most indirect or outlay taxes are Customs and Excise duties and are levied on commodities or services. They are called indirect because the importer, manufacturer, wholesaler, or provider of commodities or services pays them first and then passes them on to the individual consumer in the form of higher retail prices.

Customs duties are levied on imported goods, and excise duties on goods produced, and services provided, at home. The purchase tax, which is also collected by the Customs and Excise Department, applies equally to home-produced and to imported goods.

The system of customs duties is twofold in its purpose: it has the function of providing a measure of protection for British industries or preference for products imported from Commonwealth countries (see pp. 323-4) and it has also the function, in association with the excise system, of providing revenue.

The principal revenue duties collected by the Customs and Excise Department are those on tobacco, alcoholic drinks, hydrocarbon oil (mainly petrol), entertainments (cinemas), betting, matches and sugar. The protective customs duties cover a wider field, but their total contribution to the yield of indirect taxation is relatively small.

Purchase tax is charged on a wide range of goods, nearly all of them consumer goods, at rates varying from 5 per cent to 90 per cent of the wholesale value. The tax applies to imported goods at the same rate as to those produced in the United Kingdom. Articles subject to revenue duties of the Customs and Excise Department are in general exempt from this tax; other goods free of purchase tax include food, fuel, books and newspapers, young children's clothing and household textile articles.

¹The information in this paragraph is not legally authoritative. For this purpose reference should be made to the relevant Statutory Instruments. Inquiries in the United Kingdom should be addressed to the Secretary, Board of Inland Revenue, Somerset House, London, W.C.2.

THE EXCHEQUER ACCOUNTS, 1957-58

In the Budget of April 1957, total current expenditure for the financial year ended 31st March, 1958, was estimated to reach £4,827 million, while the estimate for total current revenue (after allowing for taxation changes) was £5,289 million, making a surplus of £462 million. These figures exclude self-balancing revenue and expenditure (almost entirely post office trading), for which the estimate was £308 million. 'Below the line' total payments (see p. 301) were estimated at £854 million, while total receipts were estimated at £267 million leaving a deficit, to be met by borrowing, of £587 million.

Table 31, p. 306 shows the Budget estimates for 1957-58 in comparison with the out-turn (Exchequer receipts and issues) for the previous year. The diagram on p. 307 illustrates the pattern of Government estimates of revenue and expenditure on current account in 1957-58.

CAPITAL PAYMENTS AND RECEIPTS

In the last few years the main items of capital expenditure dealt with in the part of the Budget statement which lies 'below the line' have been loans to local authorities for housing and other investment; funds to meet capital expenditure by the Post Office; war damage payments; working capital for the National Coal Board; and loans to other nationalized industries. Capital receipts have come mainly from the repayment of these loans. If, on balance, there is a deficit, it is met from the proceeds of Government borrowing or from the surplus, if any, in 'Ordinary' revenue and expenditure, i.e. 'above the line', while if there is a surplus it goes to reduce the National Debt.

Since the war, new lending by the Government has exceeded loan repayment, as in the main, repayments are spread over a long term. From 1945 to the end of 1952 local authorities relied on the Exchequer for virtually all their loans. As from 1st January, 1953, they were given permission to borrow on the open market. In his Budget Statement of October 1955, the Chancellor of the Exchequer announced that local authorities had been asked to exercise restraint in their expenditure. The volume of Government lending to them would be restricted and the Public Works Loan Board (see p. 71) would 'put all applicants on inquiry as to their ability to raise the finance on their own credit either in the stock market or in the mortgage market'. Any advances granted would be at a rate of interest 'reflecting not Government credit, but the credit of local authorities of good standing in the market for loans of comparable periods'.

The National Debt

So far, borrowing on a large scale has been undertaken only to finance deficits during or immediately after a war. The National Debt rose from £651 million in 1914 to £7,435 million at the end of the first world war, and from £7,131 million in 1939 to £23,637 million in 1946. On the 31st March, 1957, the total National Debt was £27,005 million, of which £2,065 million was repayable in currencies other than sterling, mainly to the United States and Canadian Governments. Of the £24,940 million of internal debt, about £4,835 million was short-term debt, mainly in the form of 91-day bills on the Treasury, while the long-term loans included a variety of stocks, bonds, loans, and certificates carrying fixed rates of interest (ranging from 2½ to 5 per cent) and with fixed or indeterminate dates of repayment.

PUBLIC FINANCE IN NORTHERN IRELAND

The general system of public finance in Northern Ireland is, in its main features, similar to that operating in Great Britain, under which public revenues, with a few

TABLE 31
UNITED KINGDOM BUDGET
1956-57 OUT-TURN AND 1957-58 ESTIMATES
(after 1957-58 Budget changes)

£ million

Above the Line					
Revenue			Expenditure		
	1956-57 Out- turn	1957-58 Esti- mate		1956-57 Out- turn	1957-58 Esti- mate
Inland Revenue ..	2,705	2,811	Interest on Debt ..	711	640
Customs and Excise ..	2,101	2,117	Sinking Funds ..	37	38
Motor duties ..	91	93	Other items ..	76	79
TOTAL TAX REVENUE	4,897	5,021	TOTAL CONSOLIDATED FUND SERVICES ..	824	757
			Supply: Defence ..	1,525	1,420
			Civil (including tax collection) ..	2,519	2,650*
Non-Tax Revenue ..	261	268	TOTAL SUPPLY ..	4,044	4,070
TOTAL REVENUE ..	5,158	5,289	TOTAL EXPENDITURE	4,868	4,827
			Surplus	290	462
	5,158	5,289		5,158	5,289
Below the Line					
Receipts			Payments		
Interest outside Budget	147	175	Interest outside Budget	147	175
Local authorities—re- payments	42	48	Loans to local authori- ties	109	100
Nationalized industries (other than National Coal Board)— Repayments	—	14	Loans for New Towns development ..	32	33
Other items	26	30	Post Office capital ex- penditure	79	75
			National Coal Board— capital expenditure (net)	26	45
			Loans to other nation- alized industries ..	284	290
			Transport (railway finances)— Loans	52	50
			Other items	107	86
TOTAL RECEIPTS ..	215	267	TOTAL PAYMENTS ..	836	854
Net sum borrowed or met from surplus ..	621	587			
	836	854		836	854
TOTAL RECEIPTS ..	5,373	5,556	TOTAL PAYMENTS ..	5,704	5,681

Source: *Financial Statement (1957-58)*.

*Adjusted to take account of the net saving of £10 million arising from the receipt of £20 million from the National Health Service contribution announced in February 1957, and the additional cost of the agricultural price review (£10 million).

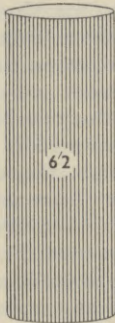
THE NATIONAL BUDGET 1957-58

REVENUE

Receipts per £ from different sources

TAXES ON INCOME AND CAPITAL 10s. 5d.

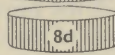
Taxes on Personal Incomes
Income Tax and Surtax,
including tax on
dividends and interest
(£1,630 million)



Tax Paid by Companies:
Income Tax, Profits Tax
and Excess Profits Levy
(£950 million)



Estate Duty
(Death Duty)
(£170 million)



TAXES ON SPENDING 8s. 7d.

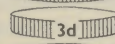
Tobacco
(£698 million)



Alcohol
(£425 million)



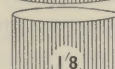
Entertainments & Betting
(£65 million)



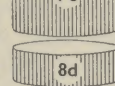
Purchase Tax
(£462 million)



Oil and Motor Duties:
Oil, including petrol (£340 million)
Motor (£93 million)



Stamp Duties,
Import Duties (except on
alcohol, tobacco, oil), etc.
(£188 million)



NON-TAX REVENUE 1s.

Broadcast Licences, Receipts from
Loans, and Govt. Trading, etc.
(£268 million)



Total £5,289 million £1·0·0·0

EXPENDITURE

Outlay per £ on different items

DEFENCE AND NATIONAL DEBT 8s

Defence
(£1,441 million)

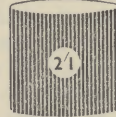


National Debt
Interest on Government
Stocks, including
National Savings Certificates
(£678 million)



SOCIAL SERVICES, SUBSIDIES, ETC. 7s. 7d.

Health Service
(£557 million)



Education
(£445 million)



Personal Payments: Family
Allowances, War Pensions,
National Assistance,
Govt. Contribution to
Insurance Funds
(£439 million)



Agricultural and
Food Subsidies
(£244 million)

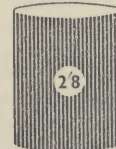


Assistance to Local
Authorities for Housing,
Police, Roads, etc
(£326 million)

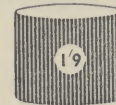


OTHER SERVICES AND SURPLUS 4s. 5d.

General Services,
Miscellaneous, including
Commonwealth and Foreign,
Tax Collection, Broadcasting,
Employment Exchanges
(£697 million)



Surplus, helps to finance
capital expenditure
(£462 million)



£1·0·0·0 Total £5,289 million

minor exceptions, are paid into the Exchequer, from which no money can be withdrawn except on the authority of Parliament. That authority, as in Great Britain, is expressed in the case of Consolidated Fund charges in permanent legislative form, and in the case of Supply Services by annual Appropriation Acts based on estimates prepared by Departments and sanctioned by the Ministry of Finance.

The major portion of the taxation in Northern Ireland, comprising customs and excise duties, purchase tax, income tax and surtax and profits tax, is levied and collected by the United Kingdom Government and the proceeds are paid in the first instance into the United Kingdom Exchequer. From this portion, known as 'Reserved' Revenue, there is deducted and retained by the United Kingdom Treasury, under the Government of Ireland Act, 1920, the sum contributed by Northern Ireland towards Imperial Services (called the 'Imperial Contribution'), the cost of the administration of the Supreme Court, the Post Office, and other Reserved Services, and the cost of collecting Reserved Revenue. The balance, termed the 'Residuary Share of Reserved Taxes', is paid over to the Exchequer of Northern Ireland and joins with the proceeds of taxes levied and collected by the Government of Northern Ireland, called 'Transferred' Revenue, and with other non-tax receipts of a miscellaneous nature to form the public income. The items of Transferred Tax Revenue are estate duties, stamp duties, betting duty, entertainments duty (cinemas), excise licence duties and motor vehicle duties.

A Joint Exchequer Board, representative of Great Britain and Northern Ireland, constituted in accordance with the Government of Ireland Act, 1920, determines the amount of Reserved Revenue and the cost of Reserved Services attributable to Northern Ireland for each year, the amount of the Imperial Contribution and such other questions affecting the financial relations of the two Governments as may be referred to it.

In the Northern Ireland Budget for 1957-58 (year ending 31st March), total revenues were forecast at £97·6 million and expenditure at £87 million. After allowing for a small Budget surplus of £44,500, the Imperial Contribution was provisionally estimated at £10·5 million.

The Public Debt of Northern Ireland, totalling £67 million at 31st March, 1957, is fully covered by repayable advances and investments held by the Ministry of Finance.

Outside the Exchequer system in Northern Ireland, various funds have been established, in addition to statutory Reserve and Sinking Funds, for specific purposes. In general, these funds follow the United Kingdom pattern, the principal being those relating to National Insurance and Government loans. The latter constitutes a pool of capital funds available for local and public authority borrowings; at 31st March, 1957, a sum of approximately £67·5 million was outstanding against such authorities.

BANKING AND PRIVATE FINANCE

The British banking system is long established and well integrated. It consists of a Central Bank; of Commercial Banks which carry on the usual main banking services; of the United Kingdom offices of various banks whose main business is in other countries; and of various specialized banks and similar financial institutions.

The Bank of England

The Bank of England is the Central Bank and its principal business is to act as banker to the Government and to the other banks, as the agent of the Government for important financial operations and as the central note-issuing authority; it also

maintains relations with central banks overseas. It was established in 1694 by Act of Parliament as a corporate body, and its entire capital stock was acquired by the Government under the Bank of England Act, 1946.

As the central bank, the Bank of England acts in conjunction with other banks and financial institutions in co-ordinating the application of the Government's monetary policy. One of the main instruments for this purpose is the Bank Rate¹—the minimum rate at which the Bank of England will discount approved bills of exchange.

As banker to the Government, the Bank of England holds the main Government accounts and it acts as the Government's agent for the issue and registration of Government loans. It also operates, for the Treasury, the administration of exchange control which has been in force since 1939 (see p. 325).

The commercial banks maintain large balances with the Bank of England and these balances form part of the bankers' cash reserves.

The Bank of England has the sole right in England and Wales of issuing bank notes. Notes thus issued need a 100 per cent cover in gold and securities, the part covered by the latter being the 'Fiduciary Issue', the level of which is subject to parliamentary control. In practice very little gold is now held by the Issue Department of the Bank of England, the bulk of the United Kingdom gold (and foreign exchange) reserves being in a separate account, known as the Exchange Equalization Account, originally established in 1932, for the purpose of checking undue fluctuation in the exchange value of sterling. The provision of coin for circulation is the responsibility of a Government Department, the Royal Mint.

The Commercial Banks

The banks handling the major part of the domestic banking business in the United Kingdom are, in the main, limited liability companies which are subject to the ordinary law relating to such companies.

Some of the main distinguishing features of the United Kingdom commercial banks are:

1. A relatively small number of banks control a large number of branches. Domestic banking members of the British Bankers' Association number 25, including 6 in Scotland, and 3 in Northern Ireland; these banks control nearly 12,500 branches and have total assets of over £8,000 million.
2. The volume of cheques handled is very large and, in spite of a stamp duty of 2d. on each cheque, many payments—and even relatively small payments—are made by cheque. The average daily value of cheques, drafts, bills and bankers' effects cleared in 1956 through the London and Provincial Clearing Houses was £532 million; and many cheques do not, for various reasons, pass through Clearing Houses.
3. It is the practice of the chief United Kingdom banks to maintain a ratio of about 8 per cent between cash reserves and total deposits (of which about two-thirds are repayable on demand, the remainder being deposits at interest and subject to notice).

On an average, in 1956, about 35 per cent of the banks' deposits were covered by cash and short-term securities, while longer-term securities amounted to about 32 per cent and advances to customers to about 30 per cent of total deposits. It is not the practice of British banks to participate directly in industry, the financing of which is, as far as they are concerned, normally limited to short-term advances.

¹ On 19th September, 1957, the Bank Rate was raised from 5 per cent to 7 per cent.

4. Certain banks in Scotland and Northern Ireland have retained limited rights to issue notes; these issues must, apart from an amount for each bank which is specified by legislation, be fully covered by Bank of England notes and by coin.

United Kingdom Offices of Banks Operating Mainly Overseas

The importance of London as a financial and trading centre and as the largest city of the British Commonwealth has encouraged many banks whose main business is in the Commonwealth and other countries to maintain London offices; in some cases, indeed, the institutions concerned are United Kingdom companies and the London office is the head office. These London offices form part of the complex structure engaged in the financing of trade not only between the United Kingdom and other countries but also in goods which are shipped direct between other countries.

Savings Banks and the National Savings Movement

The function of Trustee and Post Office Savings Banks is to provide facilities for the investment of voluntary savings and particularly of the small savings of persons with low incomes. Both these types of banks were well established during the nineteenth century. The growth of their business was, however, encouraged in the first world war when the War Savings Committee was set up under Government auspices to promote an official savings drive. A new type of long-term security for the small investor was inaugurated at that time. This was the National Savings Certificate, with interest payable only on encashment, but free of income tax. From this war-time drive originated the present National Savings Movement devoted to the encouragement of the widespread investment of savings in Trustee Savings Banks and the Post Office Savings Bank and in National Savings Certificates and Defence Bonds. The policy of the movement is determined by the National Savings Committee for England and Wales and similar committees for Scotland and Northern Ireland.¹ The committees are bodies of independent persons representing regional savings organizations and various national institutions connected with such matters as finance, industry and education. They are assisted by a salaried staff of civil servants. Voluntary local savings committees, often assisted or promoted by local authorities, co-ordinate the work of voluntary local savings groups. In 1956, the Government introduced an additional type of savings security—Premium Savings Bonds—which, after an initial period of six months and thereafter monthly, give investors a chance to win a prize instead of receiving interest.

Trustee Savings Banks are managed by boards of honorary trustees and managers, and most of the funds deposited with them are ordinary deposits which are withdrawable on demand or at short notice. These deposits are invested with the National Debt Commissioners, and the Government is responsible to the trustees for the repayment of the money so invested with accrued interest as and when required. In certain circumstances, Trustee Savings Banks also accept deposits of up to £2,000 for special investment. These deposits, which may receive a slightly higher rate of interest than ordinary deposits, are invested under the supervision of the National Debt Commissioners, but the Government is not responsible to the trustees for the repayment of these investments. In December 1956, there were about 1,330 Trustee Offices controlled by 84 independent banks.

¹ The Northern Ireland Ministry of Finance is responsible for the administration of Ulster Savings, but the furtherance and organization of the savings movement in Northern Ireland is the concern of a central voluntary committee, which is assisted by county and local committees and district groups, all of a voluntary nature.

The Post Office Savings Bank is the largest organization of its kind in the world. It has over 22 million active accounts; in December 1956, total balances, which carry a Government guarantee, amounted to £1,687 million, about £73 per depositor. Through a centralized system of accounting, a depositor can pay in money or make a withdrawal at any one of some 20,000 post offices throughout the country.

To ensure that Savings Banks are used primarily by the small investor there is a limit of £500 on the amount which may be deposited by any individual in one year, and of £3,000 on the total balance which may be held by one individual in the ordinary departments of Trustee Savings Banks and in the Post Office Savings Bank. The maximum amount of National Savings Certificates which may be held by any one person is £450 worth of the current (tenth) issue, in addition to holdings of previous issues, and £500 worth of Premium Savings Bonds. The limit on individual holdings of the current issue of Defence Bonds ($4\frac{1}{2}$ per cent) is £1,000; this is in addition to holdings of previous issues.

Co-operative Banks

The Co-operative Wholesale Society formed a deposit and loan department about the year 1870, and the right of a co-operative society to engage in banking was legally defined in the Industrial and Provident Societies Act in 1876. The primary purpose of the Co-operative Wholesale Society Bank was to serve the co-operative movement, whose financial centre it has become, but the bank has also come to include among its clients trade unions and other mutual societies, local authorities and individual depositors.

OTHER FINANCIAL INSTITUTIONS

It has been the policy of the commercial banks to leave the provision of many special financial facilities to other financial institutions. These facilities, which are supplementary to the credit facilities of the banking system, are mainly provided through the Discount Market, Finance Corporations, the Stock Exchange, Investment Trusts, Building Societies and the Insurance Market. New issues, except for certain small operations, are controlled by the Treasury with the advice of the Capital Issues Committee (see p. 314).

The firms engaged in such activities are in the main highly specialized, e.g., discount houses, stockbrokers, insurers, insurance underwriters and brokers. Another type of financial institution, the merchant bank, has been of great importance in the finance of trade and commodity dealings and in the flotation of major issues of bonds, particularly for overseas concerns and governments.

The merchant banks helped to give London an international reputation as the main world centre for short-term and long-term borrowing. Long-term loans for development purposes floated on the London market earned for Britain a continuing flow of interest and attracted a steady flow of orders for British goods and products. This increasing trade and also a large proportion of trade between foreign countries was usually financed by bills of exchange, which were accepted as payable at maturity by the merchant banks (also known as accepting houses) and were traded on the discount market, thus providing an easy method of transferring debts and claims.

The Discount Market

The main business of the Discount Market consists of trading in and holding commercial bills of exchange, United Kingdom Government Treasury bills and other short-term securities.

To the extent to which the various firms which compose the Discount Market have insufficient funds of their own to finance the bills and securities which they wish to hold, they obtain loans from the banks and, to a lesser extent, deposits from the public. In the main these loans and deposits may be called in at any time.

The commercial banks do not, in the ordinary way, buy Treasury bills at the weekly tenders except on behalf of customers, but purchase, from the Discount Market, bills which have been taken up by the market and held until they become of a currency required by the banks.

If the banks call in loans which they have made to the Discount Market and the latter is unable to cover its needs elsewhere, it will be forced to borrow from the Bank of England. It is not the practice of the commercial banks themselves to obtain direct loans from the Bank of England to augment their cash resources if the need arises.

Finance Corporations

Two corporations, the Finance Corporation for Industry Limited and the Industrial and Commercial Finance Corporation Limited, were set up in 1945 to assist in dealing with the problems of post-war reconstruction and development. Although the Government displayed considerable interest in their formation, the Corporations themselves are ordinary limited companies with no official representation on their boards and having no recourse to public funds. Another finance corporation, the Commonwealth Development Finance Company Limited, was established in 1953 to assist development projects in the Commonwealth. Among other financial corporations of note are the Ship Mortgage Finance Company Limited, the Agricultural Mortgage Corporation Limited, Air Finance Limited, the National Film Finance Corporation and the Estate Duties Investment Trust Limited.

Finance Corporation for Industry Limited

The FCI was formed to assist in the provision of capital (in amounts of £200,000 and upwards) for the re-equipment and development of major industries with a view to promoting efficiency and thereby assisting in the maintenance and increase of employment.

The Corporation has an authorized and issued capital of £25 million and may borrow up to four times this amount, making a possible total of resources of £125 million. The share capital is held as follows: 40 per cent by insurance companies, 30 per cent by trust companies and 30 per cent by the Bank of England. As at the 31st March, 1957, the capital had been paid up to the extent of 2 per cent (£500,000), the liability of the shareholders in respect of the uncalled capital representing security to the banks who provide the funds out of which the Corporation makes its advances.

The enterprises assisted by the FCI are concerned with a variety of products, e.g., steel, oil, chemicals, shipping, diesel engines, electrical components and permanent prefabricated houses.

Industrial and Commercial Finance Corporation Limited

The ICFC is smaller than the FCI and has as its main object the provision of credit and finance by means of loan capital and share capital for industrial and commercial concerns in Great Britain, particularly in cases where the existing facilities provided by banking institutions and the Stock Exchange are not readily or easily available.

The authorized and issued share capital of the Corporation is £15 million which is paid up as required; the Corporation can borrow up to a further £30 million and

can thus have a maximum of £45 million available. Although the Bank of England has a token participation, the principal shareholders are the London Clearing Banks and the Scottish Banks in proportion to their size; the loan capital is provided by all the shareholders in the same ratio as their shareholdings.

The nature of the Corporation's business is to provide finance in sums ranging between £5,000 and £200,000 for small and medium-sized concerns. It has a large number of customers and has established branches in Birmingham, Leeds Leicester, Manchester and Edinburgh.

Ship Mortgage Finance Company Limited

This company was formed in 1951, the capital being subscribed by the ship-building industry, insurance companies and other financial institutions. Its main object is to assist in financing shipbuilding in the United Kingdom. In special cases, loans in respect of existing ships built in the United Kingdom may be considered.

Agricultural Mortgage Corporation Limited

The primary function of this Corporation, which was established in 1928, is to grant long-term loans against first mortgages on agricultural lands and buildings in England and Wales. The share capital was subscribed by the Bank of England and other banks, but the greater part of the funds is derived from public issues of debentures, of which about £27 million is outstanding (see also p. 165).

The Scottish Agricultural Securities Corporation Limited

This Corporation, with share capital subscribed by Scottish banks, fulfils similar functions in Scotland (see also p. 165).

Commonwealth Development Finance Company Limited

This Company was established early in 1953. It originated from the Conference of Commonwealth Prime Ministers in December 1952 and its purpose is to finance non-governmental development schemes in the British Commonwealth. The authorized and issued capital of this company is £15 million, which is held by the Bank of England and by a number of companies; £3.9 million of the capital has been paid up. The Company is empowered to borrow up to twice its issued capital (see also p. 337). At the end of March 1957, the Company had entered into commitments totalling £14.5 million.

Air Finance Limited

This Company was formed by a group of bankers and the FCI late in 1953 for the purpose of financing aircraft exports. Its initial resources were £11 million (for an account of the aircraft industry, see p. 214).

National Film Finance Corporation

The Corporation is a statutory body established under the Cinematograph Film Production (Special Loans) Act, 1949. Its function is to make loans to film producers and distributors in order to help to finance the production of films (see also p. 434).

Estate Duties Investment Trust Limited

The Trust was established in 1953 to assist small family businesses to find the finance to meet estate duties.

The Stock Exchanges

Although there are several Stock Exchanges in the United Kingdom, the London Stock Exchange is by far the most important.

The Stock Exchanges provide a means by which a holder of quoted stock or shares (all important securities are quoted) can, if he wishes, find a buyer for his securities; they are also a most important element in the raising of new capital by Government and commercial borrowers.

The Stock Exchanges do not fix dealing prices; the terms on which bargains are made between members reflect the interaction of supply of and demand for the securities concerned.

All the Stock Exchanges operate under strict rules of conduct which they formulate themselves.

The Capital Issues Committee

Since 1932 there has been control to a greater or lesser degree over capital issues in the United Kingdom. The 1932 controls, and such modifications as were made up to 1939, were without a statutory basis but resulted from public requests by the Chancellor which the various markets observed. At the outbreak of war in 1939 the Foreign Transactions (Advisory) Committee, which had been set up in 1936 to advise the Treasury on issues involving remittances to countries outside the Commonwealth, was renamed the Capital Issues Committee and was given the wider task of advising the Treasury on the administration of the statutory control of capital issues (and analogous transactions) for which provision was made in Regulation 6 of the Defence (Finance) Regulations, 1939.

The end of the war in 1945 saw the retention of the Capital Issues Committee with its primary function unchanged; permanent provision for capital issues control was made the following year with the passing of the Borrowing (Control and Guarantees) Act, 1946.

The Committee is entirely independent; it consists of seven men of experience in commerce, industry or finance, who consider applications to raise loans or issue capital (except those which do not involve more than £10,000¹ in any one year for the borrower concerned, or which, for certain other reasons, may be exempt) and tender their advice to the Treasury upon them.

Investment Trusts

Investment trusts cater for the investor who does not wish or has not sufficient resources to hold a large number of investments in his own name but who desires to have an interest in several securities as a means of spreading his risk.

The ordinary type of investment trust is a public company, limited in liability and registered under the Companies Acts; investment trusts in this form have been established in the United Kingdom for about a century. They invest their share and their loan capital over a range of securities, the precise choice depending in part on the objects of the particular company concerned.

Since 1931 there have also been 'unit trusts' in the United Kingdom; a trust of this type is normally limited by its trust deed to a specified range of securities. The original conception of the unit trust was that securities could be grouped in fixed proportions to form units, and these units could be divided into sub-units which could be sold to the public. In practice, while retaining this unit basis of investment, many unit trusts have considerable flexibility in their choice of the underlying securities.

¹ Up to 13th March, 1956, this figure was £50,000.

The Insurance Market

The institutions providing insurance services fall into two main groups: the insurance companies and Lloyd's. Additional life assurance facilities are also provided in the United Kingdom by certain Friendly Societies.

Insurance Companies

There are about 300 British insurance companies, the large companies of international repute accounting with their subsidiaries for about a third of this total. In addition, nearly 100 overseas companies carry on business (and even more companies are represented) in the United Kingdom, thus emphasizing the international nature of the market. The natural centre of the market is in London, but some of the large companies have their administrative headquarters elsewhere.

In 1955, the premium income of British insurance companies amounted to about £1,080 million. The three non-life branches—fire, accident and marine—together accounted for some £604 million. 'Ordinary branch' life assurance accounted for £349 million and the balance of £127 million was represented by 'industrial' life assurance (i.e. a system of assurance in which the contributions are collected by house-to-house visits at intervals of less than two months).

The total assets of British insurance companies at the end of 1955 are estimated to have been about £4,823 million. This included £1,223 million invested in British Government and British Government guaranteed securities, £939 million invested in debenture and loan stocks and preference and guaranteed stocks and shares, £736 million in ordinary stocks and shares, £109 million in municipal and public boards' securities, and £506 million in mortgages.

Lloyd's

Lloyd's is an incorporated society of underwriters in London. Although in its earlier history the activities of Lloyd's were confined to the conduct of marine insurance business, during the last sixty years there has also been built up at Lloyd's a very considerable world-wide market for the transaction of other classes of insurance business, except life assurance of which the amount transacted at Lloyd's is negligible. In addition to its insurance activities, Lloyd's maintains a world-wide organization for the collection and diffusion of shipping intelligence (see p. 230).

The name 'Lloyd's' is derived from Edward Lloyd's coffee house, established in the seventeenth century, where merchants with maritime and other interests gathered to transact business. By the middle of the eighteenth century, Lloyd's coffee house had become the principal centre of underwriting business and of intelligence about shipping movements. In 1871 Lloyd's was incorporated by Act of Parliament.

The conduct of insurance business and the affairs of the Society of Lloyd's in its corporate capacity are administered by the Committee of Lloyd's.

The interests of a holder of a Lloyd's policy are safeguarded in the following ways: (1) every Lloyd's underwriter is liable for his underwriting debts to the full extent of his means and is required to lodge security by way of a deposit with the Committee of Lloyd's; (2) the whole of the premiums received by an underwriter must be placed in a trust fund to be used exclusively for the payment of his underwriting liabilities and expenses, and only ascertained profits can be released to the underwriter and then only with the consent of the trustees; every underwriter must submit his accounts to an annual audit.

The usual practice of underwriters today is to form themselves into groups known as syndicates which generally specialize in particular branches of insurance. The underwriters forming the syndicate appoint an agent who is empowered to

accept risks on their behalf and to control all matters concerned with the syndicate's business. If the insurance is for a relatively large amount, several syndicates may participate, but each underwriter is individually liable only for the proportion of the risk accepted on his behalf.

Underwriters may not accept business directly from the public, but must transact through Lloyd's brokers (see below) in London, who must be connected with Lloyd's, either as members or subscribers.

The total premium income of Lloyd's underwriters in 1956 after deduction of brokerages, commissions, returns and reinsurance premiums was about £245 million, of which some £108 million was in respect of marine, aviation and transit insurance.

Insurance Brokers

The insurance market is completed by the insurance brokers, acting on behalf of the insured, who are an essential part of the Lloyd's market and a valuable part of the company market. Many brokers specialize in reinsurance business, acting as intermediaries in the exchange of contracts between companies, both British and overseas, and often acting as London representatives of the latter.

International Insurance Services

Over two-thirds of the fire, accident and marine insurance business comes from abroad, partly by direct placing in London and partly from branches and agencies established in over 100 countries. The basic principle of this international business is that resources capable of meeting any potential loss are instantly available for use in any part of the world.

Behind this large and international volume of business stand the assets of the companies (aggregating over £4,800 million) in addition to substantial reserves of uncalled capital and the whole of the deposits, underwriting trust funds and personal fortunes of Lloyd's underwriters.

Building Societies

The principal function of building societies is to supply long-term loans on the security of private dwelling houses purchased for owner-occupation, though loans are occasionally made on the security of commercial and industrial premises and farms. The funds of building societies are derived mainly from the general public who invest in shares or deposits. The amount of share capital is not fixed but may be regulated in accordance with the amount of mortgage business; shares are not dealt with on the Stock Exchange but may be withdrawn in cash if notice is given. The rapid expansion of building society activity in the twentieth century has been accompanied by a concentration of most of the business in the hands of a few very large societies. At the end of 1956, 773 societies were in operation, with total assets of £2,235 million. The amount advanced on mortgage in 1956 was £339 million.

IX. TRADE

Although relatively small in area and population, the United Kingdom is one of the world's principal trading countries. It has acquired this position as a consequence of several factors. It was one of the earliest countries to remove legal and fiscal restrictions on the internal movement of persons and goods, and the first to develop adequate facilities for the movement of large quantities of goods by mechanical transport (canals, roads, railways and steamships). With its resources of coal and iron, and its succession of mechanical inventions, Britain was also the first country to industrialize on a large scale and to produce a wide variety of consumer goods in large quantities. In addition, Britain evolved, over a long period of years, the specialized financial services needed to facilitate the maximum volume of trade.

This chapter outlines some of the main features of Britain's external trade, balance of payments and internal trade. Some account of external trade and payments is essential to an understanding of Britain's economy but only a brief treatment of trade policy and commercial relations has seemed appropriate in a Handbook devoted to the United Kingdom, its people and internal institutions.

EXTERNAL TRADE

In the nineteenth century Britain attained a position of pre-eminence in international trade. At the end of the nineteenth century Britain's share of exports of manufactures entering into world trade was about 33 per cent. Its share of world imports was somewhat larger than that of world exports, as imports into Britain were paid for not only by exports of goods but by interest on overseas investments, receipts from shipping and a variety of financial services. Even before 1914, however, this supremacy was being increasingly challenged by other nations, including Germany and the United States, and although Britain's imports and exports increased in absolute terms over periods of years, its share of the world total tended to decline. By 1937, Britain's share in world exports of manufactures, measured by value, had fallen to 22 per cent compared with 24 per cent in 1929 and 30 per cent in 1914. In the years immediately following the second world war, Britain's share rose again, and in 1950 was 25 per cent; but by 1956 the share had declined once more, to about 19 per cent.

For over a century, Britain's internal economy has been dependent on international trade to an extent almost unparalleled by any other country. Britain relies upon imports for half its total consumption of foodstuffs and nearly all the raw materials needed by British industry. Its exports, chiefly manufactured goods, absorb about a sixth of the gross national product.

In 1956, Britain was the world's second largest exporter and importer. It was a major supplier of machinery, ships, vehicles, aircraft, metal manufactures, chemicals and textiles. Britain was also one of the world's largest markets for foodstuffs, metals, cotton, wool and petroleum.

PATTERN OF TRADE

Changes since 1938 in value, volume, composition and geographical distribution of imports and exports are outlined in the following paragraphs.

Value and Volume

Imports rose in value from £919 million in 1938 to £1,802 million in 1947 and £3,889 million in 1956. The rise in value of exports was from £471 million in 1938 to £1,142 million in 1947 and £3,172 million in 1956.

Calculations of changes in trade volume (i.e. changes after eliminating variations due to price movements) compared with pre-war cannot be made with precision as the relative values of different types of goods on which the volume figures are based have changed considerably since 1938. Broadly speaking, however, by 1947, the volume of imports was a quarter less than before the war and exports had regained their pre-war volume. It has been estimated that the volume of imports in 1956 was only just about the 1938 figure, while the 1956 volume of exports approached a level twice that of 1938. Statistics showing the value and volume of imports and exports in 1938 and in post-war years are set out in Table 32.

TABLE 32
IMPORTS AND EXPORTS: ANNUAL FIGURES

	1938(a)	1947	1950	1953	1954	1955	1956
<i>Value (£ million)</i>							
Total imports c.i.f. (b)	919	1,802	2,609	3,343	3,374	3,884	3,889
Exports of UK goods, f.o.b. (c)	471	1,142	2,174	2,582	2,674	2,905	3,172
Re-exports f.o.b. (c) ..	61	59	85	105	101	119	146
<i>Volume Index Nos.</i>							
Total imports, 1954=100	110(e)	80	89	99	100	111	111
Exports of UK goods, 1954=100	60(e)	63	101	96	100	107	113
<i>Terms of Trade (d)</i>							
1954=100	75(e)	90(e)	100	100	100	101	99

Source: Statistics Division, Board of Trade.

(a) Silver bullion and all coin not of legal tender in the United Kingdom are excluded from 1938 figures.

(b) 'Cost-insurance-freight', i.e. including shipping, insurance and other expenses incurred in the delivery of goods as far as their place of importation in the United Kingdom. Most of these expenses represented earnings by United Kingdom firms.

(c) 'Free-on-board', i.e. the cost of the goods to the purchaser abroad, all costs and charges accruing up to the time of placing the goods on board the exporting vessel having been paid by the seller.

(d) The ratio of import to export price index numbers: a rise indicates an adverse movement.

(e) Approximate.

Some indication of the increased importance of exports in the national economy is shown by the rise in the proportion of total national income derived from export earnings—from 10.3 per cent in 1938 to 12.2 per cent in 1947 and 18.8 per cent in 1956. Over the same period, the rise in the proportion of expenditure on imports to gross national expenditure was smaller—from 15.1 per cent in 1938 to 16.6 per cent in 1947 and 19.5 per cent in 1956: this trend was caused mainly by the rise in import prices relative to other prices.

The diagram on p. 319 shows the changes in the volume of imports and exports from 1947-56.

Commodity Composition

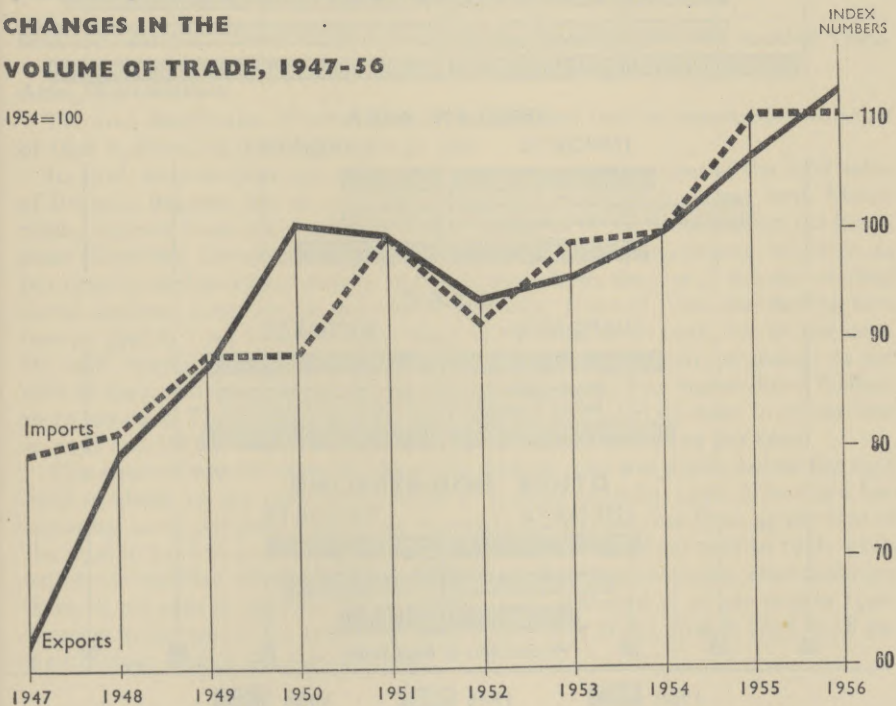
Changes in the commodity composition of trade are shown in the diagram on p. 320.

The most notable change in exports has been the increased importance of engineering products—e.g., motor vehicles, aircraft, machinery and electrical goods—and the declining, though still considerable, share taken by the older staples such as cotton textiles. In 1938, coal accounted for 7.9 per cent of United Kingdom exports by value, textiles for 19.4 per cent and engineering products for 24.4 per cent. By 1948, the percentages were 2.5 per cent, 18.4 per cent and 35.8 per cent and, in 1956, 1.4 per cent, 9.3 per cent and 40.0 per cent. While coal exports have been declining, exports of refined petroleum—2.9 per cent of total exports in 1956—have increased, particularly since 1951 as a result of the post-war refinery development. Exports of chemicals—7.7 per cent of all United Kingdom exports in 1956—have also increased greatly since the end of the war. Within the category of engineering products, particularly notable gains have been made by road vehicles, aircraft, and certain types of machinery and electrical goods.

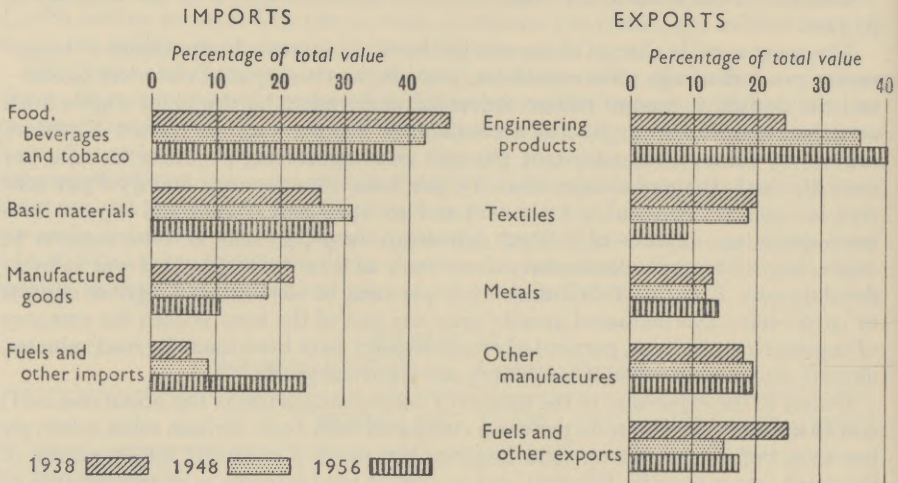
Owing to the expansion of the output of domestic agriculture (by about one-half) and of industry (by about 60 per cent) compared with 1938, Britain relies relatively less than before the war on food imports, but needs a relatively larger supply of imported raw materials. Whereas 47 per cent of total imports in 1938 consisted of food, beverages and tobacco, the proportion in 1948 was only 42 per cent and, in 1956, 37 per cent. On the other hand, the proportion for basic materials rose from 26 per cent in 1938 to 31 per cent in 1948, but was reduced to 28 per cent in 1956. Imports of manufactures in 1956 represented 23 per cent of total imports, a slightly higher proportion than in 1938. Imports of fuels rose from 5 per cent in 1938 to 11 per cent in 1956, mainly on account of increased consumption of petroleum products; increased imports of coal are also a factor.

CHANGES IN THE VOLUME OF TRADE, 1947-56

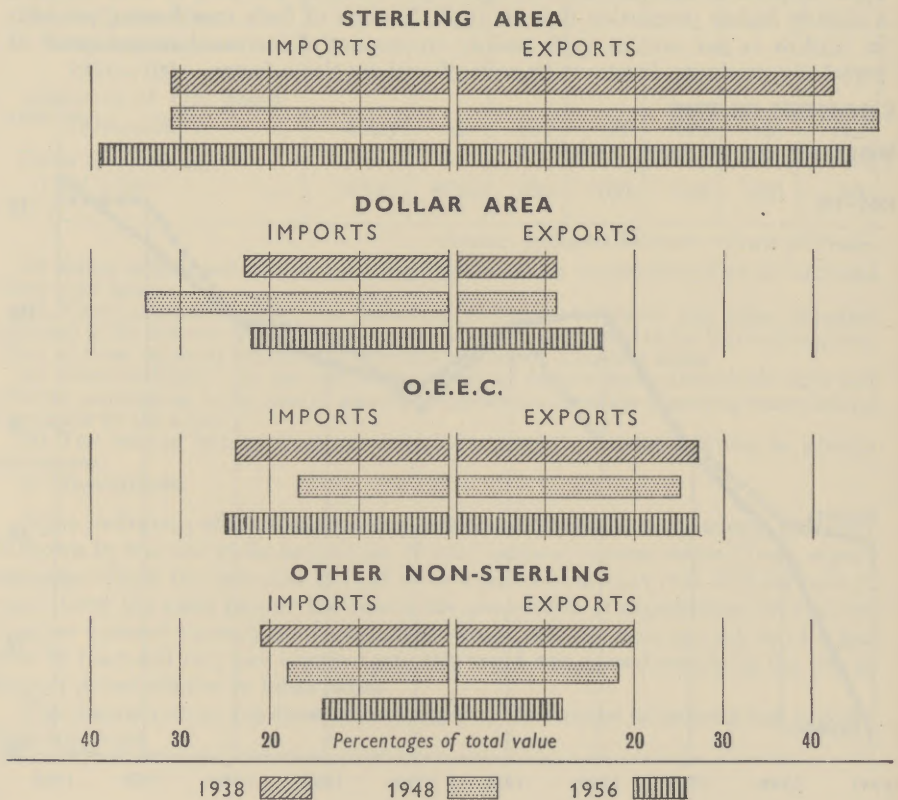
1954=100



COMPOSITION OF TRADE BY VALUE 1938-56



AREA DISTRIBUTION OF TRADE 1938-56



The figures in Table 33 show some of the main groups of exports and imports in the years 1955 and 1956.

TABLE 33
PRINCIPAL EXPORTS AND IMPORTS

Exports	£ million		Imports	£ million	
	1955	1956		1955	1956
Machinery other than electric	460	504	Meat	295	294
Chemicals	233	245	Non-ferrous ores and metals	298	291
Electric machinery, apparatus, etc. ..	192	217	Crude petroleum ..	224	244
Metal manufactures ..	166	166	Fruits and vegetables	218	237
Crude, semi-finished and finished steel ..	143	155	Timber	244	199
Wool yarns and fabrics and wool tops ..	124	127	Pulp and paper ..	172	172
Passenger cars and chassis	122	113	Dairy products ..	156	169
Non-ferrous metals ..	74	103	Raw wool	177	168
Refined petroleum ..	71	92	Cereals	143	155
Commercial vehicles and chassis	86	91	Steel-making materials	119	140
Cotton yarns and fabrics	98	89	Feedingstuffs	134	129
Miscellaneous textiles	91	85	Tea	126	115
			Chemicals	112	107
			Unrefined sugar ..	95	100
			Raw cotton	90	97

Source: Statistics Division, Board of Trade.

Area Distribution

The area distribution of external trade in 1938 and 1947 in comparison with that of 1956 is shown in the diagram on p. 320.

In 1938, imports from the dollar area represented 23 per cent of the total value of Britain's imports, but in 1947 their share had increased to 34 per cent. Meanwhile, imports from non-sterling member countries of the Organization for European Economic Co-operation (OEEC) and their overseas territories fell from 24 per cent in 1938 to 17 per cent in 1947 and those from the rest of the non-sterling world declined from 22 per cent to 18 per cent. Imports from the sterling area (see p. 330) in 1947 took the same share of the total as in 1938, i.e. 31 per cent. By 1956, imports from the dollar area had fallen to 22 per cent as against 34 per cent in 1947, and from the rest of the non-sterling world they had declined further, to 14 per cent. The sterling area in the meantime increased its share to 39 per cent in 1956 and OEEC countries regained their pre-war share of 24 per cent.

The share of exports taken by the dollar area in 1947 was a little below the 1938 level of about 11 per cent of the value of exports—but by 1956 their share had increased to 16 per cent. Exports to the sterling area also rose from 45 per cent of the total in 1938 to 49 per cent in 1947, but fell back to 46 per cent in 1956, while exports to member countries of the OEEC and their dependencies, after declining from 25 per cent in 1938 to 23 per cent in 1947, increased to 27 per cent in 1956. Exports to the rest of the world fell from 19 per cent of the total in 1938 to 18 per cent in 1947 and 11 per cent in 1956.

Table 34 shows Britain's principal markets and principal supplier countries in the years 1955 and 1956.

TABLE 34
EXPORTS AND IMPORTS: BY MAIN COUNTRIES OF DESTINATION AND ORIGIN

UK Exports to:	£ million		UK Imports from:	£ million	
	1955	1956		1955	1956
Australia	284	240	United States	420	409
United States	183	221*	Canada	344	348
Canada	141	178	Australia	264	236
South Africa	167	154	New Zealand	180	197
India	130	168	Sweden	140	145
New Zealand	139	127	India	159	141
Netherlands	106	119	Netherlands	133	137
Irish Republic	108	103	Kuwait	126	118

Source: Statistics Division, Board of Trade.

* Excluding shipments of bullion in 1956, valued at £22 million, in repayment of 88 million ounces of silver borrowed from the United States under war-time Lend-Lease arrangements.

Re-Export Trade

Re-exports are goods which are exported (1) in the condition in which they are imported or (2) after having undergone minor operations—e.g., simple blending, husking, repacking—which leave them essentially unchanged. For some hundreds of years Britain has been an important centre of re-export trade though, over the past forty years, its importance relative to total United Kingdom export trade has declined. The greater part of United Kingdom re-export trade has always been in raw materials and foodstuffs, e.g., wool, rubber, tea, non-ferrous metals and furskins. Traditionally, re-export commodities are imported from Commonwealth countries and re-exported to countries in Europe.

Tourist Trade

During the post-war years, the tourist trade has become an important source of foreign currency earnings. In 1956, overseas visitors spent in the United Kingdom the equivalent of £121 million, of which some £43 million was in dollar currency. United Kingdom residents touring overseas spent £123 million in the same year.¹

The total number of visitors to the United Kingdom in 1956 was 1,107,000,² an increase of 7 per cent compared with 1955, and well over twice the number of those who came in 1937, the peak year before the war.

The *British Travel and Holidays Association*, which is a Government-sponsored body, is concerned with the promotion of the tourist trade, particularly by means of publicity overseas. The Association was formed in April 1950 by the merger of the British Travel and Holidays Board and the Travel Association. Its work is directed by a Board consisting of a chairman and 23 members. The President of the Board of Trade appoints the chairman and eight members, the Council of the Association elects seven members, the Scottish, Welsh, and Northern Ireland Tourist Boards between them appoint four members and the Board itself has

¹ For foreign currency allowances for United Kingdom tourists, see p. 325.

² This total excludes tourists (other than aliens) from the Irish Republic and foreign visitors in transit to other destinations.

power to co-opt four members to represent tourist interests not otherwise covered. The Association runs a Tourist Information Centre (to which all correspondence should be addressed) at 64-65 St. James's Street, London, S.W.1, and has overseas offices in New York, Chicago, Los Angeles, Toronto, Paris, Frankfurt, Amsterdam and Stockholm.

CONDUCT OF TRADE

It has been a major aim of successive United Kingdom Governments since the second world war to work for the removal of restrictions on trade and payments, to secure a reduction of impediments to exports and, when possible, to restore the convertibility of sterling. To this end, Britain has taken a leading part in the setting up of such organizations as the International Monetary Fund, the General Agreement on Tariffs and Trade (GATT), the Organization for European Economic Co-operation (OEEC) and the European Payments Union (EPU), and has played a major part in these organizations' activities, especially as regards the freeing of trade from restrictions which grew up in the war and post-war periods.

In addition to substantial reductions in tariffs on imported goods carried out through the GATT (see p. 324), the United Kingdom has greatly relaxed its quota restrictions on imports and has modified its exchange restrictions on foreign currencies. By mid-1957, nearly all its imports from the sterling area, 94 per cent of those from OEEC member countries and over 50 per cent from dollar countries had been freed from quantitative restrictions.

The current trade and payments policy of the United Kingdom and the sterling area Commonwealth countries has been worked out at a series of conferences. There are three main objectives: (1) the maintenance of a strong balance of payments position and the strengthening of the reserves; (2) sound internal policies on which 'depend the purchasing power of money, the cost of living and the ability to sell exports in increasingly competitive markets'; and (3) the development of resources, with particular emphasis 'on the development of those resources which directly or indirectly contribute on an economic basis towards improving the balance of payments of the sterling area'. In the matter of financing development, the United Kingdom has undertaken to make a special effort in the knowledge that this, added to other overseas commitments, including military expenditure and debt repayments, requires an increase in current account earnings.

Tariff Policy

In the nineteenth century the United Kingdom became strongly attached to the principles of free trade, and at the beginning of the twentieth century the only customs duties were those imposed, solely for revenue purposes, on a small range of products. After the first world war, certain key industries notably optical and scientific instruments and fine chemicals, were given protection for strategic reasons under an Act passed in 1921. It was not until 1932, however, that any serious departure was made from the principles of free trade. Under the Import Duties Act of that year, the United Kingdom imposed a duty of 10 per cent *ad valorem* on all imported goods except those on a Free List (mainly important raw materials and foodstuffs) and set up machinery for the imposition of additional duties and for additions to be made to the Free List where appropriate. This measure provided a degree of protection to British industry and a basis for negotiations with foreign countries already in possession of a tariff structure.

The principle of Imperial Preference had been introduced into the United Kingdom customs tariffs in 1919 and, as a result of the Ottawa Conference in 1932,

agreements were concluded with independent Commonwealth countries providing for reciprocal preferential tariff treatment over a wide range of Commonwealth goods. The Import Duties Act had already permitted the duty-free entry of goods from the United Kingdom dependencies.

A series of bilateral trade negotiations with other countries between 1932 and 1939 resulted in some modification in the level of protection and in the Commonwealth preferences which had been established. During the second world war, because of Government purchase and import control, protection by the tariff was of relatively minor importance, and it was only with the substantial relaxation of quantitative import controls from 1949 that the tariff again became an effective instrument of protection.

Since the war, the United Kingdom's protective tariff has been considerably modified as a result of a series of multilateral tariff negotiations held under the auspices of the GATT, which permits the retention of existing tariff preferences, but prohibits the creation of new preferences. The United Kingdom has, however, obtained certain limited waivers from the GATT no-new-preference rule; these permit, under certain conditions, increased tariff protection for United Kingdom industries while preserving duty-free commitments for Commonwealth goods, and allow increased preferences for the benefit of Colonial products whose disposal is wholly or mainly dependent on the United Kingdom market. In the negotiations under the GATT, many United Kingdom customs duties have been reduced, or bound against increase, in return for concessions by other countries. Margins of preference have thereby been reduced in some instances, but only in return for compensating tariff concessions by other countries, and only after consultation with all the Commonwealth countries concerned.

The United Kingdom Government has put forward proposals under which the six countries which in March 1957 signed the Treaty establishing the European Economic Community, together with the United Kingdom and other members of OEEC, would be associated in a Free Trade Area in Europe. Negotiating machinery for this purpose has been set up by OEEC. Under the British proposals, protective tariffs and other barriers to trade affecting industrial products, but not agricultural products and foodstuffs, would be progressively reduced.

In April 1957, the Customs Duties (Dumping and Subsidies) Act entered into force. It empowers the Board of Trade to impose duties on imported goods of any description which have been dumped or subsidized.

Private and State Trading

The export trade and virtually all the import trade of the United Kingdom are conducted by private firms.

Methods of export trading vary considerably, according to the firm, the industry, the product and the market. A good deal of United Kingdom export trade, especially of the smaller manufacturing firms, is conducted through export merchants in the United Kingdom; many firms, however, sell to importers and consumers abroad through their own agents or resident representatives in the countries concerned; in other cases, sales are made through a firm's own branch office, distributing organization or subsidiary sales company established in overseas markets.

Similarly, in import trade, many large firms engaged in manufacture or domestic trade buy directly from overseas suppliers, while smaller firms may find it more convenient to buy through intermediaries such as import/export houses, commission agents, and the representatives of overseas firms.

In the immediate post-war years nearly all the principal imported foods and raw materials and some other goods were bought wholly or mainly on Government

account, and the Government was also the sole purchaser of nearly all domestically produced food and certain raw materials such as flax and timber. By 1951, a considerable number of major commodities including wool, rubber, tin, woodpulp, hardwoods, hides and skins, flax and leather, had been restored to private trade. Since 1951 the changeover from state trading to private trading has proceeded rapidly. Government monopoly overseas purchasing, which was responsible for about half of the United Kingdom's total imports in 1951 (about two-thirds of food imports and about one-quarter of raw materials) was, by 1954, confined to two foodstuffs—raw sugar and bacon—and one industrial commodity—jute goods. These three items accounted for only about 5 per cent of total imports in 1954. In 1956, under the provisions of the Sugar Act, a Sugar Board was set up to buy sugar at fixed prices under the Commonwealth Sugar Agreement, and sell that sugar on commercial terms. On 1st January, 1957, trade in sugar reverted from Government to private account. In October 1956, bacon imports were also returned to private trade.

CONTROLS ON TRADE AND PAYMENTS

Concurrently with the process of reversion from public to private trading, import licensing restrictions have been substantially eased, so that for most of the principal foodstuffs and raw materials no limit is now imposed on the quantity or value of imports from any country; for balance of payments reasons, imports from certain areas have not as yet shared fully in the relaxation of controls.

The principal quantitative controls still in operation on external trade are (1) currency exchange control, and (2) import and export licensing.

Exchange Control

Exchange control, i.e. control over the purchase and sale of gold and foreign currencies, was introduced at the outbreak of war in September 1939. The legal basis was at first the Defence (Finance) Regulations issued under the Emergency Powers (Defence) Acts, but in 1947 most of these temporary war-time powers were embodied in permanent legislation in the Exchange Control Act, 1947.

Exchange control does not affect transactions wholly within the sterling area. It is imposed only on (1) transactions between residents within the sterling area and residents outside, and (2) transactions conducted in sterling between persons resident outside the sterling area. Although the main structure of exchange control has continued intact since 1939, relaxations in its operation have been made in recent years.

In March 1954, the facility which certain countries possessing transferable accounts have enjoyed of settling current transactions between each other—as well as with sterling area countries—in sterling was extended to virtually all non-dollar countries. The facility now applies to capital as well as to current transactions.

There are no restrictions on the amounts of sterling that United Kingdom tourists visiting sterling area countries may take with them. For visits to non-sterling countries, including the dollar area, United Kingdom tourists are entitled to take a basic foreign currency allowance of £100 per twelve-month period. Special arrangements apply to Norway, Sweden, Denmark, Greenland, and the Faroe Islands: United Kingdom tourists visiting these countries are allowed all reasonable amounts of currency.

Exchange control policy is the responsibility of the Treasury, but most of the administration is in practice carried out by the Bank of England as agent of the Treasury—and in turn the Bank of England has delegated to the commercial banks a wide variety of powers to deal with applications.

Import and Export Control

The Import, Export and Customs Powers (Defence) Act, 1939, empowers the Board of Trade to make Orders prohibiting or regulating the import or export of goods. The powers of both import and export control derive from the same legislation, but the purpose and mechanism are quite distinct.

Import Licensing

Although goods can be imported into the United Kingdom only under licences issued by the Board of Trade, an importer does not have to apply for a licence every time he wishes to import anything. A large number of goods can be imported under the Open General Licence, which authorizes any person in the United Kingdom to import a wide range of specified commodities without any limits of quantity or value, either from anywhere in the world or from specified countries or groups of countries. Similarly, for a number of goods, individual traders are granted Open Individual Licences, which allow them to import unlimited amounts of the goods from any country or from specified countries or groups of countries.

When an importer wishes to bring in goods not covered by the unrestrictive Open Licensing arrangements, the Board of Trade decides whether he should be granted a licence to import a limited value of the goods in accordance with one of three basic methods of determining who should be allowed to import goods and in what quantities. These methods are:

- (1) *ad hoc* consideration of applications for licences;
- (2) apportionment of quotas among importers; and
- (3) apportionment of quotas among exporters to the United Kingdom by arrangement with the Governments of the exporting countries concerned.

The choice of method depends on the circumstances of the particular trade under consideration.

Import and exchange control are closely linked. All holders of import licences and anybody who wishes to import goods admissible under the Open General Licence are granted the currency required to pay for their imports.

Export Controls

For the most part, United Kingdom exports are not subject to any Government control or direction. Such controls as are in operation are imposed for the following reasons:

- (1) to control goods of strategic importance;
- (2) to conserve or regulate the distribution of scarce materials;
- (3) to assist exchange control operations in preventing exports of capital in the form of valuable goods (e.g., diamonds);
- (4) to control the re-export of materials purchased with dollars;
- (5) to control the export of goods the prices of which have been subsidized for consumption in the home market; and
- (6) to prevent the export of works of art of national importance.

The operation of export licensing control is such that goods are freely exportable to all destinations unless there is a specific ban on their export without licence. Normally, individual licences are required for specific consignments of goods subject to export licensing control, but in a few cases Open General Licences are issued. In other cases, bulk licences are issued to permit exports of specified quantities of controlled goods within a given period.

In recent years, export controls have been greatly reduced, and now cover only a small proportion of total shipments. The position is continually under review

and relaxations in control are made whenever circumstances permit. Following improvements in the supply position, the majority of goods now subject to control are of strategic importance. Certain of these strategic goods may be exported without licence to the Commonwealth (other than Hong Kong), the Irish Republic and the United States of America, but exports of such goods to other destinations are subject to export licensing control.

GOVERNMENT ASSISTANCE TO OVERSEAS TRADE

The United Kingdom Government does not subsidize exports. For the most part, too, it does not subject British exports to Government control or direction. Encouragement is, however, given to manufacturers and merchants by way of exhortation and advice and by the provision of information and credit insurance facilities. In addition, the Government, in its general economic policy, seeks to create conditions in which export trade can flourish. This involves (1) the imposition of fiscal, credit and other measures to damp down excessive internal demand for goods and services, so as to release resources for export industries; and (2) action internally and through international negotiation to reduce barriers to the free flow of trade and to move towards a freer system of trade and payments.

Information and Advice to Exporters

The United Kingdom Government provides a service of information and advice to merchants and manufacturers in the export trade.¹ The Government Department most concerned is the Board of Trade, which calls upon the assistance of overseas representatives. At each Embassy or Legation there is always an officer of high rank, a Minister, Counsellor or First Secretary (Commercial), who specializes in commercial matters. These officers direct the commercial activities of Consular officers in their respective territories.

At important centres in the Commonwealth there are Trade Commissioners, who are directly responsible to the Board of Trade.

Overseas officers regularly report on local economic and commercial conditions, pay special attention to local demand for particular commodities, and generally assist the exporter to overcome the difficulties he encounters in trade with the country in question, particularly those arising out of governmental regulations. These officers indicate potential demand for United Kingdom products, advise about methods of trading with particular areas, and seek out and pass on all opportunities for export business and inquiries for United Kingdom goods. Assistance is also given to United Kingdom exporters in finding agents and likely importers. From the records the Department keeps in London, brought up to date by reports from its overseas officers, it can provide information concerning any country on:

- (1) prospects for United Kingdom exports and requirements of particular markets;
- (2) governmental regulations affecting trade, including import restrictions and tariffs and duties on particular commodities;
- (3) methods of trading;
- (4) goods most likely to sell;
- (5) local tastes and preferences in design; and
- (6) the probity and influence of firms with which an exporter contemplates entering into business relations.

¹ In Scotland and Northern Ireland, export promotion is also assisted by the Scottish Council (Development and Industry), and the Northern Ireland Development Council, see p. 140.

Export Credit Insurance

The Export Credits Guarantee Department is a Government agency run on commercial lines to provide insurance for United Kingdom exporters and merchants against the main risks of financial loss incurred in overseas trading. These facilities have been developed over a period of more than thirty years, and the Department now underwrites some £500 million worth of insurance a year, for more than 4,000 policy holders. The Department is obliged to conduct its business on a self-supporting basis, taking one year with another, and cannot therefore be regarded in any way as a provider of subsidies to exporters.

The risks covered include insolvency or protracted default of the buyer, action by the buyer's Government which blocks or delays transfer of payment to the United Kingdom, imposition of new import licensing restrictions in the buyer's country, war between the buyer's country and the United Kingdom, cancellation or non-renewal of a United Kingdom export licence, or 'any other cause of loss occurring outside the United Kingdom and not within the control of the exporter or the buyer, and not normally insurable with commercial insurers'. Cover may commence from the date of contract or (at lower premiums) from the date of shipment.

There are three main types of export insurance policy:

1. *Short-term policies* normally covering goods sold on terms of up to six months' credit. The exporter insures the whole of his trade, or the whole of his trade with an agreed group of markets, for the twelve months covered by his policy. For certain engineering goods this type of cover is extended to goods sold on maximum credit terms of up to two years. Cover is also available for goods of foreign origin sold by a United Kingdom merchant to third countries, provided this trade does not conflict with direct United Kingdom exports.
2. *Medium-term policies* which cover capital and other goods sold on credit terms exceeding two years. Specific policies are negotiated for each individual contract.
3. *Dollar market policies* for North America and the Dollar Account countries of Central and South America. The policies listed above cover risks affecting payments under a contract of sale: the dollar market policies are designed to reduce to manageable size the special risks of loss in breaking into these markets. The exporter insures against a percentage of the loss which may result if market surveys, advertising or sales promotion campaigns, or stockholding, do not produce sufficient revenue to defray their cost. A similar but more extensive form of insurance is provided by 'Joint Venture' policies.

In the case of all the Department's policies, the exporter or merchant is required to retain an interest in the debt or risk involved and, consequently, guarantees are given up to a maximum of between 85 and 90 per cent. Premium rates are assessed separately for each country, and vary according to the risks and the terms of payment.

Trade Fairs

The British Industries Fair (BIF), one of the largest national trade fairs held regularly in any country, was first held in 1915 and has since been an annual event except for a break in 1925 and again from 1940 to 1947. Until 1956, the Fair was held simultaneously in two centres in London and at Birmingham. In 1957, it was concentrated at Castle Bromwich, Birmingham, under the management of the

Birmingham Chamber of Commerce; the possibility of making it an international fair is now under consideration.

In addition to the British Industries Fair, which serves industry generally, there are many specialized trade fairs held in the United Kingdom; a list of the more important ones appears regularly in the Fairs Section of the *Board of Trade Journal*. Some of the specialized fairs, such as the Motor Show, the Mechanical Handling Exhibition and the Radio and Television Show, attract large numbers of the public as well as many trade buyers from home and overseas, and provide an important means of advertising and selling British goods.

United Kingdom manufactures are shown at most of the large international trade fairs throughout the world. For example, the products of more than 400 United Kingdom firms were exhibited at the 1956 Milan Fair, more than 300 at the 1956 Brussels Fair and nearly 120 at the 1956 Damascus Trade Fair. At the more important of these international trade fairs there is often an official United Kingdom export promotion stand, where officials deal with trade inquiries and assist British exhibitors, and an impression is given of some aspects of British industry. In addition to these international events in which British goods are shown, from time to time there are specially organized displays of British products: a successful trade fair of this sort was organized in Zürich in 1953 by the British Chamber of Commerce in Switzerland, and the Federation of British Industries organized a British Trade Fair in Bagdad in 1954, in Copenhagen in 1955, and in Helsinki in 1957. An increasing interest is also being shown by United Kingdom manufacturers in the many important specialized international fairs which are held in North America and Europe.

BRITAIN'S ROLE IN THE FINANCING OF INTERNATIONAL TRADE

By a process of evolution through the centuries, the United Kingdom has developed an efficient and adaptable organization of trade and financial services, centred mostly on London, and capable of meeting the needs, not only of Britain itself, but of the world in general. Britain's supremacy in this respect derives from a number of factors—historical, geographical and economic—as well as the technical efficiency and low cost of its services. In the nineteenth century, the rapid growth of British industry, commerce and shipping under the stimulus of the industrial revolution made Britain the market as well as the workshop of the world. It became the site for the chief world markets in raw materials, freight, insurance, and precious metals. At the same time British capital was invested in overseas countries to assist their development, increase their output and exports, and provide markets for manufactured goods. London became the chief supplier of capital proceeding to and from the growing industrial areas on the continent of Europe and in North America. In course of time, the pound sterling and the sterling bill of exchange developed into the principal form of money for transactions between one country and another in all parts of the world.

Side by side with these developments, a sound commercial banking system and a flexible system of central bank control have been built up, while specialized institutions such as discount houses, merchant banks, accepting houses, the Stock Exchanges, investment trusts and finance corporations have evolved to satisfy particular needs for short-term or long-term finance (see pp. 308-16). The facilities provided by merchant banks and accepting houses, for example, have long been used to finance shipments of goods not only to and from Britain, but between any two countries overseas.

More recently the sterling area countries (see below) have linked their currency to the pound sterling.

The Sterling Area

The sterling area succeeded what was known as the 'sterling bloc'—a group of countries which followed Britain in abandoning the gold standard in 1931—and which pegged their exchange rates to the pound sterling. In 1939, after the outbreak of war, the pound sterling was no longer freely convertible into other currencies and the sterling area became more formally defined as a currency area, for exchange control purposes. Within the sterling area the United Kingdom imposes virtually no restrictions on payments, whether in respect of current or of capital transactions (see Exchange Control, p. 325).

All the Commonwealth countries (except Canada), together with Burma, Iceland, Iraq, the Irish Republic, Jordan, Libya and the British Protected States in the Persian Gulf are members of the sterling area. These countries contain one-quarter of the world's population and do one-quarter of the world's trade. The main feature of the sterling area is that the greater part of the overseas trade of member countries is financed in sterling; they keep their foreign reserves largely in the form of sterling and maintain a fixed relationship between their currencies and sterling. Member countries for the most part sell their foreign currency earnings to the United Kingdom Exchange Equalization Account in exchange for sterling and can purchase for sterling the foreign currency they require. They generally also sell gold in the London Market for sterling, and United Kingdom purchases of gold are also held in the Exchange Equalization Account. Members have agreed to extensive restraint in their demands for foreign currency, particularly dollars. South Africa is in a special position as a large gold producer. Although it used to finance its net dollar requirements from the sale of its own gold, making available most of the balance for the central reserves, it now sells most of its gold through London, acquiring sterling with which it can, like other member countries, draw on the central reserves for its dollar requirements.

All these currency arrangements are voluntary; there are no strict or centralized rules of conduct, the Commonwealth member countries agreeing between themselves at periodic conferences the broad policies to be followed for the strengthening of the reserves.

Commodity Markets

Britain is the traditional centre for marketing many of the world's basic commodities. These markets were largely closed during the war but they have gradually been reopened and are rapidly regaining their previous position. Among the more important are the London Rubber Market, the London Wool Exchange, the London Metal Exchange and the Liverpool Cotton Exchange. Apart from the import of goods for home consumption, many transactions are arranged between buyers and sellers from other countries and the British commodity exchanges are the most important centres for international dealings in a wide range of products.

The Foreign Exchange Market

From the beginning of the war until December 1951, authorized spot transactions in the more important foreign currencies by residents of the United Kingdom were permitted only at official buying and selling rates, which were fixed at a narrow margin either side of the respective parities for those currencies in terms of sterling. Forward margins were also controlled on a uniform basis in interest terms. From 17th December, 1951, wider spreads, between which spot exchange transactions

could take place, were introduced and forward margins were entirely freed from control, making it possible to reopen the Foreign Exchange Market on a restricted basis. Subsequently, progressive relaxations in the regulations governing foreign exchange operations have been introduced, particularly in the currencies of the members of the European Payments Union, where a greater measure of transferability has permitted the multilateral exchange arbitrage in the currencies of members.

The Market remains subject to United Kingdom Exchange Control regulations, which continue to govern the purchase and sale of foreign currencies by residents in the sterling area.

The London Gold Market

The London Gold Market, which had remained closed from the outbreak of war, was reopened on a restricted basis in March 1954, under the general supervision of the Bank of England. It has regained its pre-war position as the world's leading centre for dealings in gold.

Authorized dealers in gold are now free to deal with residents outside the sterling area against payment in sterling convertible into dollars, but residents of the sterling area have access to the Market only as sellers, except where permission is given for the purchase of gold for essential purposes.

THE BALANCE OF PAYMENTS

For about a hundred years the total value of goods imported into Britain each year has exceeded the total value of goods exported from Britain. The gap, or 'visible trade deficit', has, in normal years, been more than covered by net current receipts from invisible transactions—e.g., the interest and dividends from overseas investments and the earnings accruing from shipping, banking, insurance and other professional services—leaving an overall credit balance which has been applied to further investment overseas.

The Burden of two World Wars

Nevertheless, the pattern of the current balance of payments was seriously upset in the first world war, when export earnings were sacrificed and overseas investments liquidated in the interests of the war effort. It was also upset during the nineteen-thirties, when the basic exporting industries were hard-hit by the world economic crisis.

A more fundamental disturbance occurred as a consequence of the second world war (see pp. 122-3).

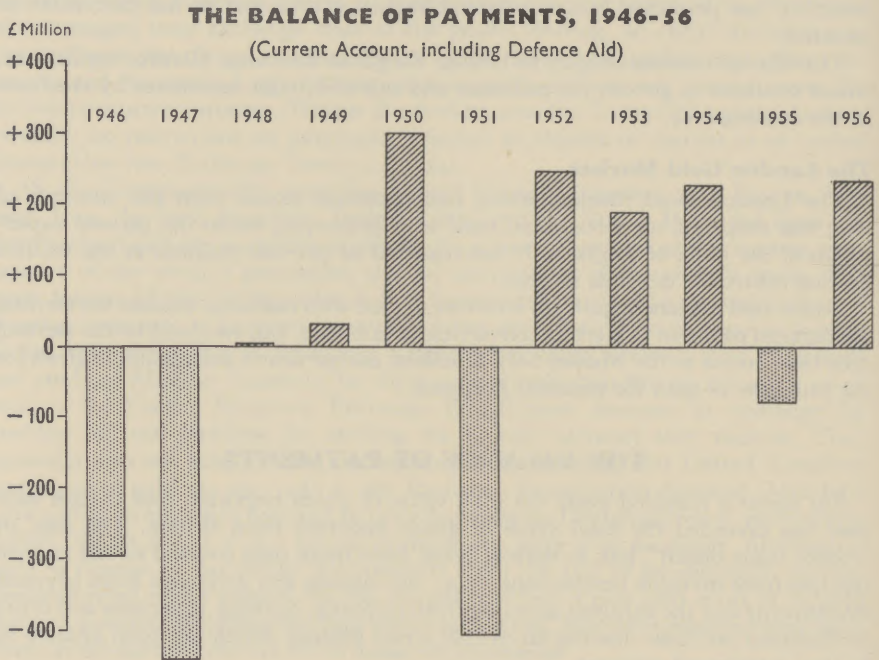
The Post-war Balance of Payments Problem

The diagram on p. 332 indicates the changes in Britain's balance of payments between 1946 and 1956. The main balance of payments problem for Britain since the second world war has been to earn enough abroad (1) to pay for half its food and nearly all the raw materials needed for its factories¹; (2) to provide a balance of payments surplus in order to build up the gold and foreign exchange reserves needed in a world of multilateral trading and convertible currencies, and to meet

¹ In addition, since the war, the United Kingdom Government has had to meet a heavy overseas military expenditure. In 1956 this was running at £180 million a year in foreign currencies.

obligations overseas, including foreign debt service and obligations voluntarily accepted in respect of development in Commonwealth countries and elsewhere.

The resources available for export have been limited by the very high level of defence expenditure (see pp. 102-3) and by the needs of internal investment.



In the early post-war years the challenge was met by rapid reconversion of productive capacity to the needs of peace, and the mounting of an export drive coupled with severe restrictions of home demand and imports. Assistance on a large scale was obtained from lines of credit granted by the United States in 1945 and by Canada in 1946 (see p. 335). Even so there were deficits on current account of £298 million in 1946 and £443 million in 1947. In 1948, when there was a small surplus of £1 million, the flow of dollars began under the European Recovery Programme (ERP). In 1949, the year when, to protect the gold and dollar reserves, the exchange value of sterling was reduced from \$4.03 to \$2.80, there was a surplus of £31 million. In 1950, when a trade boom followed the outbreak of war in Korea, the surplus was £300 million, and in December allocations of aid to Britain under ERP were suspended. But the improvement in 1950 was followed by a serious balance of payments crisis in 1951, when imports were over £1,000 million greater than the year before and there was a deficit of £403 million (including United States Defence Aid of £4 million). More severe restrictions had to be imposed on imports and on home demand, but these were gradually relaxed as, from 1952, the balance of payments position improved, helped by more favourable terms of trade and by United States Defence Aid. After the inclusion of Defence Aid, there were surpluses of £247 million in 1952, and £188 million in 1953.

In 1954, after including defence aid of £50 million, there was an overall surplus of £228 million; but this masked a change from a large surplus in the first half of

the year to a very small one in the second half. The main reason for this was that exports, while they attained a record level, did not rise enough to meet the increased cost of imports, owing to a rise in the average price as well as in the volume of imports.

In 1955, there was an overall deficit on current account of £79 million, after including defence aid of £44 million. This deterioration occurred because imports were flowing into Britain at a rate greater than the country could pay for by its overseas earnings. In 1956, by forgoing increases in consumption and production and simultaneously encouraging exports, the nation secured a substantial improvement in the current balance of payments, converting the deficit of £79 million in the previous year to a surplus provisionally estimated at £233 million (£154 million in the first half of the year and £79 million in the second half), including £23 million in Defence Aid.

Table 35 shows the current balance of payments by dollar area, sterling area and the rest of the world for the period of 1946-56.

TABLE 35
UK BALANCE OF PAYMENTS ON CURRENT ACCOUNT, 1946-56

£ million

Year	Current Balance with:			Total
	Sterling Area	Dollar Area(a)	Rest of World	
1946	-28	-301	+31	-298
1947	+127	-510	-60	-443
1948	+254	-252	-1	+1
1949	+293	-296	+34	+31
1950	+287	-88	+101	+300
1951	+335	-436	-302	-403
1952	+363	-173	+57	+247
1953	+157	-4	+35	+188
1954	+278	-68	+18	+228
1955	+225	-205	-99	-79
1956(b)	+284	-22	-29	+233

Source: *Cmnd. 122.*

(a) The current balance with the dollar area does not include ERP grants or United States and Canadian loans, but it does include Defence Aid.

(b) Provisional figures.

The Balance of Payments of the Sterling Area

In assessing the gold and dollar reserve position of the United Kingdom it is necessary to take into account, not only the United Kingdom balance of payments, but also the balance of payments of the sterling area, of which Britain forms a part. The reason for this is that the United Kingdom's gold and dollar reserves serve also the needs of most of the rest of the sterling area (see p. 330).

Following the balance of payments crisis of 1951—which affected all the sterling area and not only the United Kingdom—Commonwealth Finance Ministers met in January 1952 to agree on remedial measures. Action was agreed on to bring

the sterling area into balance with the rest of the world in the second half of 1952, to stop the drain on the reserves¹—which had fallen by £550 million in the last six months of 1951—and to restrain inflation. These immediate aims were largely accomplished and the reserves rose from a low point of £602 million in June 1952—to which they had fallen from £1,381 million in June 1951—to £659 million by the end of the year.

In 1953, the United Kingdom had a surplus on current and capital account of £26 million with non-sterling countries, and the rest of the sterling area had one of £290 million, so that the whole sterling area's surplus was £316 million; and the reserves rose by £240 million. In 1954, largely due to increased payments for imports in the second half of the year, the United Kingdom had a non-sterling deficit of £79 million and the rest of the sterling area's surplus was reduced to £176 million, so that the whole sterling area had a surplus of only £97 million. The reserves rose by £87 million. In 1955, the United Kingdom had a non-sterling deficit of £348 million, and the rest of the sterling area's surplus was £132 million, making a net deficit for the sterling area as a whole of £216 million.

In the first seven months of 1956, the gold and dollar reserves rose by £102 million and stood at £859 million on 31st July. By the end of November, partly on account of the Suez crisis, they had fallen to £702 million. In December 1956 and January 1957, the Government took various measures to augment the reserves. First, arrangements were made with the International Monetary Fund for the purchase with sterling of U.S. \$1,300 million—the amount of Britain's quota in the Fund. These arrangements fell into two parts: facilities for an immediate drawing of \$561 million and a standby arrangement under which \$739 million could be purchased over the ensuing twelve months. Secondly, the Government obtained a line of credit of \$500 million, secured by pledging part of the United Kingdom's holdings of United States dollar securities, from the United States Export-Import Bank. Thirdly, agreement was reached with the United States and Canadian Governments for a change in the interest and capital repayment provisions of the Anglo-American and Anglo-Canadian loans of 1945 and 1946 (see p. 335). By the end of June 1957, the reserves had risen to £850 million, but fell sharply to £765 million at end-August 1957.

Monetary Assets and Liabilities

In estimating changes in the monetary position of the United Kingdom and of the sterling area as a whole, it is necessary to take into consideration not only changes in the gold and dollar reserves, but other changes in what might be described as 'monetary assets and liabilities'. These are made up of items of a very diverse character, but a rough measure of the change in the balance between them is given by the difference between sterling accounts held by residents outside the United Kingdom and the holdings, by United Kingdom residents, of overseas currencies other than dollars. Table 36 brings together the changes since the beginning of 1951 in United Kingdom net monetary balances, including the gold and dollar reserves. Changes in the balances with the non-sterling areas reflect the transactions—including short-term capital transactions—of the sterling area as a whole with the non-sterling world. The changes over all areas, on the

¹ Changes in the gold and dollar reserves are the combined result of several factors, including the United Kingdom balance of payments with the dollar area, the rest of the sterling area's balance of payments with the dollar area, gold sales by the rest of the sterling area in Britain, and certain other capital transactions, including those with the European Payments Union and the International Monetary Fund.

other hand, reflect the movement of the monetary assets and liabilities of the United Kingdom in relation to the overseas world as a whole, including the rest of the sterling area.

TABLE 36
CHANGES IN UNITED KINGDOM MONETARY ASSETS AND LIABILITIES

£ million

	1951	1952	1953	1954	1955	1956*
Gold and dollar reserves ..	-344	-175	+240	+87	-229	+5
Other monetary balances:						
Non-sterling areas ..	-279	+236	+29	+32	+88	-34
TOTAL: NON-STERLING AREAS	-623	+61	+269	+119	-141	-29
Monetary balances:						
Sterling area	-87	+94	-256	-126	+45	+19
TOTAL: ALL AREAS ..	-710	+155	+13	-7	-96	--10

Source: H.M. Treasury.

Note: + indicates an increase in assets or a decrease in liabilities.

* Provisional.

External Financial Aid received by Britain

Since the war, Britain's difficulties in balancing its external accounts, particularly with the dollar area, have been alleviated appreciably by aid received from Canada and the United States.

In 1945, the United States extended to Britain a line of credit amounting to \$3,750 million, and a loan of \$650 million (later adjusted to \$622 million) in settlement of Lend-Lease and reciprocal aid adjustments arising out of the war. In 1946, Canada also extended a line of credit, amounting to \$C. 1,250 million, of which the United Kingdom drew \$C.1,185 million. The terms of settlement with both countries provided for payment in 50 annual instalments, starting on 31st December, 1951, with interest at the rate of 2 per cent a year. Provision was made in the United States agreement for waiving the interest element of the payment if in any year Britain was experiencing certain defined economic difficulties in meeting its international obligations; and a similar waiver on the Canadian loan could be made in years in which the United States waiver applied. Under the terms of agreements signed by the United Kingdom, United States and Canadian Governments in March 1957, these waiver of interest provisions were replaced by new arrangements whereby the United Kingdom Government could defer up to seven of the annuity payments of both capital and interest if it judged postponement necessary, either because of international exchange considerations, or on account of the level of its gold and foreign exchange reserves. In addition, it was agreed that the interest for 1956 should be deferred, on the same terms as those governing the seven deferrals.

Between 1948 and 1950, Britain received in all \$2,700 million in Marshall Aid from the United States under the European Recovery Programme. Of this, \$1,700 million was grant aid, some \$620 million was 'conditional' aid (i.e. dollar aid on condition that Britain provided corresponding sterling aid to other European

countries) and \$337 million was a loan to be repaid with interest at 2½ per cent. By far the greater part of the Marshall Aid allocated to Britain was used to buy essential food and raw materials. But technical assistance and help in promoting intra-European trade co-operation were also provided.

Since 1950, the financial aid received by Britain from the United States has been mostly under the provisions of the United States Mutual Defence Assistance Programme and Mutual Security Programme. Between 1951 and 1956, net receipts by Britain amounted to \$964 million, including a loan of \$48 million repayable with interest at 2½ per cent. Mutual Defence Assistance allocations in 1950-51 totalled \$122 million, mainly for the purchase of machine tools. The Mutual Security grants of \$241 million in 1951-52 and \$371 million in 1952-53 were used chiefly to buy raw materials. Allocations in later periods have been used for the purchase of military aircraft manufactured in Britain, surplus agricultural commodities in the United States, and tobacco.

The Mutual Security Programme has also assisted Britain's dollar balance of payments by the system of 'offshore procurement', under which the United States has placed contracts in Britain for military goods to be supplied to other NATO countries. This has enabled Britain to increase its dollar earnings.

United States Private Investment in Britain

Since the war, Britain's dollar balance of payments has also derived considerable benefit from the expansion of United States corporate investment in Britain and the growth of licensing arrangements between United Kingdom and United States companies.

Much of the United States investment has been in new, or relatively new, British industries, such as office machinery, agricultural tractors, earth-moving equipment, refined petroleum and synthetic detergents. These developments have not only enabled Britain to make considerable savings in imports, but also to expand its export business in the new commodities. It has been calculated¹ that, whereas in 1938 the consumption of these newer commodities cost the United Kingdom some £40 million in foreign exchange, in 1954 there was a net inflow of £100 million.

United Kingdom Government Grants and Loans to Other Countries

In spite of its post-war economic difficulties, the United Kingdom has made available to other countries considerable sums in grants and loans for relief, rehabilitation and development. It has been estimated that the total sum made available by the United Kingdom Government in this way between 1946 and 1952 was £1,504 million.

Aid provided through United Kingdom Government channels between 1952 and 1956 has included the following: £2.3 million for technical aid under the Colombo Plan for Co-operative Development in South and South-East Asia; £22.9 million for United Nations technical agencies; £53 million for the Middle East and £13.4 million for Yugoslavia.

For Commonwealth development, Government finance is, in addition, provided as follows:

1. The Colonial Development and Welfare Acts of 1945, 1950 and 1955 provided for the expenditure of £220 million over the period 1946-60 to

¹ In an article by John M. Dunning in *District Bank Review*, September 1955.

supplement local revenues and loan resources in United Kingdom dependencies for development and welfare purposes. Of this amount, a sum of £120 million remains available for the five-year period 1955 to 1960.

2. The United Kingdom Colonial Development Corporation can lend up to £100 million for development schemes of a commercial nature in the United Kingdom dependencies; about £74 million had been approved in respect of 66 schemes by the end of 1956.
3. The United Kingdom Government has agreed to release £60 million of its capital subscription to the International Bank for loans within the sterling area over six years from 1953.
4. As a special measure the United Kingdom Government made available through the Export Credits Guarantee Department a credit of £10 million to Pakistan in 1953. A similar credit has been offered to India to finance Indian steel plant and this offer has been accepted.

United Kingdom Private Overseas Investment

With the progress of post-war recovery, Britain has been able to resume its role as a provider of funds for investment in development overseas, particularly in the Commonwealth. Thus, between 1947 and 1956, the Governments of member countries of the sterling area Commonwealth raised loans in London totalling about £107·4 million, while Governments of United Kingdom dependencies raised loans totalling some £149·9 million. Private borrowing in the London market for Commonwealth development has increased in recent years, Capital Issues consent (see p. 314) having been given to applications totalling £40 million in 1953, £48 million in 1954 and £51 million in 1955. Development in the sterling area Commonwealth is also being assisted through the Commonwealth Development Finance Company Ltd. (see p. 313) which, by 31st March, 1957, had invested or committed £14·5 million.

Private capital from Britain going directly into private overseas enterprises and the reinvestment of profits from existing undertakings have, of course, always represented an important element in Commonwealth development. Under the Finance Act, 1957, United Kingdom companies engaged in business overseas are exempted from United Kingdom income tax and profits tax on their trading profits earned overseas; this measure is expected to stimulate further private investment abroad of United Kingdom capital. It is not possible to measure the supply of investment funds with any accuracy, since only those which involve raising new money are subject to control. In the case of Canada—a dollar country—where, as with all non-sterling countries, United Kingdom investment requires Exchange Control approval as well as Capital Issues consent where new borrowing is involved, participation by United Kingdom investors in economic development has been facilitated in various ways, and private investment in Canada was authorized to the extent of £44 million in 1954, £32 million in 1955 and more than £30 million in 1956. In addition the investment of smaller amounts in the United States and other foreign countries was authorized. For example, in 1954, applications were approved for the investment of £29·7 million in the United States, £15·7 million in Europe and £6·7 million in other countries.

Total Net Overseas Investment

It has been estimated that the amount of the United Kingdom's net long-term private investment overseas (i.e. excluding inter-governmental lending and net of overseas investment in the United Kingdom) averaged £120 million a year between 1946 and 1953; in 1954 it was £200 million, in 1955 it was £110 million, and in 1956 it was £140 million.

The average figure for 1953-56 represented more than one per cent of United Kingdom national income, a higher proportion than that of any other country.

INTERNAL TRADE

The internal trade of the United Kingdom can be divided into two broad categories: trade in raw materials, capital goods and intermediate products (for example, vehicle components) and trade in consumer goods, that is to say goods for direct sale to the public. The following account is primarily concerned with the distribution of consumer goods.

The results of a Census of Distribution taken in 1951, relating to 1950 and published between 1953 and 1955, the *Census of Distribution and Other Services, 1950*, made it possible to obtain for the first time a fully documented account of the structure of the distributive trades in Britain. The Census covered the numbers and types of establishments and organizations in the wholesale and retail trades in Great Britain (but not in Northern Ireland), the numbers employed, wages and salaries, sales and other information on both a national and an area basis, including all towns with a population of more than 25,000. In the case of the wholesale trade, the Census covered about 92 per cent of all establishments; the corresponding proportion of retail trade outlets was 91 per cent, responsible for 95 per cent of total turnover. The Census showed that, in the undertakings covered, a total of 3,773,867 people, including 'working proprietors and unpaid family workers', were employed in the distributive trades in 1950. This total was made up of 2,265,291 in retail establishments, 790,266 in wholesale establishments and 718,310 in services trades, such as catering and hairdressing.

WHOLESALE TRADE

On the basis of some pre-war researches,¹ it would appear that about 17 per cent of sales were made to consumers through producers' own selling organizations, including their own retail outlets and mail-order businesses, while more than 40 per cent were accounted for by direct sales by producers to retailers; thus it is estimated that approximately a further 40 per cent of sales move through wholesale channels.

These channels are most in evidence in the distribution of textiles, agricultural produce and foodstuffs. The 1950 Census returns showed that out of a total of 55,701 wholesale establishments, there were 7,019 in the clothing, footwear and textiles trade, 6,946 in the groceries, confectionery and drink trades and 6,917 in other food trades.

Methods of wholesale distribution vary according to the type of merchandise handled. Fresh fish, for example, is auctioned at the ports to port wholesalers who sell to inland wholesalers at the main distribution centres or, in some cases, direct to retailers; fruit and vegetables, on the other hand, may be sold by growers to commission agents who dispose of the produce either to wholesalers or direct to retailers, or alternatively the grower may deal only with wholesale firms.

RETAIL TRADE

Types of Retail Shops

Retail shops in Britain may be classified under four heads: (1) independent retail businesses consisting of a single shop or a small group of shops, such

¹An indication of the general pattern before the war is given in some unofficial pioneer studies, for example, *The Distribution of Consumer Goods*, by James B. Jefferys, published in 1950.

TABLE 37
RETAIL ESTABLISHMENTS BY KIND OF BUSINESS IN 1950

Kind of business	Number	Sales £'000	Persons engaged	Wages and salaries £'000
<i>Retail Trades</i>				
Grocery group	129,345	1,170,723	478,398	68,102
Other food retailers	126,701	917,016	480,473	82,887
Confectioners, tobacconists, newsagents	66,312	455,085	224,941	14,931
Clothing group	89,046	885,178	384,425	74,330
Hardware group	30,223	218,341	111,008	20,960
Booksellers, stationers	9,528	68,328	51,838	7,904
Chemists' goods, photographic goods group	16,733	158,606	82,232	18,936
Furniture group	16,086	259,006	90,453	23,144
Jewellery, leather and sports goods group	13,944	79,766	42,972	7,927
General group: <i>including:</i>	1,665	471,343	198,659	48,878
<i>Departmental stores</i>	529	308,339	129,304	33,787
<i>Variety stores</i>	913	106,431	52,498	10,316
Coal, builders' materials, corn group	20,137	186,342	82,128	17,382
Other non-food retailers	11,423	53,196	37,764	6,700
TOTAL	531,143	4,922,930	2,265,291	392,081
<i>Service Trades</i>				
Catering group	66,562	277,070	399,073	58,189
Hairdressers	29,827	34,333	75,760	9,112
Repairers group	22,527	25,547	44,175	4,558
Motor vehicles, cycles and accessories group	10,578	228,711	55,618	14,485
Motor vehicle repairers, garages group	18,403	317,392	143,684	36,856
TOTAL	147,897	883,053	718,310	123,200

Source: *Census of Distribution and Other Services, 1950.*

establishments account for about one-half of the total retail turnover; (2) the departmental store with a number of departments selling different types of goods, in some cases a group may own several departmental stores; (3) multiple shops (included within this category are the variety chain stores, which handle a wide range of merchandise); and (4) retail co-operative societies. In addition, there are a number of market and street traders, but, according to the Census of Distribution, the amount of business done by these groups is usually very small, with a turnover averaging under £2,000 a year.

The Census provided extensive information on the structure of the retail trade in Great Britain. There are a large number of small undertakings, including more than 400,000 with working proprietors; 250,000 retail outlets had, in 1950, an annual turnover of less than £5,000. Out of a total of 531,143 establishments recorded in the Census, and reproduced in Table 37, grocery and other food retailing groups numbered 256,046 establishments and the clothing group 89,046.

Present Trends in Retail Trade

In recent years multiple concerns and the retail co-operative societies have succeeded in raising their sales relative to those of other groups. The indices of weekly sales published quarterly by the Board of Trade show that sales in multiple stores and retail co-operatives rose by 56 per cent and 54 per cent respectively between 1950 and 1956. The corresponding advance by independent retailers amounted to 40 per cent and by general department stores to 21 per cent. The growth in the value of retail sales has been most marked in food shops, where the multiple stores have also expanded more rapidly than other groups, and in sales of radio and electrical goods.

Self-Service Shops

The development of self-service in retail establishments since 1950 has probably helped the multiple stores and the retail co-operatives to achieve a higher rate of expansion in sales. Unofficial estimates give the number of self-service shops in operation in the United Kingdom at the end of 1956 as 3,300, and new self-service outlets are being established at the rate of 500 to 600 a year. About 60 per cent of these shops are thought to be owned by retail co-operative societies and the majority of the remainder by multiple stores.

Supermarkets on the American model are being introduced in the United Kingdom, but at present are to be found only in London and the adjacent counties. Self-service shops as a whole have been estimated to be responsible for 7 to 8 per cent of retail sales in the grocery trade, but for other types of merchandise the proportion is thought to be insignificant.

Retail Co-operative Societies

The retail co-operative societies are voluntary non-profit-making organizations engaged in the retail trade and controlled by their members who are also their customers. An operating surplus is returned periodically, usually annually, to members as a dividend, and the amount distributed is proportionate to the value of the member's purchases over the period.

Retail co-operatives also sell to the general public, but membership is open to anyone paying a small deposit on a minimum share, which entitles the member to an equal voice with other members in determining the policy of the society. Investment by individual members is limited to £500 but the rules of some societies may fix lower limits. Only a low rate of interest is paid on the shares.

At the end of 1956, there were 1,006 retail co-operative societies registered under the Industrial and Provident Societies Act, but more than a quarter of the total membership of the co-operatives (11,856,000, an increase in the year of 297,000) was provided by the eleven largest societies, each of which had a membership of more than 120,000. Total sales of the retail co-operative societies in 1956 reached £886 million, the largest having a turnover of more than £50 million.

Retail co-operative societies are free to purchase where they wish or to produce their own goods, but in order to secure the advantages of large-scale production

and distribution, they have collectively established wholesale and production societies.¹

Hire-Purchase Sales

The rapid growth of sales of household and durable consumer goods—such as furniture, washing machines, refrigerators and cookers—has been greatly assisted by the development of instalment purchasing. In July 1954, the Government removed controls over hire-purchase and credit sales. In order to restrain consumer expenditure, however, controls were re-imposed in February 1955, and have since been reinforced. They take the form of stipulating minimum initial payments, varied according to the type of product, and maximum periods for payments. Measures have also been taken to limit severely the amount of new capital which hire-purchase finance companies are permitted to raise. Since October 1955, the Board of Trade has compiled a series of monthly returns, on a sample basis, relating to hire-purchase sales. According to these returns, about 40 per cent of the sales of furniture shops and shops selling furnishings, and about 20 per cent of those of hardware goods shops in 1956 were hire-purchase transactions.

Controls on Consumer Goods

The last remnant of the war-time food rationing system was ended in July 1954. The supply of household coal, however, remains restricted in so far as consumers may purchase only 'maximum permitted quantities'.

The most important price control still affecting the general public is that on a range of housing rents, and this control was relaxed in some important respects under the Rent Act, 1957 (see p. 390). The price of milk, because of the provision of certain subsidies, has remained controlled.

Consumer Protection

Personal judgment and experience are generally considered to provide the best safeguards for the general public against overcharging and inferior quality. Various legislative measures, however, have been taken in the United Kingdom to protect the consumer against specific abuses, and independent organizations have also sought to establish minimum standards of quality.

The Merchandise Marks Acts, 1887–1953, and their several amendments, are designed to ensure that the marking of goods is both accurate and honest. Weights and Measures legislation, one of the earliest forms of consumer protection, is strictly enforced by qualified inspectors. In establishing standardization of consumer goods, the *British Standards Institution* (see p. 141), which is assisted by its Consumer Advisory Council, is providing valuable services; individual trades and industries have also taken measures towards raising standards of quality.

Interests of the consumer are also safeguarded by the Restrictive Trade Practices Act, 1956 (see pp. 145–6). This Act makes unlawful the collective enforcement of resale price maintenance.

The purity, hygiene and description of food are controlled by the Food and Drugs Act, 1955 (see p. 356).

Consumer Expenditures

Estimates of consumer expenditures in the United Kingdom are prepared annually by the Central Statistical Office. Aggregate outlays by consumers in 1956 are estimated at £13,409 million at current market prices, an increase of £4,061

¹ The two major wholesale societies are the Co-operative Wholesale Society Limited and the Scottish Wholesale Society Limited.

million over the level of expenditures in 1950. If expenditures in 1950 and 1956 are valued at prices of 1948, the actual increase is slightly more than £1,000 million; that is to say, the growth in consumer expenditures over this six-year period was about 12 per cent at fixed prices and 43 per cent at current prices.

In 1956, household and other personal expenditures on food accounted for about a third of the total of £13,409 million as compared with slightly under 30 per cent in 1950. A marked increase of supplies of higher quality foodstuffs, the gradual reduction in subsidies and the general upward trend of food prices have all contributed to the higher level of consumer expenditures. Housing, including both rents and maintenance charges, is estimated to have required £1,116 million or slightly more than 8 per cent of the total, fuel and light absorbed a further 5 per cent. Expenditures on clothing and footwear over the period 1950-56 have advanced relatively slowly and in 1956 accounted for nearly 10 per cent, but those on private motoring and cycling increased almost threefold—from £198 million to £561 million in 1955, falling back to £523 million in the following year as a result of the measures taken to restrain personal expenditures. In 1956, outlays on private motoring and cycling absorbed about 4 per cent of total consumer expenditures.

X. SOCIAL WELFARE

STATE AND VOLUNTARY SERVICES

In Britain the State is now responsible, through either central or local government authorities, for a range of services covering subsistence for the needy, education and health services for all, housing, employment or maintenance, the care of aged or handicapped persons, the nutrition of mothers and children, and sickness, maternity and industrial injury benefits, widow's and retirement pensions and family allowances. Public authorities in the United Kingdom are spending nearly £3,000 million a year on social services; and Exchequer expenditure on social services amounts to over a quarter of total Exchequer expenditure.

Voluntary organizations, especially the Churches, were the pioneers of nearly all the social services. They provided schools, hospitals, clinics, dispensaries, and social and recreational clubs before these were provided by the State. They made themselves responsible for the welfare of the very young and the very old, the homeless and the handicapped, before it was generally accepted that the whole community had a responsibility towards these people. Where the services and the facilities they provided were adequate, they have been encouraged to continue. The State now supplements these voluntary services and provides financial assistance, sees that essential services are brought within the reach of every citizen, and ensures that the necessary standards are maintained.

Many voluntary social services surround and supplement the State services. The two types are complementary, not competitive, and they merge into each other. The State services often work through voluntary agencies specially adapted to serve individual or special needs. The welfare work of the National Assistance Board is supplemented by the work of many voluntary social service societies with whose workers the Board's officers co-operate, while the institutional provision made by the State and by local authorities for the care of the chronic sick and the aged is supplemented by voluntary homes of various types for the care of the sick and elderly, most of whom receive State pensions or benefit.

Voluntary Bodies

The number of voluntary charitable societies and institutions in Britain runs into thousands. Some of them are large and some are small and local in character. Some have general aims and others, such as the Royal National Institute for the Blind, have been established for a particular purpose. The societies co-operate with each other and with local authorities engaged on the same work.

Foremost among societies providing general social service are the National Council of Social Service, with the Scottish Council of Social Service and the Northern Ireland Council of Social Service, and the Family Welfare Association. The National Council of Social Service was established in 1919, and the corresponding Scottish Council in 1943, to create a closer link between the machinery of

government and the voluntary activities of the ordinary citizen. The Family Welfare Association, formerly the Charity Organization Society, which was founded in 1869, works on personal lines to help any individual or family in need or difficulty. It works mainly in London, but there are some 180 voluntary family case-work agencies serving other areas of Britain.

There is a Central Council for the Care of Cripples, and the major societies caring for homeless children (see p. 353) are represented on the National Council of Associated Children's Homes. Other examples of co-ordination in a specialized field are the National Association for Mental Health, the Women's Group on Public Welfare and the National Marriage Guidance Council.

Societies working on a national scale whose social work is definitely religious in inspiration include the Salvation Army, the Church Army, the Social Service of the Church of Scotland, the Church of England Children's Society, the Church of England Moral Welfare Council, the Young Men's Christian Association, the Young Women's Christian Association, the Society of St. Vincent de Paul, the Crusade of Rescue, the Jewish Board of Guardians and the Catholic Marriage Advisory Council.

War-time organizations such as the Women's Voluntary Services (WVS) and the Citizens' Advice Bureaux (there are still about 440 of these bureaux) continue, with official support, to do very valuable work. The Citizens' Advice Bureaux act as interpreters between the Government Departments and the ordinary citizen and, though the inquiries are somewhat fewer now than during the war, more skill and time are often needed for their solution. WVS activities are many and various. They include welfare work for children, the aged and the sick, and for certain foreign workers, as well as relief work in emergencies.

The old-established British Red Cross Society not only aids the sick and wounded in time of war but works in peace time for 'the improvement of health, the prevention of disease, and the mitigation of suffering'. It is, in particular, developing its welfare services for civilian disabled, invalid and crippled children and the aged. The members of the St. John Ambulance Brigade and, in Scotland, the St. Andrew's Ambulance Association likewise render voluntary auxiliary medical services and undertake welfare work for the sick and the infirm.

The Social Worker

While the voluntary worker giving full- or part-time service has done pioneer work in many of Britain's social services and continues to play an essential part in probably every service, social services of all kinds increasingly depend for their operation primarily on the professional social worker, that is the full-time salaried worker trained in the principles and technique of social service. Training for many forms of social work consists of a basic university diploma or certificate course in social science followed by a specialized training for a particular service. The latter is usually organized by the profession concerned. An attempt is being made to lessen specialization in social work.

Voluntary organizations were the pioneers in the employment and training of social workers, but Government Departments and local authorities now employ a considerable number of trained social workers of various kinds. Such workers include regional and local welfare officers, children's care organizers, children's officers for work under the Children Act, 1948 (see p. 353), neighbourhood workers, youth leaders, almoners, mental health workers, psychiatric social workers, tuberculosis care workers, housing managers, personnel managers and probation officers; in fact, representatives of most branches of social work. In June 1955 the Minister of Health and the Secretary of State for Scotland set up a working party to examine the field

of work, recruitment and training of social workers in the local authorities' health and welfare services.

NATIONAL INSURANCE AND RELATED SERVICES

National Insurance, Industrial Injuries Insurance, Family Allowances and National Assistance together constitute a system of social security in the United Kingdom which ensures that in no circumstances need anyone fall below a minimum standard of life. The Ministry of Pensions and National Insurance administers the first three of these measures in Great Britain; in Northern Ireland they are administered by the Ministry of Labour and National Insurance.

National Assistance is administered by the National Assistance Board in Great Britain, and in Northern Ireland by the National Assistance Board for Northern Ireland. Pensions and welfare services for war pensioners and their dependants (see p. 354) are the responsibility of the Ministry of Pensions and National Insurance throughout the United Kingdom.

Appeals relating to claims for insurance benefits or war pensions, or applications for assistance, are not decided by the Ministry or the Board but by independent authorities appointed under the Acts.

The Poor Relief Act of 1601 can be regarded as the starting-point of public provision for social security in England and Wales. From the beginning of the present century, and particularly after the Royal Commission on the Poor Laws and Relief of Distress had issued its report, with the influential Minority Report, in 1909, a strong movement arose against the form and spirit of the poor law as it had been administered under the Poor Law Amendment Act of 1834. The first departure from the poor law as the sole means of relief given from public funds had been the introduction in 1908 of non-contributory old age pensions granted on a test of means. Other changes followed, the broad effect of which was gradually to transfer more and more of the old poor law functions from local to central government administration, and the process was completed in 1948 with the passing of the National Assistance Act. In the same period there was a development of compulsory insurance administered on a national basis. The Workmen's Compensation Act of 1897 foreshadowed the present National Insurance Industrial Injuries scheme; although the system it introduced was not itself a State-administered insurance scheme, it required employers to pay compensation to workers for accidents at work. In 1912 came the National Health Insurance scheme and with it the introduction of the contributory principle on which all later measures have been based. In return for a small weekly contribution it provided a small cash payment and medical treatment without charge during sickness. It applied only to a limited number of the lower-paid workers. In 1912 also a limited scheme of unemployment insurance was started. This was extended in 1920 to cover the great majority of employed persons, a very necessary provision in view of the large-scale unemployment of the inter-war years. In 1926 contributory pensions for old people, widows and orphans were introduced.

By the beginning of the second world war the social services in Britain were among the best in the world, but they lacked co-ordination by the very fact of their piecemeal development, and they were not universal. A comprehensive, co-ordinated and unified plan for social security was needed.

Under the stimulus of war, when plans for post-war reconstruction were being formulated, Lord (then Sir William) Beveridge was invited by the National Coalition Government to investigate the country's existing social insurance system. In 1942 the Beveridge Report was published; it recommended the creation of a comprehensive and unified system of social insurance. The report aroused intense

interest and was accepted in general by the Government as the basis on which the future social security structure should be built.

In the immediate post-war years a series of Acts introduced a new comprehensive system which became fully operative on 5th July, 1948. Adjustments have been made in a number of subsequent Acts.

Reciprocity

The national insurance, industrial injuries and family allowances schemes of Great Britain and those of Northern Ireland and the Isle of Man operate as a single system. Reciprocal agreements on family allowances are in operation with Australia, New Zealand, Jersey and Guernsey, and there are further agreements with Australia and New Zealand (on sickness, unemployment and widow's benefits, and retirement pensions), with Jersey (on sickness, industrial injuries and widow's benefits, guardian's allowances and retirement pensions), with the Irish Republic (on sickness, unemployment, maternity and widow's benefits, and the insurance of seamen), and with Malta (on sickness, industrial injuries, unemployment and widow's benefits, guardian's allowances and retirement pensions). Agreements covering various aspects of social security have been in operation with France since November 1949, with Italy since May 1953, with Switzerland since June 1954, with Luxembourg since April 1955 and with the Netherlands since June 1955. Comprehensive agreements with Sweden and Belgium came into operation in 1957, one with the German Federal Republic was signed in December 1956 and one with Norway in July 1957. An agreement with Denmark on industrial injuries benefits has been in operation since May 1954. Similar agreements with other Commonwealth and European countries are under negotiation. The schemes in Northern Ireland are similarly linked with most of the countries mentioned.

A multilateral agreement on social security, signed by the five Brussels Treaty Powers, was ratified by the United Kingdom in May 1950, and was implemented a year later for limited purposes; it will not come into full operation until the network of bilateral agreements between the five participating countries has been completed. Other multilateral provisions, embodied in two interim agreements on social security signed by the member countries of the Council of Europe and in a United Nations Convention on the status of refugees, have also been ratified and were brought into effect during 1954.

FAMILY ALLOWANCES

Family allowances have been provided by the State since August 1946, under the Family Allowances Act of June 1945. Some five and a quarter million allowances are being paid in Great Britain to over three and a quarter million families with two or more children. An allowance is paid for each child other than the first or only child below the age limits. A child is below the age limits up to the end of compulsory school age (normally 15) and while receiving full-time instruction in a school, or engaged as an apprentice, for any further period up to the eighteenth birthday. The allowance was raised from 5s. to 8s. a week in September 1952 and, by the Family Allowances and National Insurance Act, 1956, for the third and each subsequent child in a family the rate was increased by 2s. to 10s. as from October 1956.

Family allowances are paid from the Exchequer and their object is to benefit the family as a whole; they belong to the mother, but may be paid either to the mother or the father. There is no insurance qualification, and parents who are not British subjects may claim allowances if they satisfy a special residence qualification.

The corresponding scheme in Northern Ireland makes similar provision for family allowances.

NATIONAL INSURANCE

The National Insurance Act, 1946, came into full operation on the 5th July, 1948. It has been amended by the National Insurance Acts, 1949 and 1951, the Family Allowances and National Insurance Acts, 1952 and 1956, and the National Insurance Acts, 1953, 1954, 1955, 1956 and 1957. The Acts apply, in general, to everyone over school-leaving age living in Great Britain. There are similar schemes in Northern Ireland and the Isle of Man.

Contributors are divided into three classes:

Class 1—Employed persons. Those who work for an employer under a contract of service or are paid apprentices—about 21 $\frac{3}{4}$ million.

Class 2—Self-employed persons. Those in business on their own account and others who are working for gain but do not work under the control of an employer—about 1 $\frac{1}{2}$ million.

Class 3—Non-employed persons. All persons insured who are not in Class 1 or 2—about half a million.

This general classification is subject to certain modifications, made by regulations, to meet special circumstances. Married women engaged only in their own household duties are, in general, provided for by their husbands' insurance and cannot become insured in their own right unless they were insured under the old scheme on the 5th July, 1948, and continued to pay contributions as non-employed persons, or have since taken up paid work. Employed married women may choose whether to pay separate contributions themselves or to rely on the cover provided by their husbands' contributions. Students undergoing full-time education and unpaid apprentices need not pay contributions. Up to the age of 18, contributions are credited to them. Over that age they may, if they wish, pay as non-employed persons (Class 3). Self-employed and non-employed persons whose income is not more than £156 a year can apply for exception from liability to pay contributions under the scheme.

Contributions

The main weekly rates of contribution as in September 1957 are shown in Table 38. These contributions, which the Exchequer supplements from general taxation, are normally paid on a single contribution card by National Insurance stamps bought from a post office. It is the employer's responsibility in the first place to see that the Class 1 contributions are paid, but he can deduct the employee's share from his or her wages. The self-employed and non-employed must stamp their own cards. Contributions are usually credited for weeks of unemployment, sickness or injury, or if widow's benefit is being paid.

An insured person ceases to be liable for National Insurance contributions when he retires, or is deemed to have retired, from regular employment. If such a person does any work as an employed person thereafter, he must pay an Industrial Injuries contribution (5d. weekly for a man, 3d. for a woman) and his employer's liability remains the same as shown in Table 38.

Benefits

The scheme provides sickness, unemployment, maternity and widow's benefit, guardian's allowance, retirement pension and death grant. Persons in Class 1 are covered for all benefits; those in Class 2 for benefits other than unemployment and industrial injuries benefits (see p. 350); and those in Class 3 for benefits other than sickness, unemployment and industrial injuries benefits, and maternity allowance.

TABLE 38

WEEKLY NATIONAL INSURANCE CONTRIBUTIONS(a)

	Men over 18		Boys under 18		Women over 18		Girls under 18									
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.								
CLASS 1																
Employed persons:(b)																
Paid by employee ..	7	<i>1 4³</i>	4	3	<i>8³</i>	6	0	<i>1 0</i>	3	7	<i>8¹</i>					
Paid by employer ..	6	2	<i>3¹</i>	3	8	<i>3¹</i>	5	1	<i>3¹</i>	3	0	<i>3¹</i>				
TOTAL ..	13	7	1	8	7	11	1	0	11	1	1	4	6	7	1	0
CLASS 2																
Self employed persons ..	9	3	1	8	5	4	1	0	7	10	1	4	4	9	1	0
CLASS 3																
Non-employed persons ..	7	4	1	8	4	3	1	0	5	10	1	4	3	7	1	0

(a) The amounts shown in the left column under each heading include the National Health Service contribution (see p. 359), which is also shown separately in italics.

(b) Includes Industrial Injuries Insurance contributions.

For most of the benefits there are two contribution conditions. First, before any benefit can be paid, a minimum number of contributions must actually have been paid since entry into insurance; secondly, the full rate of benefit cannot be paid unless a certain number of contributions have been paid or credited over a specified period. For guardian's allowance and industrial injuries benefits there are no contribution conditions.

Rates of benefit have been increased since the scheme began. The rates current in mid-1957 are set out below.

Sickness Benefit

The standard weekly rate of sickness benefit for a man or woman over 18 (except a married woman) is 40s., with an increase of 25s. for an adult dependant and 11s. 6d. a week for the first or only child under the family allowances' age limits (see p. 346), with 3s. 6d., in addition to any family allowance payable, for each subsequent child. The weekly rate for a married woman is 25s., but she is paid at the 40s. rate if she is maintaining an invalid husband or is separated from her husband and cannot get financial support from him.

Unless 156 Class 1 or Class 2 contributions have been paid since the entry into insurance, sickness benefit can be drawn only for a year, but in general it continues for as long as sickness lasts, once 156 contributions have been paid.

Unemployment Benefit

The rates of unemployment benefit are the same as for sickness benefit except that the standard rate for married women is 30s. instead of 25s.

Unemployment benefit is payable in the first place for 30 weeks, but it may be continued for up to a maximum of 19 months in all, according to the person's record of contributions paid as against unemployment benefit drawn in recent years.

Maternity Benefit

The National Insurance Acts, 1953 and 1954, amended the maternity benefits of the 1946 Act. A maternity grant of £10 is payable for a confinement, provided

the required contribution conditions have been satisfied, and a further grant of £10 for each additional child born at the confinement who is alive twelve hours after birth. A home confinement grant of £4 is payable where the mother is not confined in free accommodation under the National Health Service or in accommodation otherwise paid for out of public funds. A maternity allowance of 40s. a week, beginning with the eleventh week before the expected week of confinement, payable for 18 weeks, is available for working women who satisfy the contribution conditions. These are that in the 52 weeks ending 13 weeks before the expected week of her confinement, the claimant must have paid 26 contributions at the full rate as an employed or self-employed person and, for an allowance at the maximum rate, have a total of at least 50 contributions paid or credited. Increases of maternity allowance for dependants are payable in certain circumstances at the same rates as increases of sickness benefit.

Widow's Benefit

There are three kinds of widow's benefit, paid only on the deceased husband's insurance. A Widow's Allowance of 55s. a week plus 16s. 6d. a week for the first or only child under the age limits (see p. 346) and 8s. 6d. a week for second and subsequent children (in addition to family allowances) is paid for 13 weeks. A Widowed Mother's Allowance of 56s. 6d. a week is paid following widow's allowance to a widow who has a child who qualifies under the age limits; she also receives 8s. 6d. a week, in addition to any family allowance, for each child after the first. A widowed mother's allowance at the lower rate of 40s. a week may be paid to a widow who has residing with her a person under 18 who, but for age or because of absence abroad when the husband died, would have qualified as a child for this purpose (for example, a son or daughter aged 17 who is neither at school nor an apprentice and, therefore, is not within the family allowances' age limits). A Widow's Pension of 40s. a week is paid to a widow who is 50 or over at the time of the husband's death and has been married three years, or who is 50 (40 if the husband died before 4th February, 1957) or over when her widowed mother's allowance ends, provided three years have elapsed since the marriage. Widowed mother's allowance and widow's pension are reduced by 6d. for each complete 1s. of the first 20s. of earnings in excess of 60s. and 50s. respectively, and by 1s. for each shilling of higher earnings. In the case of widowed mother's allowance the total deducted in any one week cannot exceed 40s., whatever the earnings may be.

There are special rules to help widows to qualify for sickness or unemployment benefit if they are unable to obtain work when widow's allowance or widowed mother's allowance ends.

Guardian's Allowance

A Guardian's Allowance of 18s. a week may be paid to a person who has in his family a child whose parents (or step-parents) have died and one of whom was insured under the National Insurance Acts. This continues while the child remains in the guardian's family and is a child within the meaning of the Family Allowances Act.

Retirement Pension

Retirement pensions are paid to men at the age of 65, and to women at the age of 60, provided the required contributions have been satisfied and they have retired from regular employment. From the age of 70 (men) and 65 (women), however, the pension is payable whether or not the claimant has retired. The standard rate is 40s. a week. A married woman ordinarily qualifies for pension on her husband's insurance

at the standard rate of 25s. a week. If after retirement a pensioner below the age of 70 (65 for a woman) earns over £2 10s. a week, 6d. is deducted from the pension for each 1s. earned over that amount up to £3 10s. and 1s. is deducted for each shilling earned over £3 10s.

Men and women are encouraged not to retire at minimum pension age and are able to earn a larger retirement pension by continuing at work. For every six months they stay at work between the ages of 65 and 70 (men) or 60 and 65 (women) their pension is increased by 1s. 6d. a week. The pension of the wife of such a contributor is increased by 1s. a week for each six months' extra work after the husband has reached the age of 65 and the wife has reached 60, and it continues at this rate up to the time of the contributor's death; if his wife survives him her pension is re-calculated at the 1s. 6d. rate if the 1s. increases were earned after 16th July, 1951. A man now reaching the age of 65 who continues at work for a further five years can therefore receive a pension of as much as 55s. a week on attaining the age of 70. If he has a wife not more than five years younger than himself, their combined pensions can be 90s. a week; if the wife survives her husband her pension can be 55s. a week.

A retirement pensioner is entitled to an increase of 25s. a week for his wife if she is under 60 and also to an increase of 11s. 6d. for the first child under the family allowances' age limits (see p. 346), and 3s. 6d. for each succeeding child, in addition to any family allowance payable.

Death Grant

A Death Grant of up to £20 is paid towards the expenses in connection with the death of an adult, and a smaller sum on the death of a child, provided the required contribution conditions have been satisfied. Grants are not paid for persons already over pension age on 5th July, 1948, or for children born before 5th July, 1948, who die before they are ten years old. Reduced grants are paid on the deaths of people who on 5th July, 1948, were over 55 (men) or over 50 (women).

NATIONAL INSURANCE (INDUSTRIAL INJURIES)

The Industrial Injuries Insurance scheme, which replaced the Workmen's Compensation scheme in July 1948, provides benefits for personal injuries caused by accidents arising out of, and in the course of, employment, and for prescribed diseases due to the nature of employment. It covers practically everyone in Class 1 of the National Insurance scheme and certain others. The relevant Acts are the National Insurance (Industrial Injuries) Acts, 1946 to 1956. Cover against industrial injuries and diseases in Northern Ireland is provided to the same extent by the separate legislation of the Parliament of Northern Ireland.

Benefits

Injury Benefit

Injury Benefit for an adult is 67s. 6d. a week plus 25s. for an adult dependant and 11s. 6d. for the first or only child under the family allowances' age limits (see p. 346) and 3s. 6d. for each other eligible child, in addition to any family allowance payable. It is paid when the insured person is incapable of work as a result of an industrial accident or disease, and payment can continue for a maximum of 26 weeks from the date of the accident or development of the disease.

Disablement Benefit

Disablement Benefit may be paid when injury benefit stops and the amount depends on the extent of the disablement, as assessed by a medical board. It varies

from 67s. 6d. for 100 per cent disablement to 13s. 6d. a week for 20 per cent dis-

ADDENDUM

INCREASES IN NATIONAL INSURANCE CONTRIBUTIONS AND BENEFITS AND WAR PENSIONS (SEE PAGES 347-51 AND 354)

On 6th November, 1957, the Minister of Pensions and National Insurance announced increases in war pensions and introduced the National Insurance Bill, 1957, to raise National Insurance contributions and benefits. It is proposed that the new rates should take effect in January and February 1958. The main rates proposed are given below.

National Insurance Contributions (weekly rates, including the National Health Service Contribution as shown in Table 38 and an increased contribution for Industrial Injuries Insurance, e.g., employed man to pay 8d., employed woman 5d.)

	Men over 18	Boys under 18	Women over 18	Girls under 18
CLASS 1	s. d.	s. d.	s. d.	s. d.
Employed persons				
Paid by employee	9 5	5 3	7 8	4 6
Paid by employer	8 1	4 9	6 7	3 10
TOTAL	17 6	10 0	14 3	8 4
CLASS 2				
Self employed persons	11 6	6 7	9 8	5 9
CLASS 3				
Non-employed persons	9 1	5 3	7 3	4 4

National Insurance Benefits

Sickness and Unemployment Benefits. 50s. (married woman 34s. or 50s.). Dependants' allowances: adult 30s., first child 15s., other child 7s.

Maternity Benefit. Grant £12 10s.; Home Confinement Grant £5; Allowance 50s.

Widow's Benefit. Allowance 70s. plus 20s. for first child and 12s. for each other child. Widowed Mother's Allowance 70s. plus 12s. for each child after the first. Widowed Mother's Allowance (personal) 50s. Pension 50s.

Guardian's Allowance. 27s. 6d.

Retirement Pension. Standard rate, 50s.; pensioner's wife, 30s. Dependants' allowances as for sickness and unemployment.

Death Grant. £25.

Over

Act, 1947; and the assessment under the Legal Aid and Advice Act, 1949, and the

at the standard rate of 25s. a week. If after retirement a pensioner below the age of

Industrial Injuries Benefits

Injury Benefit. 85s. with dependants' allowances for adult 30s., first child 15s., other child 7s.

Disablement Benefit. From 85s. to 17s. Maximum Gratuity £280. Constant Attendance Allowance, up to 35s. or 70s. Unemployability Supplement 50s. Special Hardship Allowance, up to 34s. (maximum total with disablement pension 85s.).

Death Benefit. Widow's maximum pension 70s. followed by 56s. or 20s. Children's allowances: 20s. and 12s. paid to widow; 15s. and 7s. to other persons.

War Pensions

Basic Pension. 85s.

Supplementary Allowances. Unemployability 55s.; constant attendance, up to 35s. or 70s.; lowered standard of occupation, up to 34s. Widow's standard pension 66s., child's allowance 25s., rent allowance, up to 25s.

depends on the extent of the disablement, as assessed by a medical board. It varies

from 67s. 6d. for 100 per cent disablement to 13s. 6d. a week for 20 per cent disablement. For disablement of less than 20 per cent a gratuity is normally paid, ranging up to £225.

In the following circumstances Disablement Benefit may be increased:

1. It will be made up to the 100 per cent rate during in-patient treatment in a hospital for the relevant injury or disease, and increases for dependants will be paid.
2. If benefit is being received at the 100 per cent rate and someone is needed to look after the insured person, a constant attendance allowance not exceeding 30s. a week (60s. in certain cases) may be paid.
3. If the insured person is permanently unfit for work an unemployability supplement of 40s. a week may be paid, with allowances for dependants.
4. If the insured person is unfit to return to his former job, or work of a similar standard, benefit may be increased (subject to a maximum of 67s. 6d.) by a special hardship allowance of up to 27s. 6d. a week.

Death Benefit

If the accident or disease results in the insured person's death, Death Benefit is paid to the dependants.

The maximum pension payable to a widow is 55s. for the first 13 weeks and thereafter 45s. a week if (i) she is over 50 or permanently incapable of self-support at the time of her husband's death, or (ii) she is entitled to an allowance for a child of the deceased, or has such a child living with her, or (iii) she is over 40 when she ceases to qualify under (ii), or (iv) she is pregnant by her late husband. In other cases the pension is 20s. a week.

In addition, allowances will be paid for children under the family allowances age limits (see p. 346). For widows, these allowances are normally at the rate of 16s. 6d. a week for the first or only child and 8s. 6d. a week for each other child. For other beneficiaries, the rate is 11s. 6d. and 3s. 6d. a week respectively.

Certain other dependants, such as parents, are entitled to pensions, allowances or gratuities. The amounts vary with the closeness of the relationship and the extent to which the dependants were maintained by the deceased during his lifetime.

NATIONAL ASSISTANCE AND WELFARE SERVICES

The National Assistance Act, 1948, came into operation on 5th July, 1948. It provides a unified State service of financial assistance for those in need, replacing the various services of this kind provided in the past by the State and local authorities. As the residual service, National Assistance meets the financial needs of all those people who are unable to maintain themselves and who fall outside the scope of the other social security services, and supplements the insurance benefits when they are insufficient.

The National Assistance Board is responsible for administering these weekly cash grants. It has various other duties, including the administration of non-contributory pensions under the Old Age Pensions Act, 1936 (still payable on a nationality, means and residence test to a diminishing number of persons over 70 and blind persons over 40, who have not qualified for pensions under the contributory scheme); the administration of hostels provided under the Polish Resettlement Act, 1947; and the assessment under the Legal Aid and Advice Act, 1949, and the

Legal Aid and Solicitors (Scotland) Act, 1949, of the maximum amount a person applying for legal aid may be called upon to pay towards the cost of the action.¹

The Board is responsible for influencing 'persons without a settled way of living' to lead a more settled life. It provides temporary accommodation for such persons, usually through the agency of local authorities, and it runs a residential re-establishment centre for men of this type or men who have been long unemployed and in receipt of National Assistance grants.

The provision under the National Assistance Act of residential accommodation for the aged, infirm and others, and of special welfare services for the blind, the deaf, the crippled and other handicapped persons is the responsibility not of the National Assistance Board but of county and county borough councils in England and Wales and, in Scotland, of councils of counties and large burghs.

In Northern Ireland financial assistance is given under the provisions of the National Assistance Act (Northern Ireland), 1948, to persons in need and there is also a system of non-contributory pensions similar to that in operation in Great Britain. Under the Welfare Services Act (Northern Ireland), 1949, local authorities, in their capacity as welfare authorities, provide residential accommodation for the aged, infirm and other persons who are in need of care and attention. The welfare authorities also provide special services for the blind, deaf and other handicapped persons.

Old People's Welfare

County and county borough councils in England and Wales (in Scotland, county and large burgh councils) have a statutory duty to provide homes for those old and infirm persons who are in need of care and attention not otherwise available to them. These homes have accommodation for 25 to 40 residents; about a thousand have been opened since the end of the second world war. County welfare authorities in Northern Ireland have provided over 20 similar homes. These smaller homes are gradually replacing the larger institutions which were previously maintained by local authorities.

Voluntary bodies take a large share in work for old people, which has been steadily expanding since the second world war brought into prominence the problems of old people's welfare that social and population changes had already begun to accentuate. Voluntary homes for old people now number over 1,500 and some 7,000 social clubs for elderly people have been started in recent years in all parts of Britain. The regular visiting of lonely old people and the delivery of cooked meals to their homes ('meals-on-wheels') are other welfare services that are being developed by voluntary effort with the support of local authorities. Their object is to enable old people to continue to live in their own homes wherever possible.

Local Old People's Welfare Committees are formed by those concerned in this work, and are aided by the National Old People's Welfare Council, an associated group of the National Council of Social Service widely representative of voluntary and statutory bodies having direct contact with old people, or by the Scottish Old People's Welfare Committee, a committee of the Scottish Council of Social Service. A National Corporation for the Care of Old People was established in 1947 by the Nuffield Foundation (see p. 406) to stimulate and to give financial support to schemes for the welfare of the aged, to maintain an expert technical advisory service, and to encourage and to undertake research and experiment for the welfare of old people. The Corporation is now concentrating its main effort on home services for old people.

¹ For further information on legal aid see pp. 83-4.

The King George VI Foundation has allocated £440,000 from the King George VI Memorial Fund to schemes for the benefit of old people.

CARE OF CHILDREN

The Children Act, 1948, which came into force with the ending of the Poor Law, places upon local authorities in Great Britain a duty to receive into their care any child under the age of 17 who has no parent or guardian, or who has been abandoned or whose parents are unable to provide for him temporarily or permanently. Local authorities must keep a child in care until he is 18 or until he no longer requires it. Under the Children and Young Persons Acts, 1933-52, as regards England and Wales, and under the Children and Young Persons (Scotland) Act, 1937, local authorities are required also to accept children committed to their care, until the age of 18, by Juvenile Courts, as needing care or protection. Both categories of children are to be treated so as to further their best interests and to afford them opportunity for the proper development of their characters and interests.

Children in care are, if possible, to be boarded out with foster parents, who receive an allowance to cover the cost of maintenance. If a foster home cannot be found, a child may be placed in a children's home managed by a local authority or a voluntary organization. Many children's homes are now provided in small houses, on housing estates or in ordinary streets, where a group of ten or fewer children live in the care of a housemother or houseparents, the husband following his normal employment. Other children may be placed in hostels or lodgings or in other accommodation specially suited to their needs. Great importance is attached to the desirability of securing a child's return to his family circle as soon as possible and work is carried out to rehabilitate the family where this is necessary.

To carry out their functions under the Children Act each local authority (county council and county borough council or, in Scotland, council of a large burgh) is required to appoint a Children's Committee and a Children's Officer to be responsible for the care and upbringing of children in the authority's care. Children's officers are assisted by a staff of child care officers who undertake inquiries and who supervise children placed in foster homes. Regulations for England and Wales safeguarding the boarding out of children by local authorities and voluntary organizations and the conduct of children's homes have been made by the Home Secretary. The Secretary of State for Scotland is the responsible Minister in Scotland.

In Northern Ireland, the Children and Young Persons Act (Northern Ireland), 1950, gave to the welfare authorities of each county and county borough the duty of caring for homeless and neglected children under the general direction of the Ministry of Home Affairs.

Voluntary organizations, many of which were pioneers in the work of child care, continue to play a valuable part. The larger societies, such as Dr. Barnardo's, the Church of England Children's Society and the Catholic Child Welfare Council, are constituent societies of the National Council of Associated Children's Homes, to which a large number of smaller voluntary homes are also affiliated. In Scotland, a valuable contribution is also made by the Children's Homes and Hostels under the auspices of the Church of Scotland Committee on Social Service and by voluntary organizations, including the Orphans' Homes of Scotland.

Children's homes provided by voluntary organizations are required to be registered under the Children Act. The boarding out of children and all children's homes, whether local authority or voluntary homes, are subject to inspection by Inspectors of the Home Office Children's Department or the Scottish Home Department.

The cost of the local authorities' child care service, including the provision of training for houseparents and child care officers, is shared between the local authorities and the Exchequer.

To safeguard the welfare of children living with their own parents or guardians, the children's departments have a duty to cause inquiries to be made in any case in which it is reported that a child may need care or protection. In addition, all local authorities have been asked by the Government Departments concerned to appoint a committee to co-ordinate local authority and voluntary services dealing with unsatisfactory families, and to designate one of their officers as co-ordinating officer for the purpose of calling meetings of interested bodies to discuss particular 'problem families' and to decide on a course of action. Local health authorities have wide powers under the National Health Service Act to make arrangements for the prevention of illness, and for care and after-care; these arrangements enable preventive and remedial measures to be taken to safeguard the physical and mental health of the children of problem families (see p. 365). These problem families, a very small minority in the community, are the focus of much attention from health, housing, education, children's and welfare authorities and voluntary bodies. The Family Service Units undertake intensive and prolonged casework with such families and there are several voluntary recuperative centres to which mothers, with their children, can be sent for a period of residential training, sometimes as a condition of a probation order. The old-established National Society for the Prevention of Cruelty to Children and its Scottish counterpart maintain inspectors and visitors for the investigation of cases of reported cruelty or neglect of children in their own homes; when necessary they resort to law for the protection of children, but they prefer to achieve their purpose by warning and advice.

WAR PENSIONS AND RELATED SERVICES

Pensions to persons disabled or bereaved through the wars are paid under Royal Warrants and regulations.

The current basic pension for 100 per cent disablement for a private soldier is 67s. 6d. a week, but the amount varies according to the rank and the degree of disablement. The latter is assessed by comparing the disabled person with a normal healthy person of the same age and sex, without taking earning capacity into account. Allowances for a wife and children are paid in addition to the basic pension and there are various supplementary allowances, the main ones being for unemployability (45s. a week), constant attendance (up to 30s. and, exceptionally, 60s. a week), and lowered standard of occupation (up to 27s. 6d. a week). There is an allowance (at rates varying between 5s. and 15s. a week) for persons drawing disablement pensions who are aged 65 or over and whose assessment is 40 per cent or more.

Both the basic disablement pension and the supplementary payments are free of income tax, and children's allowances are paid in addition to any allowance payable under the Family Allowances Acts.

War pensioners have priority (except over more urgent cases) for treatment of their war disabilities in National Health Service hospitals.

Pensions are paid to war orphans and to war widows. The standard rate of pension for war widows is 52s. 6d. a week, and they also receive allowances for their children (21s. 6d. for each child), and, in certain cases, an allowance for rent (up to 20s. a week). Parents or other relatives who were dependent on a person whose death resulted from the wars may receive pensions if they are in pecuniary need.

The Ministry of Pensions and National Insurance maintains a welfare service for war pensioners, with a special branch for war orphans.

Many ex-Service organizations, e.g., the British Legion, and other voluntary associations give financial aid and personal service to disabled ex-servicemen and women and their families. The Ministry and these bodies work in co-operation.

The Imperial War Graves Commission

The Imperial War Graves Commission was founded in 1917, its purpose being to commemorate the war dead of the British Commonwealth and Empire by establishing war cemeteries, ensuring the perpetual care of war graves, whether in these cemeteries or elsewhere, and erecting suitable memorials to those who have no known grave. A Charter of 1940 extended the Commission's powers to enable it to deal with the dead of the 1939-45 war. The members of the Commission include representatives of the United Kingdom and Commonwealth Governments and of the three Services, and a number of unofficial members chosen for distinction in various walks of life. The cost of the Commission's work is borne by the respective Governments in proportion to the numbers of the graves of their dead.

HEALTH

The concern of the State with the nation's health is chiefly a development of the last 100 years. The second half of the nineteenth century saw the growth of the environmental or public health services, such as provision of pure water, sewerage, disposal of refuse and cleaning of streets, and also building byelaws and other measures designed to promote healthy living conditions in Britain. Local authorities provided smallpox and other infectious-disease hospitals and poor law infirmaries in the nineteenth century, but the major hospital and medical services remained in the hands of voluntary hospitals and private practitioners until the twentieth century. This century has seen the main development of publicly provided personal health services, as distinct from environmental services. The medical benefit introduced under the National Insurance Act of 1911 was the first step in the provision of a State-aided general practitioner service outside the Poor Law. The early years of the century were notable for the development of maternity and child welfare and measures for the prevention and treatment of tuberculosis; there was progressive development in the hospital services provided by local authorities until these were absorbed in the National Health Service created in 1948.

Over the past forty years advances have been made in many directions: medical research, discovery of important new drugs, blood transfusion, control and treatment of venereal disease, and research into diet. The second world war served to emphasize the importance of a sound diet and as a result the Welfare Foods Service for expectant and nursing mothers and young children was introduced (see p. 362) and the School Meals Service (see p. 373) and industrial canteens were expanded. War also stimulated developments in industrial health services (see pp. 295-6) and in the rehabilitation of the disabled (see pp. 280 and 360). These scientific discoveries and improved services are reflected in declining mortality rates (see p. 8) and improved physique.

PUBLIC HEALTH

The Public Health Act of 1936 brought up to date and consolidated preceding Acts; it constitutes the present basic public health code in England and Wales. Local authorities are mainly responsible for its implementation and they have extensive powers for the making and administration of byelaws (laws of local application) relating to matters of public health. The local authorities chiefly concerned are the councils of county and non-county boroughs, urban and rural district councils, and, to a limited extent, parish councils.

The development of the public health services in Scotland and in Northern Ireland has been largely on the same lines as in England, although these services have been based on separate Acts, and different authorities are responsible for the various services. The Public Health (Scotland) Act, 1897, and the Burgh Police (Scotland) Act, 1892, constitute the basic legislation for Scotland. The local authorities concerned are the councils of counties and burghs. In Northern Ireland, the county and county borough councils are mainly responsible for administering the Public Health Acts (Northern Ireland), 1878-1949.

Control of Infectious Diseases

Local authorities are responsible to the Minister of Health (or the Secretary of State for Scotland) for recording notifications of the prescribed infectious diseases; they are also responsible for the investigation by the Medical Officer of Health of outbreaks of infectious diseases, and for disinfection and other measures advised by the Medical Officer of Health for prevention of the spread of infectious diseases in the area.

The same Ministers have the general responsibility for supervising the operation of health control at seaports and airports, the primary object of which is to prevent the introduction of infectious disease into the country. It is operated at the principal seaports by Port Health Authorities specially constituted for the purpose, and at others by the riparian local authorities. Health control at airports is operated by the local authorities. At seaports, the work is carried out by the Port Medical Officer assisted by Port Health Inspectors, rodent officers and others; at airports, the Airport Medical Officer is responsible.

Pure Food

The purity, hygiene and description of food are controlled by legislation now consolidated for England and Wales in the Food and Drugs Act, 1955, and for Scotland in the Food and Drugs (Scotland) Act, 1956. In England and Wales, the Act, and Regulations made under it, are mainly carried out and enforced by Food and Drugs Authorities (i.e. county councils, county borough councils and, generally, the larger borough and urban district councils) in relation to composition, adulteration and description, and by local authorities (i.e., county borough, borough, urban district and rural district councils) in relation to purity and hygiene; the Ministry of Health and the Ministry of Agriculture, Fisheries and Food are the central Departments responsible for advising and for making Regulations under the Act. All premises where food for sale for human consumption is prepared, sold or stored are required to conform to certain hygienic standards. Authorized officers of food and drugs authorities and of local authorities are empowered to take samples of any food for sale for human consumption, for analysis or for bacteriological or other examination. Special regulations are in force for certain foods such as milk, meat and ice-cream.

In Scotland, the local authorities chiefly concerned are the councils of counties and large burghs; the central department is the Department of Health for Scotland.

THE NATIONAL HEALTH SERVICE

The National Health Service was established in 1948. The relevant Acts, the National Health Service Act, 1946, the National Health Service (Scotland) Act, 1947, and the Health Services Act (Northern Ireland), 1948, came into force simultaneously on 5th July, 1948.

The National Health Service Act, 1946, aims 'to promote the establishment in England and Wales of a comprehensive health service designed to secure improvement in the physical and mental health of the people of England and Wales and the

prevention, diagnosis and treatment of illness, and for that purpose to provide or secure the effective provision of services'. The National Health Service (Amendment) Act, 1949, and the National Health Service Acts, 1951 and 1952, make some modifications in the scheme for Great Britain and provide for charges to be made for certain parts of the Service, which is otherwise free of charge, and which is available to all according to medical need. Its availability is not dependent on contribution to National Insurance.

Health Service Administration in Great Britain

In England and Wales the Minister of Health has direct responsibility for (1) the provision on a national basis of all hospital and specialist services, (2) the mental health functions previously in the hands of the Board of Control and local authorities, except for the quasi-judicial functions of the Board designed to safeguard the liberty of the patient,¹ (3) the conduct of research work into matters relating to the causation, prevention, diagnosis or treatment of illness or mental defect, (4) a public health laboratory service, and (5) a blood transfusion service. He has indirect responsibility for the general practitioner services and local health authority services. He is advised by the Central Health Services Council and by standing advisory committees on various aspects of the Service.

The hospital and specialist services are administered through Regional Hospital Boards and Hospital Management Committees or, in the case of teaching hospitals, by Boards of Governors. The hospitals themselves have been grouped into administrative units; these consist sometimes of several formerly independent hospitals and sometimes of one. There are nearly 400 such groups under the control of hospital management committees, which are in turn under the control of 14 regional hospital boards. The regions are arranged so that the hospital and specialist services can conveniently be associated with a university having a school of medicine.

The members of the hospital management committees are appointed by the regional hospital board. The committees, by their constitution, reflect the communities concerned, for they usually include not only medical practitioners but members of local authorities, trade unionists and others. The regional hospital boards are appointed by the Minister and are similarly constituted. The term of office is three years, one-third of the board or committee retiring each year but being eligible for reappointment. The boards of governors of teaching hospitals are appointed by the Minister, a proportion of the members being nominated by the teaching faculty of the university, the regional hospital board and the medical staff. All appointments to hospital management committees, regional hospital boards and boards of governors are honorary.

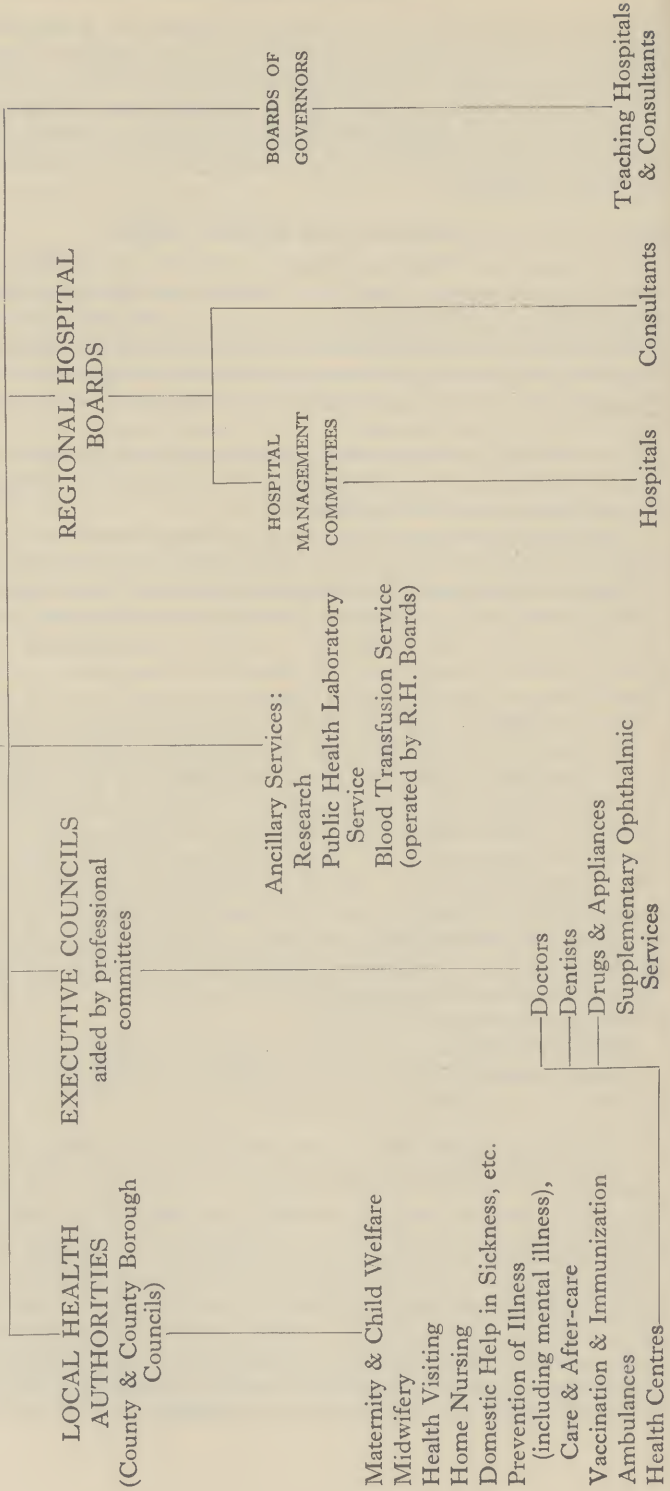
Medical and dental schools are not under the control of the Minister. It is the Minister's responsibility to provide clinical facilities for the training of medical students. The universities are responsible for the provision of teaching.

¹ The functions of the Minister include the supervision of local authorities in the performance of their duties with regard to persons of unsound mind (see p. 364), the general supervision of matters relating to mental defectives, and the licensing or other formal approval of accommodation for mentally ill or defective patients outside the National Health Service. The Board of Control deals with the admission, discharge and periodic review of mentally disordered or defective patients and inspects all institutions for their care, whether in or outside the National Health Service. In Scotland, there is a separate General Board of Control with functions similar to those of the Board of Control in England and Wales. The Royal Commission set up in 1954 to inquire into the existing law and administrative machinery in England and Wales governing the certification and care, other than hospital care or treatment under the National Health Service Acts, of persons suffering from mental illness or defect, reporting in May 1957, recommended changes in law and procedure which included the abolition of the Board of Control.

ORGANIZATION OF THE NATIONAL HEALTH SERVICE IN ENGLAND AND WALES

PARLIAMENT

MINISTER OF HEALTH — HEALTH SERVICES COUNCIL (advisory) — CENTRAL HEALTH SERVICES COUNCIL (advisory)



The administration of the General Medical, Dental, Pharmaceutical and Optical Services (see p. 361) is in the hands of 138 Executive Councils, each covering the area of a county or county borough. (In a few cases two areas are combined under one council.) Each council has an Ophthalmic Services Committee responsible for administering the Supplementary Ophthalmic Service. Doctors, dentists and pharmacists are represented on the Executive Councils and each profession also forms a local committee. Councils of counties and county boroughs are the 146 local health authorities in charge of local health services (see pp. 361-5).

In Scotland the Secretary of State for Scotland is the responsible Minister; 31 county councils and 24 town councils of large burghs are the local health authorities; hospital and specialist services are administered by five Regional Hospital Boards appointed by the Secretary of State, assisted by 84 Boards of Management (the equivalent of hospital management committees in England); and there are 25 Executive Councils, each serving the area of one or more local health authorities. The teaching hospitals in Scotland come under the control of the Regional Hospital Boards, but special Medical Education Committees consider matters relating to medical teaching. The Scottish Health Services Council and its Standing Advisory Committees advise the Secretary of State and keep closely in touch with the Central Health Services Council on common issues.

The Northern Ireland Health Services are described separately on page 365.

Health Service Finance

Annual expenditure on the National Health Service in the United Kingdom amounts to about $3\frac{1}{2}$ per cent of total national resources. The greater part of the cost falls on the Exchequer, to be met from general taxation, and a small part is met from local rates. Other income is derived from the National Health Service contribution paid with the National Insurance contribution (see p. 348) and from the payments for those parts of the Service for which charges are made.

To help to limit expenditure without reducing the services offered, it was found necessary in 1951 and again in 1952 to introduce charges for certain items in the Service. There is a charge of 1s. for each item prescribed on a prescription form, and charges are also made for dentures and spectacles (except children's spectacles in standard frames), for elastic hosiery supplied in the family doctor service or hospital out-patients' department, for certain appliances supplied to out-patients, for treatment in the dental service (but not for examination only or for treatment given to persons under 21 or to nursing or expectant mothers), and for some local health authority services. Certain exemptions or refunds are made and anyone may apply to the National Assistance Board for help in meeting any of these charges. Under the 1946 Act a limited number of beds may be put aside for hospital patients wishing for privacy, provided that this accommodation is not needed on medical grounds for non-paying patients. Charges for these 'amenity' beds are fixed under Regulations. Provision is also made at certain hospitals for patients who wish to occupy private patients' accommodation on payment of the whole cost of this accommodation and treatment. Such patients may make private arrangements for treatment by a doctor of their own choice.

Hospital medical staffs are either full-time and salaried or part-time; part-time medical officers are usually paid on a sessional basis and are free to accept private patients. General medical practitioners in public service are remunerated mainly by capitation fees according to the number of persons on their lists.

Dentists providing treatment in their own surgeries are paid on a prescribed scale of fees according to the items of treatment they have carried out. Pharmacists dispensing on their own premises are paid on the basis of the prescriptions they dispense.

Doctors and ophthalmic opticians taking part in the Supplementary Ophthalmic Service are paid on the basis of the number of sight tests made; opticians who dispense spectacles are paid according to the number of pairs supplied.

A committee set up in 1953 to review the present and prospective cost of the Health Service found no opportunity for making recommendations which would either produce new sources of income or reduce substantially the annual cost of the Service. It found that the real cost of the Service, after allowing for rising prices, had increased little during the years 1949-54 while many of the services provided were substantially expanded and improved.¹

Hospital and Specialist Services

The hospital and specialist services include the provision of consultants; hospitals of all kinds including maternity accommodation, tuberculosis sanatoria, mental hospitals and institutions for the mentally defective, infectious-disease units, convalescent homes and rehabilitation centres; and all forms of specialized treatment.

At the end of 1956, there were in the Service in England and Wales 2,662 hospitals (including teaching hospitals) with about 482,400 available beds and a nursing and midwifery staff of some 145,800 full-time and 35,500 part-time nurses. In Scotland, there were 400 hospitals with about 66,600 beds and some 21,000 full-time and 5,000 part-time nurses and midwives. A small number of hospitals remain outside the Service for special reasons. Most of these are run by Religious Orders.

An expanded programme of new hospital building and increased expenditure on capital improvements in existing hospitals was begun in 1956.

Teaching Hospitals

The 26 London teaching hospitals are in fact groups of hospitals, and include 97 hospitals, convalescent homes, branches, annexes or treatment centres. The 10 teaching hospitals in Wales or in the provinces cover some 67 hospitals and other establishments.

Rehabilitation

The importance of rehabilitation as a facet of medical treatment is firmly established and, today, hospital treatment is not limited to the relief of pain, or alleviation or cure of pathological conditions, but aims at restoring the individual's functional capacity without delay. Special rehabilitation facilities are provided, for those requiring them, in the departments of physical medicine and occupational therapy at the main hospitals, and in a few special rehabilitation centres which are not attached to any hospital. The work is carried out under the guidance of the appropriate medical specialist by physiotherapists, remedial gymnasts, occupational therapists and social workers, working as a team. Experience has shown that efficient medical rehabilitation reduces the stay in hospital, the incidence of permanent disability and the period of incapacity for full work. The departments work in close association with the Disablement Resettlement Service of the Ministry of Labour and National Service (see pp. 279-80). Rehabilitation methods have been applied with advantage in the care of the chronic sick, aged and handicapped and have enabled many patients to become self-sufficient or to be discharged from hospital and to resume an independent life in their own homes.

¹ Report of the Committee of Enquiry into the Cost of the National Health Service, *Cmd.* 9663, January 1956.

Blood Transfusion

The National Blood Transfusion Service is administered by the regional hospital boards under the National Health Service. Each region maintains an organization for collecting blood within the region. Voluntary donors, recruited from the public, give their blood without payment. It is kept in the Regional Blood Bank, or issued to Area Blood Banks which are maintained at general hospitals in each county. There are two central laboratories administered by the Medical Research Council on behalf of the Ministry of Health: the Blood Group Reference Laboratory, which prepares grouping serum and investigates blood grouping problems referred to it, and the Blood Products Laboratory, which prepares dried plasma and plasma fractions.

Medico-Social Work

There are over 1,000 trained almoners working in Britain; the majority work in hospitals, others in local health authority services or elsewhere. The almoner co-operates with the medical staff in the investigation and treatment of disease by elucidating and adjusting social and economic factors which contribute to a patient's disability or impede his restoration to health. Psychiatric social workers are specially trained for work in the mental health and education services. They are an invaluable complement to doctors, not only in mental and mental deficiency hospitals but also in the local health and education services, in assessing the environmental factors in mental abnormalities and in helping patients to make the necessary adjustments to their environment.

The General Practitioner Services

The General Practitioner Services cover the medical attention given to individuals by doctors and dentists of their own choice, from among those enrolled in the Service. Doctors and dentists normally work at their own surgeries; in a few places they practise in health centres established under the National Health Service Acts. Nearly 24,000, or almost all, general practitioners (principals and assistants) in Great Britain take some part in the Service.

Doctors previously in practice were entitled to join the Service at its start in the place where they were practising. Those now wishing to enter practice have to apply through their Executive Councils to the central Medical Practices Committee, so that a better distribution of doctors throughout the country may be facilitated. The maximum number of patients' names permitted to be on one principal's list is 3,500. The average number in England and Wales is about 2,200.

Of about 11,200 dentists in England and Wales available for general practice, about 9,800 are in the Service, and in Scotland 1,155 dentists (practically all those in general practice) are in the General Dental Service.

Over 900 ophthalmic medical practitioners and over 7,000 ophthalmic and dispensing opticians in England and Wales, and 70 ophthalmic medical practitioners and 900 ophthalmic and dispensing opticians in Scotland, are engaged in the Supplementary Ophthalmic Service. This service provides for the testing of sight and provision of spectacles. Cases requiring treatment are dealt with through the hospital eye service.

Almost all chemists (nearly 16,000 in England and Wales and 2,600 in Scotland) are taking part in the Service.

Local Health Services

The Local Health Services administered by the county and county borough councils (in Scotland, county and large burgh councils) include those for maternity and child welfare (but not hospitals and maternity homes), domiciliary midwifery,

vaccination and immunization, health visiting, home nursing, the prevention of illness and the care and after-care of the sick (including the mentally ill and also the mentally defective), the provision of domestic help (in such circumstances as sickness, confinement or old age), the ambulance service (in Scotland, the responsibility of the Secretary of State), and the establishment and maintenance of local health centres (in Scotland, the responsibility of the Secretary of State).

Welfare Centres

Maternity and child welfare centres have been established for many years. In England and Wales there are about 5,500 child welfare, 2,000 ante-natal and 230 post-natal clinics. In Scotland there are about 430 child welfare, 107 ante-natal and 84 post-natal clinics. These are part of the advisory and preventive services of the local health authority and they provide regular supervision by nurses and doctors for expectant and nursing mothers and young children. Special sessions for test feeding and for remedial exercises are also arranged at some centres. A special feature of the service is the education of mothers by means of talks, demonstrations and classes. Practically all centres are distribution points for the national dried milk and vitamin preparations provided for expectant mothers and young children which are distributed by local health authorities (see below). In England and Wales more than 75 per cent of all babies are taken to the centres.

Maternal Care

According to the advice given by the doctor or midwife and her own preference, the expectant mother may arrange to have her baby at home or in hospital; in allocating hospital beds, priority is given to those for whom domiciliary confinement is inadvisable for medical or obstetric reasons or because of adverse home conditions. For a home confinement every mother has available to her the services of either a general practitioner obstetrician or her own family doctor if he is willing to undertake her maternity care, besides those of a trained midwife employed in the domiciliary service of the local health authority. The doctor carries out certain ante-natal and post-natal examinations, attends at the confinement if he thinks it necessary, and gives any other medical care required. The services of a consultant obstetrician are also available if the doctor thinks it necessary to ask him to advise. Routine supervision and advice is provided by the midwife, who visits regularly before the confinement for the purpose of examination and to give the mother advice and help. In addition, the expectant mother may attend the ante-natal clinic for instruction in preparation for motherhood and in some cases for interim ante-natal supervision. The midwife delivers the patient (unless the doctor considers it necessary to be present) and continues in attendance for the first 14 days after the birth. Midwives work in close touch with the welfare centres in the care of the mother both before and after the birth of the child.

Welfare Foods Service

Local health authorities distribute the welfare foods, other than liquid milk, that the Welfare Foods Service¹ provides for expectant and nursing mothers and young children, at a low cost or free of charge. These foods are National Dried Milk as an

¹ The Service began as a war-time measure with the National Milk Scheme in 1940, but in 1946 the Government decided to continue the extended scheme as part of the peacetime social services. Beneficiaries now obtain the necessary coupons from the Ministry of Pensions and National Insurance.

alternative to liquid milk¹ and at an equivalent price; orange juice, at 5d. a six-fluid-ounce bottle, and cod liver oil, free of charge, for expectant mothers and for children under two and five; vitamin A and D tablets, free of charge for expectant mothers as an alternative to cod liver oil, and also for mothers for 30 weeks after confinement. Milk and orange juice are supplied free to expectant mothers and to children under school age if the families cannot afford to pay.

Other Maternity and Child Welfare Services

Many local health authorities make special arrangements for premature babies remaining in their own homes, by lending equipment and appointing experienced nursing staff to supervise their care.

There are some 650 day nurseries for children under five in Great Britain provided by local health authorities or voluntary associations working with them. The National Health Service Act, 1952, gave local authorities power to make charges for the use of day nurseries. Private or factory nurseries (of which there are about 450 altogether) must be registered with the local health authorities; this regulation applies also to persons who mind for payment more than two children, not all of the same family.

Local authorities co-operate with voluntary denominational and other bodies caring for unmarried mothers and their babies, or make direct provision for their special needs through welfare workers, homes, hostels and nurseries, and by finding suitable foster-mothers.

Health Visiting

Health visitors, who are qualified nurses with special additional training, give expert advice to mothers in their own homes on such matters as breast feeding, the general care of the baby, and the nurture of children up to five years old. They are also responsible for giving advice on the care of the sick and the measures necessary to prevent the spread of infection. They, together with special tuberculosis visitors, have a particular interest in tuberculosis. They are also employed in the School Health Service.

Home Nursing

The employment of nurses for attending persons who require nursing in their own homes is the responsibility of the local health authorities. Although many authorities employ nurses directly for this purpose, others have entered into arrangements with voluntary organizations to provide a service on their behalf.

Domestic Help

Local health authorities have the power to make arrangements for providing domestic help in households where it is needed owing to illness, confinement, or the presence of children, old people or mental defectives. This is not one of the free services and authorities are authorized to recover from those assisted such charges as the authorities consider reasonable, having regard to the person's means.

Ambulance Services

Free conveyance by ambulance between home and hospital or clinic is provided, where necessary, either directly by local health authorities or, on their behalf, by

¹The liquid milk allowance (which is obtained through the usual retail channels) is one pint a day at 4d. a pint for expectant mothers, children under five, and children between five and sixteen who are physically or mentally disabled and are unable to attend school (where they would receive milk).

voluntary organizations. The Hospital Car Service (organized by the St. John Ambulance Brigade, the British Red Cross Society, and the Women's Voluntary Services) provides transport in many areas for patients who do not require an ambulance; such patients are conveyed in private cars whose owners volunteer to give this service, and the authorities make a mileage payment to the volunteers to cover their expenses. In Scotland, ambulances are run by the Scottish Ambulance Service (St. Andrew's Ambulance Association and the Scottish Branch of the British Red Cross Society) on behalf of the Secretary of State.

Mental Health Services

Persons who are suffering from mental illness can consult the family doctor and receive specialist advice at hospital out-patient clinics in the ordinary way. If they need to enter a mental hospital they can do so as voluntary patients with little formality. If need be, they may be admitted under Order as temporary or certified patients. If patients, or their relatives, are unable or unwilling to make the necessary arrangements for admission to a mental hospital, it is the duty of a duly authorized officer of the local health authority to do so. The local health authority is expected to offer a welfare service to such patients, whether before admission or to help their rehabilitation on discharge.

Local health authorities have a duty to ascertain mental defectives in the community, to supervise them and to provide, where practicable, suitable training or occupation. This is given in occupation centres where the defectives attend daily, as at school, or by home teaching. If supervision affords insufficient protection it is the duty of officers of the local health authority to take the initial steps to place such defectives under guardianship within the community or to arrange for their admission to a mental deficiency hospital.

Prevention of Illness: Care and After-Care

Measures for the prevention of tuberculosis, e.g., the tracing of sources of infection, the prevention of its spread, and the removal of the cause of infection, are the responsibility of all the local health authorities. Facilities for diagnosis and treatment are the responsibility of the hospital service and are provided through sanatoria and chest clinics. The chest physicians staffing these clinics are often employed jointly by the hospital authorities and local health authorities, to ensure that diagnosis and treatment are properly co-ordinated with prevention and after-care. Among the duties of these officers are those of making recommendations for residential treatment, visiting the homes of patients, and examining and advising 'contacts'. They are assisted in this work by tuberculosis health visitors and nurses. Most local health authorities have statutory or voluntary tuberculosis care committees.

Mass miniature radiography was introduced in 1943 as a means of early diagnosis of tuberculosis. About 75 units now operate under the regional hospital boards in England and Wales, in close co-operation with local health authorities; there are 10 units in Scotland. They examine over three million persons a year, concentrating increasingly on areas with a bad record for tuberculosis, on specially susceptible groups in the population, and on adults in regular contact with organized groups of children.

Care and after-care of patients is supplemented by general advice and assistance given to households in which the patients live. Local health authorities send suitable patients to the village settlements for tuberculous persons which are run by voluntary bodies or by local health authorities of other areas; and training for employment is carried out in conjunction with the training and resettlement schemes of the Ministry of Labour and National Service (see pp. 279-80).

Care and after-care arrangements are made by all local health authorities for other types of illness, including mental illness or mental defectiveness.

As part of their preventive work, local health authorities give help and advice to families which may be in difficulties and in danger of breaking up (see also p. 354).

A charge may be made for some of these services, if the person wishing to make use of them can reasonably be expected to contribute towards their cost.

Vaccination and Immunization

Arrangements for vaccination against smallpox and immunization against diphtheria, without charge, as part of the National Health Service, are made by all local health authorities; in addition, most local health authorities have similar arrangements for immunization against whooping cough, and a small number have authority to provide for immunization against tetanus. In 1956 there were only 8 deaths from diphtheria in England and Wales as against 2,641 in 1941; in Scotland, only 2 deaths as against 517 in 1941.

Vaccination against poliomyelitis was introduced in 1956 and extended in 1957. BCG vaccination against tuberculosis is available to certain adults and children.

Health Centres

A few health centres have been established, differing widely in size and character according to local need. Experience shows that they are likely to be most successful in areas of housing development where new services are needed. The need to observe the working of the largely experimental centres already provided and to conserve scarce resources is likely to prevent any general expansion of the service in the near future. In Scotland, where the provision of health centres is the direct responsibility of the Secretary of State for Scotland, two have been built.

HEALTH SERVICES IN NORTHERN IRELAND

In Northern Ireland the historical development of the health services has taken broadly the same course as in other parts of the United Kingdom and the Health Service established under the Health Services Act (Northern Ireland), 1948, corresponds fairly closely to the medical care system established under the National Health Service in Great Britain. The essential principle is that the same range of services shall be available to citizens in Northern Ireland as in England, Wales and Scotland. The Service in Northern Ireland is financed as in the rest of the United Kingdom.

In hospital administration the role of the central Government is not quite so immediate or direct as in Great Britain, and hospital property, for example, is vested not in the Minister of Health and Local Government but in the Northern Ireland Hospitals Authority. The Hospitals Authority has under its control 62 hospitals and three special care institutions containing in all about 14,900 beds.

The Tuberculosis Service is on a separate footing from the main Hospital Service, having been established a little earlier to deal urgently with a serious tuberculosis problem. The Northern Ireland Tuberculosis Authority, which was constituted for the prevention of tuberculosis and the care of tuberculous patients by the Public Health (Tuberculosis) Act (Northern Ireland), 1946, has eight hospitals under its control.

Vaccination against smallpox is compulsory in Northern Ireland but otherwise the range of preventive and domiciliary services is similar to that existing in Great Britain. Domestic help (whole-time or part-time) for aged or handicapped persons and expectant mothers is provided by county welfare authorities under the Welfare Services Act (Northern Ireland), 1949.

VOLUNTARY AID FOR THE SICK AND HANDICAPPED

A number of voluntary organizations provide services of various kinds for sick and handicapped persons in co-operation with, or supplementary to, the provision made by central and local authorities. Some convalescent homes, for instance, of a type outside the scope of the hospital service, are administered by such bodies. In many areas invalid children and others needing care in their own homes are visited and helped by voluntary organizations. Though the need for material aid from private sources becomes less as public provision extends, many forms of help to meet individual needs that would not otherwise be met are given by voluntary agencies. Their most valuable service is probably to provide personal service and the continued personal interest that can contribute so much to the welfare of the sick and infirm. These voluntary agencies usually depend largely on the work, part-time or full-time, of unpaid volunteers.

A great deal of voluntary help is given to hospitals by voluntary bodies and individual voluntary helpers. More than half the hospitals in England and Wales have their own Leagues of Friends or similar bodies of voluntary workers who organize and undertake a variety of services for their hospitals. Many hospitals also have help from the British Red Cross Society, the Order of St. John, the Women's Voluntary Services, or a similar organization. The operation of canteens for out-patients and trolley-shops and library services for in-patients, visiting in the wards, receiving new patients, and mending linen are among the tasks commonly undertaken.

THE MEDICAL, DENTAL AND ALLIED PROFESSIONS

Only persons whose names are on the medical register can practise as doctors under the National Health Service. Apart from medical practitioners, only persons whose names are on the dentists' register can practise dentistry in Britain. The minimum qualification for registration as a doctor requires five to seven years' training in medical school and hospital, plus one year as an intern; for a dentist, four or more years at a dental school are required. The governing body of the medical profession is the General Medical Council, first set up in 1858; that of the dentists is the General Dental Council, which succeeded the Dental Board in 1956.

The minimum period of hospital training required to qualify for State registration as a general trained nurse is three years. Training is available also in sick children's, mental, and mental deficiency nursing. The enrolled assistant nurse has taken an essentially practical training for one year, followed by a year's work under supervision before her enrolment. The governing body of the nursing profession is the General Nursing Council, set up in 1919.

Only registered pharmaceutical chemists may practise as pharmacists or describe themselves as such, and qualifications requiring four to five years' academic study and practical training are necessary for registration. The Pharmaceutical Society of Great Britain is the governing body of the profession.

For the professions of almoner, chiropodist, dietitian, medical laboratory technician, occupational therapist, psychiatric social worker, physiotherapist, radiographer and speech therapist a good general education is required followed by a professional training. The length and nature of the training varies according to the profession, and may be as long as three years.

MEDICAL RESEARCH

The Medical Research Council (see p. 412) is the chief organization engaged in medical research in Britain, although the Health Ministers are also able to initiate and maintain research work as part of the National Health Service (see p. 357). Hospital

boards and committees have power to conduct research, and it is a function of teaching hospitals to provide the facilities required for clinical research by the universities with which they are associated. The Public Health Laboratory Service, administered by the Medical Research Council for the Ministry of Health, in addition to its more routine duties, undertakes research on problems of bacteriology, virology and epidemiology, thus providing an important complement to the work of the Council.

A valuable contribution to research in particular branches of medicine is made by private organizations, of which the British Empire Cancer Campaign and the Nuffield Foundation are the largest. There is close collaboration between the Medical Research Council and these other organizations to ensure the best allocation of their respective resources.

Work of the Medical Research Council

The Medical Research Council's programme of work, carried out both in its own research establishments (see Appendix II, pp. 459-61) and by independent investigators, in the universities and elsewhere, receiving grants from the Council, includes fundamental studies of the structure and natural processes of the body; clinical and laboratory studies of disease; the development and evaluation of special methods of treatment and also of prophylaxis and diagnosis; and the study of social and occupational factors affecting health and the efficiency of body and mind.

In planning and carrying out its programme, the Council may be assisted by technical committees which it appoints to advise on special subjects. An important advisory committee to the Council is the Clinical Research Board, set up in consultation with the Health Departments to assist the development of clinical research in the National Health Service.

The Public Health Laboratory Service

The Public Health Laboratory Service provides a network of bacteriological and virological laboratories throughout England and Wales to assist in the diagnosis, prevention and control of epidemic diseases, the largest establishment being the Central Public Health Laboratory at Colindale, in north-west London, which includes the National Collection of Type Cultures, the Standards Laboratory for the Supply of Diagnostic Cultures and Sera, and reference laboratories specializing in the identification of infective micro-organisms.

EDUCATION

There are nearly nine million children and young people in full-time attendance at schools, universities, training colleges or technical colleges in the United Kingdom. Over 90 per cent of school children attend publicly provided or aided schools. The universities are independent, self-governing institutions but are aided from public funds. Most technical colleges and other centres of further education are publicly maintained. Many schools and colleges continue to benefit from the endowments provided by benefactors in past centuries.

The bulk of expenditure on education in the United Kingdom therefore comes from public funds. It is estimated for 1957-58 that total public expenditure on education, which is increasing, will be about £733 million. This includes expenditure on university education. Of public expenditure on education other than in the universities, at present about 60 per cent comes from taxes and about 40 per cent from local rates.

In England and Wales, the main development of publicly provided primary education dates from 1870, and that of secondary education from the beginning of the present century. In 1833 the Government had begun to make annual grants to

the voluntary societies which were providing schools, and the Elementary Education Act of 1870 accepted the principle of compulsory education. By the end of the nineteenth century, elementary education had become virtually both compulsory and free. Public provision of secondary education (already begun in Wales) started in England under the Act of 1902. The Education Act of 1944 now governs public education in England and Wales. It seeks to widen and improve educational opportunities at every stage.

The Scottish and Northern Ireland educational systems both have long histories independent of that of education in England, but the same general policy is now being implemented throughout the United Kingdom, with some national variations.

Educational Administration

Administration of publicly provided education in Britain is divided between the central Government Departments (the Ministry of Education for England and Wales, the Scottish Education Department, and the Ministry of Education for Northern Ireland), local education authorities, and various voluntary organizations. The relation between these three groups is based on consultation and co-operation, both by direct contact between the parties and through Her Majesty's Inspectors who act as liaison officers, particularly between local education authorities and the Departments.

The local education authorities (called education authorities in Scotland) are responsible for ensuring that adequate provision is made in their areas for the two stages of school education (primary and secondary), and that those pupils who would profit by proceeding to a university have the opportunity of doing so. They are also responsible for the provision of all forms of 'further education', i.e. post-school education outside the universities.

All schools, including independent schools (which, from September 1957, must be registered), are subject to official inspection.

SCHOOLS

Parents in Britain are required by law to see that their children receive efficient full-time education, at school or otherwise, between the ages of 5 and 15. In England and Wales over 6,720,000 children, including about 180,000 under and 249,000 over compulsory school age, are attending publicly maintained schools, besides 102,000 others (including 1,500 under and 29,000 over school age) who are at schools receiving direct grants from the Ministry of Education. There are also about half a million children of all ages at independent schools. In Scotland, 840,000 children are attending publicly maintained or aided schools and about 21,000 are at independent schools. In Northern Ireland, 257,000 children (including 14,000 under and 20,000 over compulsory school age) are attending publicly maintained or aided schools; independent schools are few.

In England and in Northern Ireland it is usual for boys and girls to be taught together in primary schools, but more often than not they attend separate secondary schools. Mixed schools are more common in Wales; and in Scotland all but a few city schools take both boys and girls.

The majority of independent schools are for boys or for girls only, except in classes for small children. There are, however, a few schools which are co-educational.

In England and Wales three broad types of school are supported from public funds: *county schools* (the largest group) which are provided and maintained by local education authorities, i.e. their full cost falls on public funds; *voluntary schools* which have been provided by a voluntary body (usually of a religious denomination)

but which are maintained by local education authorities; and *direct grant schools* which are completely independent of local education authorities but receive a grant-in-aid from the Ministry of Education. These last (the smallest group) mostly provide education of the grammar school type; they include some schools of ancient foundation.

In Scotland, most of the schools supported from public funds are provided by education authorities and are known as *public schools* (in England this term is used for a type of independent school of which there are also a few in Scotland and Northern Ireland). There are also a few *grant-aided schools* (some of ancient foundation) conducted by voluntary managers which receive grants direct from the Scottish Education Department.

In Northern Ireland, there are county schools, managed by local education authorities, and voluntary schools, which are grant-aided schools under voluntary management.

In England and Wales, no fees are charged to parents of children attending schools maintained by local education authorities, and books and equipment are supplied free. Grammar schools receiving grants direct from the Ministry of Education still charge fees but they are required to offer each year, to pupils who have at any time previously attended a grant-aided primary school for not less than two years, free places to the extent of not less than 25 per cent of the previous year's admission to the upper school; and a further 25 per cent of the places must be put at the disposal of the local education authorities if they require them. Pupils occupying these latter places need not previously have attended a grant-aided primary school. Day pupils not holding free places are entitled to claim a remission of fees in accordance with an approved income scale, and the Ministry pays the governors of the school the amount of the fees so remitted. Local education authorities also pay for some free places in independent schools, which normally charge fees. A number of independent schools are able to offer some scholarships from endowments.

In Scotland, education authorities may charge fees in certain schools provided that this does not prejudice the provision of free education for all who desire it.

In Northern Ireland, no fees are charged to parents of children attending any county or voluntary primary, intermediate or special school; qualified pupils attending both county and voluntary grammar schools receive scholarships from the local education authorities which cover the whole or most of the fees charged by the school.

Primary Schools

A child's primary education continues until about the age of 11 in England, Wales and Northern Ireland and 12 in Scotland. There are some *nursery schools* and classes for children between 2 and 5 years old. In England and Wales there are *infant schools*, or departments, for all children between 5 and 7 and *junior schools* for those aged 7 to 11. In Scotland there are *primary departments* for children between 5 and 12 years old.

Secondary Schools

Public provision of secondary education is being greatly extended with the aim of providing for all children an education suited to their particular abilities.

England, Wales and Northern Ireland

In England and Wales, the *grammar school* takes children who hope to reach a university and others likely to profit from an academic type of education. A large proportion of university students are recruited from these schools which, in England and Wales, are attended by about one secondary school pupil in four. *Secondary*

modern schools form the largest group of secondary schools. They give a general education with a practical bias, closely related to the interests and environment of their pupils. The *secondary technical schools* are the smallest group and offer an education largely related to industry, including commerce, or agriculture. Each local education authority decides how the selection shall be made for its secondary schools: generally speaking, this selection depends upon an assessment of the child's ability as shown in the primary school, often coupled with objective tests taken at about eleven years of age. There is provision for an appeal to the Minister of Education in the event of a dispute between a local education authority and a parent, and almost all authorities reconsider original decisions when subsequent events prove this to be necessary.

Two types of education may be given in one school—a bilateral school; some authorities are establishing *comprehensive schools* providing all types of secondary education.

In Northern Ireland, the *secondary intermediate school* is the equivalent of the secondary modern school in England and Wales. *Technical intermediate schools* in Northern Ireland offer the same facilities as secondary technical schools in England and Wales.

Most grammar school pupils remain until they are 16 years old, some until they are 17, 18 or 19. Most secondary modern pupils at present leave at the age of 15, but the number staying on until the age of 16 is increasing.

Scotland

Scottish secondary schools fall into two main categories, those providing courses extending normally to three years, generally called *junior secondary schools*, and those providing courses of five or six years, known as *senior secondary schools*. In each type of school the courses are intended to provide a general education, but they are differentiated in character to suit the varying needs and abilities of the pupils, and include literary, commercial, boys' technical, domestic and rural courses. While some schools are purely junior secondary and some purely senior secondary, there are also a number of schools of the 'comprehensive' type in which all kinds of courses, both junior secondary and senior secondary, are provided. Many schools also provide modified courses for pupils of limited ability for whom the normal courses are too exacting.

Promotion from the primary to the secondary school takes place usually between the ages of 11½ and 12½. The fitness of pupils to profit from the various types of secondary course is assessed on the basis of teachers' estimates of attainment, intelligence tests, and attainment tests, with due regard to the wishes of the parents. There is provision for an appeal to the Secretary of State for Scotland in the event of a dispute between the education authority and the parent and also for the reconsideration of original allocations where transfer to another course subsequently appears to be necessary.

Independent Schools

The largest and most important of the independent schools are known in England as 'public' schools, although not all schools classed as public schools are independent (those which are not are mostly direct-grant schools) and public schools form only a minority of all independent schools.

The *public school* is a characteristic English institution which has made a notable contribution to English education. Many public schools date from the sixteenth century, some are older (e.g., Winchester, founded in 1382, and Eton, founded in 1440), and many have some income from endowments. Each is controlled by its

own Board of Governors. Public schools have emphasized the importance of character-building, and in these schools were developed the prefect system, whereby day-to-day discipline is largely maintained by the pupils themselves, and the house system, whereby a school is divided into groups of about 50, each under the care of a housemaster. The public school is also characterized by a high staffing ratio and a high proportion of pupils doing advanced work. A public school is often, although not necessarily, a boarding school; day boys are also taken at some of these boarding schools. The usual age of entry to the independent public schools for boys is 13 and the leaving age about 18. There are some girls' public schools modelled to a certain extent on the public schools for boys.

There are also *preparatory schools*, most of them boarding schools, for boys aged from about 8 to 13 years of age who are intending to enter public schools, some similar schools for girls and a wide range of other day and boarding schools covering every age group and grade of education and every variety of educational method. Some of these schools are owned and managed, often under a trust deed, by independent non-profit-making bodies. Others are privately owned by proprietors for whom the running of the school provides a living.

Secondary School Examinations

In 1951, the General Certificate of Education superseded the former School Certificate and Higher Certificate examinations in the secondary schools (State-aided and independent alike) of England and Wales. This examination, which may also be taken by candidates not attending school, is conducted at three levels (ordinary, advanced and scholarship). Most candidates are at least 16 years old on 1st September of the year of their examination, but a child can sit at an earlier age at the discretion of the headmaster or headmistress of the school and many do so.

In Scotland, the courses in senior secondary schools lead to presentation for the Scottish Leaving Certificate at about the age of 17, although many pupils who are under 17 take the examination. The certificate, which can be taken only by pupils in attendance at Scottish schools, is awarded on examinations conducted by the Scottish Education Department.

In Northern Ireland, the Junior Certificate Examination is taken at about the age of 15 and the Senior Certificate Examination, which is conducted at two levels, at about 17 years of age.

Teachers

Teachers are appointed by local education authorities or school governing bodies or managers. In England, Wales and Northern Ireland they are not subject to official control on questions relating to curricula or methods. In Scotland, schemes of work in primary and secondary departments are subject to the approval of one of Her Majesty's Inspectors, and no pupil may be presented for the Scottish Leaving Certificate examination unless he has followed a course approved by the Scottish Education Department.

In 1956, there was one full-time teacher to 27 pupils in publicly maintained primary and secondary schools in England and Wales; the figure was 24 for Scotland and 30 for Northern Ireland. The high birth rate at the end of the second world war is the chief of several factors in the present need for more teachers.

There are 155 teachers' training colleges in England and Wales. At present, the usual training course lasts for two years, but there are three-year courses for women taking housecraft or physical education and the ordinary course is to be extended to three years in September 1960. There are 23 university departments of education providing a one-year course for graduates. In Scotland, there are four general

training centres, two denominational training colleges and a college for women teachers of physical education. Courses are normally of one year's duration for graduates or the equivalent, and of three years for non-graduates. Northern Ireland has two general teachers' training colleges, one university training department and three specialist colleges—one for training teachers of physical education, one for teachers of domestic science and one for teachers of art. The basic course in the general training colleges lasts three years.

The Education Departments, the universities, local education authorities and other bodies provide a variety of short courses for practising teachers. Teachers from schools in the United Kingdom go to a number of overseas countries each year under interchange schemes or schemes for temporary overseas posts.

There are national salary scales for teachers in schools and other educational institutions maintained from public funds in England and Wales, in Scotland, and in Northern Ireland; and these scales influence the salaries paid to teachers in many independent schools. There are also national superannuation schemes which are the responsibility of the central Departments.

In England and Wales, agreed salary scales are submitted to the Minister by joint committees of representatives of local education authorities' and teachers' associations. The best-known of these committees are the Burnham Committees dealing with the salaries of teachers in primary and secondary schools and in establishments of further education.

The Minister can accept or reject (but not modify) the committees' recommendations and make the approved scales mandatory on local education authorities.

Broadcasting and Visual Aids

The School Broadcasting Department of the British Broadcasting Corporation sends out over 50 sound transmissions a week which reach nearly 28,000 schools in the United Kingdom, some 73 per cent of the possible total. School broadcasting does not attempt to cover the whole school curriculum, or to replace the teacher, but to supplement existing work in the schools.

Experimental television services for schools began in 1957 (see also p. 444). Other visual aids to education—films, film strips, wall charts, pictures, and models—are being increasingly used in Britain's schools.

Religion in Schools

In England and Wales, all children in county or voluntary schools, that is, all schools wholly or partly financed by local authorities, receive religious instruction and take part in a daily corporate act of worship unless their parents object. In county schools, and in certain circumstances in voluntary schools, religious instruction of an undenominational Christian character is given. In all kinds of voluntary school¹ there is opportunity for denominational instruction. Over a third of the schools maintained by local education authorities in England and Wales are voluntary schools and the majority of these are Church of England primary schools. There are nearly 2,000 Roman Catholic voluntary schools and smaller numbers belonging to other religious bodies. In county schools in Northern Ireland clergy have a right of access to give denominational instruction to children of their persuasion for a limited period each week. In Scotland, subject to safeguards for the individual conscience, matters relating to religious instruction are in the hands of

¹ The majority of voluntary schools are either 'aided' or 'controlled' schools. The controlled school has less independence than the aided school: for example, in the controlled school, denominational instruction may be given only for two periods a week, and only to children whose parents desire it. The aided school, however, has financial obligations for part of its maintenance, whereas the controlled school has none.

the school managers, but there are a number of denominational schools conducted by education authorities.

Services in the school chapel and religious teaching are an essential part of the life and education of the independent public schools and most of these schools are linked to some religious denomination.

Health and Welfare of School Children

Physical education forms part of the general curriculum in all schools.

The School Health Service provides regular medical examination and certain free treatment for all children attending schools maintained by local education authorities. Treatment facilities include dental clinics and child guidance centres. (There are also child guidance clinics in the National Health Service.) In Northern Ireland the School Health Service is operated by the health authorities.

Milk (normally one-third of a pint a day) is given free to all children in schools who wish to have it, and the School Meals Service provides a daily dinner at a subsidized price (remitted where there is need) to nearly half the pupils in county and voluntary schools. Free transport is provided for children attending these schools who live more than a reasonable walking distance from their schools, defined as two miles for those under eight years (11 years in Northern Ireland) and three miles for those over eight years.

Special educational treatment, either in special schools or otherwise, is provided between the ages of five (or less) and 16 for children who require it on account of any physical or mental handicap, including maladjustment. There are over 800 special schools in the United Kingdom, including hospital schools, day and boarding schools, and boarding homes for handicapped children attending ordinary schools.

School Building

An extensive building programme for education has been undertaken in Britain since the end of the second world war. In the early post-war years, schools, together with factories and houses, were given priority over the claims of less essential forms of building.

Many war-damaged schools had to be repaired or rebuilt. Entirely new schools, both primary and secondary, were needed to provide for the increased number of school children and their longer school life, and for the many post-war housing estates and for the new towns; new buildings were also needed to replace or improve those which, by modern standards, were out of date and ill-equipped. Although 3,900 new post-war schools had been completed in the United Kingdom by June 1957, and over 1,000 more were under construction, much remains to be done.

Advantage is being taken of this opportunity to raise standards in public educational building and to introduce new ideas and methods in the design and construction of schools. Education authorities are using both traditional and new methods of building. Post-war school buildings are light and airy, with an imaginative use of colour and generous provision of practical rooms and space for outdoor games.

Local education authorities are responsible for providing the schools and other buildings needed for public education in their areas, but the central Departments exercise control by approving annual building programmes, framing regulations, fixing cost limits and approving or rejecting the authorities' plans; they also offer guidance to authorities in the form of building bulletins and in other ways.

UNIVERSITIES

There are 16 universities in England, four in Scotland, the University of Wales, and the Queen's University of Belfast in Northern Ireland.

The English universities are: Oxford, Cambridge, London, Birmingham, Bristol, Durham, Exeter, Hull, Leeds, Leicester, Liverpool, Manchester, Nottingham, Reading, Sheffield and Southampton. There is also the University College of North Staffordshire, which is empowered to award its own Bachelor of Arts degree.

The Universities of Oxford and Cambridge date from the twelfth and thirteenth centuries, and the Scottish Universities of St. Andrews, Glasgow, Aberdeen and Edinburgh from the fifteenth and sixteenth centuries. All the other universities were founded in the nineteenth or twentieth centuries.

The Universities of Oxford and Cambridge are each composed of a number of residential colleges. These colleges are corporate bodies governed by their own Fellows and distinct from the university. Most of the Fellows of the colleges are university teachers or officers and the majority of university teachers are also Fellows of colleges. The universities, as distinct from the colleges, own the main libraries, laboratories, and other buildings used for teaching and research.

The other universities in Britain are in the main non-residential and most are non-collegiate. Those which are composed of groups of largely autonomous colleges are London, with over 19,000 students by far the largest of Britain's universities; Durham, which includes King's College, Newcastle upon Tyne; and St. Andrews University, which consists of colleges in St. Andrews itself and in Dundee. The University of Wales comprises the University Colleges of Aberystwyth, Bangor, Cardiff and Swansea, and the Welsh National School of Medicine at Cardiff. The Queen's University of Belfast recognizes Magee University College, Londonderry, for certain arts courses.

The Education Departments have no jurisdiction over the universities, and their relations with them are concerned mainly with the training of school teachers, the provision of extra-mural education, and the award of scholarships from public funds. The universities receive aid from the State mainly in the form of direct grants from the Treasury which, in Great Britain, are made on the advice of the University Grants Committee, a committee appointed by the Chancellor of the Exchequer from persons with experience of university administration and education.

The proportion of university income provided by the Exchequer is increasing and in 1955-56 was over 70 per cent for the United Kingdom. Another 3 per cent was contributed by local authorities, 11 per cent by fees, and the balance by endowments and other sources.

Students

Admission to the universities is by examination and selection; there is no religious test and no colour bar. Women are admitted on equal terms with men, but at Cambridge their numbers are limited by statute (as they were at Oxford until 1957). The general proportion of men to women students is three to one; at Oxford it is six to one, and at Cambridge ten to one.

All universities in Britain limit the number of undergraduates; in spite of the increase in these limits which has taken place since the end of the second world war, the demand for places continues to be very keen and many candidates are unable to gain entrance to the university of their first choice.

In the year 1956-57 there were over 91,000 full-time students at universities or university colleges in the United Kingdom. Although the total shows an increase of 77 per cent over the pre-war number, a further increase to at least 106,000 by the mid-1960s is already planned for Great Britain alone, and still greater expansion is under consideration.

Scholarships and Other Awards

Scholarships and other awards are now very widely available, for it is the national educational policy that no able boy or girl shall be prevented by lack of means from pursuing a university or other advanced course of study. About 75 per cent of university students in Great Britain are now aided from public or private funds.

The Ministry of Education offers over 2,000 State scholarships annually on open competition for full-time honours courses at universities and, in addition, it grants more than 1,000 new supplements a year to winners of open scholarships awarded by the universities and colleges from their own funds. The Ministry also awards 150 technical State scholarships annually. (These and the ordinary State scholarships may be held at a technical college instead of a university for courses of appropriate level.)

Local education authorities in England and Wales make awards to over 12,000 other students each year to enable them to enter a university.

New competitive awards for postgraduate study in arts subjects are being offered by the Ministry of Education annually from 1957. About 250 of these State student-ships are being awarded in the first year, 1957. Postgraduate awards for scientists and technologists are made by the Department of Scientific and Industrial Research (see p. 412) and the research councils.

In Scotland, the power of awarding bursaries and scholarships is confined in the main to the education authorities, who in exercising this power are required to comply with regulations made by the Secretary of State. There are no State scholarships, but the Secretary of State supplements scholarships at English universities won in open competition by Scottish students.

University scholarships in Northern Ireland are awarded by the local education authorities. The Ministry of Education awards State exhibitions. Scholarships awarded by the universities and State exhibitions may be supplemented by local education authorities. Postgraduate awards are made by the Ministry of Education and by the local education authorities.

Studies and Degrees

Courses in arts and science are offered by all universities and, at nearly all universities, courses are available in one or more applied sciences. In the year 1956-57, 43 per cent of full-time university students in Great Britain were taking arts courses and 57 per cent were studying science or technology (including medicine).

University degree courses generally extend over three, or four, years; though in medicine five or six years are required. The first degree of Bachelor (Master in Scotland) is awarded on the completion of such a course, depending on satisfactory examination results. In most universities an 'ordinary' (or 'pass') or an 'honours' degree can be taken, although the majority of students take honours courses. Further study or research is required at the modern universities for the degree of Master and by all universities for that of Doctor. Actual degree titles vary according to the practice of each university; some differentiate between the arts and sciences and some do not. Diplomas and certificates are awarded after shorter courses in some subjects.

The tutorial system of individual tuition to supplement the lecture system is a traditional and valued feature of the Universities of Oxford and Cambridge; it is now being developed in the other universities and colleges of Britain.

Most members of the academic staffs devote some time to research and at all universities there are postgraduate students engaged in research. There has been an expansion particularly of research and study in science and technology in recent years (see pp. 408-9).

University Expansion for Science and Technology

As part of a national programme to expand provision for technological education and research, a large programme of building for science and technology was begun in the universities in 1953. The programme includes extensions to the Imperial College of Science and Technology in the University of London to enable the number of students to be increased from 1,650 to 3,000 by the end of 1962, major developments at Glasgow, Manchester, Birmingham and Leeds Universities, and specialized developments at other universities.

Over and above the large sums required for the expansion of Imperial College, other university buildings of all kinds to the value of about £4.8 million were begun in 1956 and projects to the value of £10.4 million have been authorized to be started in 1957, and of £12 million for each of the years 1958 and 1959. These amounts are only those to be met from taxes and exclude sums collected by the universities towards the cost of their own buildings.

About two-thirds of the additional students who are expected to be in the universities by about 1965 will be students of science or technology.

TECHNICAL COLLEGES

In England and Wales there are over 550 technical or commercial educational establishments, varying from large colleges of technology to small technical institutes. Nearly all are maintained by local education authorities but for a few relatively small and highly specialized industries there are National Colleges and there are also a relatively small number of independent colleges.

Some 80 per cent of the work done in technical colleges is vocational. Most of it is part-time but over 330 (more than half) of the technical colleges in England and Wales (other than art colleges¹) provide for full-time students.

Scotland has 16 Central Institutions for further education of which seven are technical colleges. Five of these have full-time courses leading to their own diploma or associateship, and in some the greater part of the work is full-time. The full-time courses are of three or four years' duration and comparable in scope and standard with university degree courses. There are close ties between the central institutions and the universities. The central institutions, working on a regional basis, are supported by some 50 local technical colleges, providing full-time and part-time day courses, and by evening classes at local centres.

Fees at technical colleges are moderate and many full-time students pay no fees. All local education authorities grant awards to full-time students which cover fees as well as maintenance, and authorities normally place no limit on the number of such awards they are prepared to make, provided the students can show the necessary qualifications.

Technical colleges, in co-operation with industry, provide courses at craftsman level and at intermediate or technician level, as well as at advanced level. One form of advanced course which is gaining favour is the 'sandwich' course. This lasts four or five years and involves alternate periods, usually of three to six months, of full-time theoretical education in a technical college and specially designed practical training in industry.

Most of the part-time work is done in the evenings, but an increasing number of young employees, apprentices and others, are released by their employers to attend technical classes and some general educational classes during working hours, usually for one day a week. The number of these day-release students in Great Britain in 1955-56 was 412,000.

¹ For information on art colleges see pp. 426-7.

Part-time courses for the award of National Certificates are provided by the technical colleges and are approved by joint committees representative of the Education Departments and the professional body, e.g., the Institution of Mechanical Engineers. These courses are normally at two levels—ordinary and higher. Most courses for the ordinary certificate last three years and students usually follow them between the ages of 16 and 19, studying for 150 to 180 hours a year according to the course. A higher certificate takes a further two years' work. Ordinary and Higher National Diplomas are similar qualifications but require full-time instead of part-time study for two or three years.

There are over 300 local technical colleges in England and Wales which provide courses up to the level of the ordinary national certificate and more than 175 area colleges which offer, usually in addition to more elementary courses, advanced courses up to higher national certificate standard, which is, within its range, approximately that of a first university degree.

There is a growing demand for courses of postgraduate standard at technical colleges for students who have already obtained a first degree or a higher national certificate.

A considerable amount of research is carried on in technical colleges; this is often applied research with reference to a local industry.

In Northern Ireland, the system of technical education is similar to that in England and Wales and includes courses leading to national certificates. The Ministry of Education awards junior and senior trade scholarships to apprentices, to enable them to follow full-time courses of study at the Belfast College of Technology. The junior course lasts five months and the senior course eight months.

Expansion of Advanced Courses

In 1956, the Government announced a five-year programme for the expansion of technical colleges, designed to provide for an increase of about half as many again in the number of students completing advanced courses and to double the numbers released by their employers for part-time courses during the day. The cost of the programme, for buildings and equipment, in the five years 1956-61 was estimated at nearly £100 million, comprising £70 million to be spent on buildings and £15 million on equipment in England and Wales, and £10 million for buildings and £2 million for equipment in Scotland.

Part of the Government's programme is to develop a small number of colleges spread over England and Wales as colleges of advanced technology to form the apex of the structure of technical education; these will concentrate entirely on advanced work, including postgraduate and research work. Other colleges will be developed as regional colleges undertaking a good proportion of advanced work. The expansion of advanced courses is being aided by a special higher rate of grant from central government funds, introduced in 1952.

A new national qualification, the Diploma in Technology, has been established and is administered by a new autonomous body called the National Council for Technological Awards. The diploma will be awarded for the successful completion of a course at a technical college approved by the National Council and the courses will be equivalent in standard to university honours degree courses.

ADULT EDUCATION

Besides making provision for part-time vocational studies, local education authorities offer comprehensive opportunities for spare-time non-vocational studies and creative activities. Voluntary bodies are also very active in this sphere.

Evening classes (and some afternoon classes) in a very wide range of subjects, academic, cultural and practical, are provided in technical colleges and evening institutes. Many institutes occupy day-school buildings, but other suitable buildings are often used. Students pay a small fee.

The extra-mural departments of the universities and the Workers' Educational Association and other voluntary bodies organize cultural, non-vocational courses with the aid of grants from public funds. Voluntary bodies with a particular viewpoint, such as the National Council of Labour Colleges and the Co-operative Union, organize adult education courses without grant aid.

There are six residential colleges (five in England and Wales and one in Scotland) directly aided by the Education Departments which provide one-year or two-year non-vocational courses for adult students and, since the end of the second world war, more than 20 residential colleges have been established where adult students can take short courses lasting from a few days to a few weeks. The latter are, with few exceptions, either maintained or aided by local education authorities.

The National Institute of Adult Education provides a centre of information and research on adult education and a means of consultation and co-operation for the many bodies concerned. It is assisted by a grant from the Ministry of Education. The Scottish Institute of Adult Education carries out similar functions in Scotland.

Education authorities have powers to provide community centres for the use of people of all ages. Such centres normally provide a mixture of formal and informal further education. The centres are usually run by community associations, some of which are affiliated to the National Federation of Community Associations.

OVERSEAS STUDENTS IN BRITAIN

Opportunities for students from overseas to come to Britain to study in universities or other educational institutions, or to obtain specialized training in industry or elsewhere, have greatly expanded since the second world war. There are some 35,000 overseas students in Britain, of whom about one-third are at universities, another third at technical colleges, and the remainder training for the law, in industry, or as hospital nurses. In the year 1956-57, Britain's universities contained over 6,750 students from Commonwealth countries overseas and 3,650 students from foreign countries. About 200 British Council scholarships, tenable usually for one year in the United Kingdom, are awarded annually to graduates of overseas universities.¹ Twelve Marshall Scholarships for university study in Britain are offered annually by the United Kingdom Government to graduates from the United States of America, and the universities and colleges themselves offer many scholarships for which graduate students of any nationality are eligible.

Universities and other educational institutions in the United Kingdom annually reserve a proportion of their places for students from the United Kingdom

¹ The *British Council* exists to promote a wider knowledge of the United Kingdom and the English language overseas and to develop closer cultural relations with other countries. It was founded in 1934 and was granted a Royal Charter in 1940. Nine of the 39 members of its Executive Committee are nominated by Government Departments; it is financed almost entirely from public funds, mainly through the Foreign Office. In the Commonwealth it acts directly as the agent of the Commonwealth Relations Office and the Colonial Office. It is usually designated as the Government's principal instrument for the implementation of cultural conventions to which the United Kingdom is a party. The Council maintains staffs who, in about 60 overseas countries, foster English studies, provide regular information on British life and thought and promote knowledge of the scientific, literary and other developments and achievements of the United Kingdom. It arranges study programmes in the United Kingdom for scholars, teachers and other professional visitors from overseas.

Dependencies. In January 1957, there were 12,622 students from United Kingdom Dependencies studying in the United Kingdom, many of them at universities. Of this number, 3,167 held scholarships. Some 600 of them were scholars from Malaya studying in teachers' training colleges set up in the United Kingdom by the Government of Malaya. The chief sources of grants are funds set aside by Colonial Governments (sometimes supplemented by United Kingdom Colonial Development and Welfare funds) and funds provided by public boards and corporations in the territories.

A wide range of public and private fellowships and scholarships for advanced study in Britain are awarded annually to members of Commonwealth countries overseas. Under the Athlone Fellowship Scheme the United Kingdom Government has from 1951 awarded 38 fellowships a year to engineering graduates in Canada for up to two years' further study, training or research in institutions or industries in Britain.

Under the United Nations Programmes of Technical Assistance, by the end of 1956, some 1,900 fellowships and scholarships had been granted for study and training in the United Kingdom. In the year 1956, the United Kingdom provided for more trainees (396) than any other country. The Technical Co-operation Scheme of the Colombo Plan for co-operative economic development in South and South-East Asia was responsible for bringing 1,549 trainees to Britain from ten countries in the six and three-quarter years up to the end of March 1957.

Arrangements for Overseas Students

Various bodies in the United Kingdom, official and unofficial, have assumed responsibilities for the welfare of overseas students.

The British Council maintains student welfare services throughout the United Kingdom and assists many overseas students, especially those from the United Kingdom Dependencies, to find suitable accommodation. The Council maintains a number of overseas student centres in which a varied programme of lectures, discussions, and social and other activities is organized; it introduces students to United Kingdom residents who offer hospitality in their homes; and it runs vacation courses in many parts of the United Kingdom.

Official arrangements for students from United Kingdom Dependencies are supervised by the Students Branch of the Colonial Office, and by Students Units maintained in the United Kingdom by certain of the dependent territories.

Among voluntary organizations making provision for the welfare of overseas students are the National Union of Students, the East and West Friendship Council, Rotary, the Victoria League, the Dominions Fellowship Trust, the Over-Seas League, the Royal Empire Society and Churches of all denominations.

YOUTH SERVICES

The object of the youth services in Britain is to provide for the leisure-time activities of young people and to offer them opportunities—complementary to those of home, formal education and work—for discovering and developing their personal resources, so that they may be better equipped to be responsible members of a free and civilized society. There is no regimentation of young people; they are free to join any of the youth organizations, or none, and the aim is that the facilities for recreation, educational pursuits and social contacts offered should be sufficiently varied to appeal to every type of boy and girl.

Responsibility for youth services is shared by the Education Departments, local

education authorities and numerous voluntary organizations. There is no attempt to impose uniformity or to create anything in the nature of a national youth movement. Youth groups, the oldest-established of which have been active for over a century, have been developed and financed mainly by voluntary effort. Some of them now receive aid from public funds but all retain their independence of action. The practice of democratic self-government has an established place in most youth organizations and service to the community is encouraged. Over two million young people under 21 years of age are members of voluntary youth organizations in Britain.

Many of the youth organizations formed during the nineteenth century are religious in origin and purpose; for example, the *Young Men's Christian Association* (1844), the *Young Women's Christian Association* (1855), the *Girls' Friendly Society* (1875), the *Boys' Brigade* (1883), and the *Church Lads' Brigade* (1891). Later organizations, such as the *Boy Scouts* and *Girl Guides Associations*, which, as movements, have no definite affiliation to a religious body although local groups are often attached to a church or chapel, also recognize the importance of spiritual values in the formation of character and seek to inculcate high ideals of personal conduct and of service to others.

Local education authorities have been indirectly concerned with youth services since 1918, and in 1939 the then Board of Education decided to give active encouragement to youth welfare. The Board urged local education authorities to stimulate the provision of leisure activities for young people, both by co-operating with voluntary agencies and by establishing *Youth Centres* and other recreational facilities of their own. The status of youth services as an essential part of the educational system, thus recognized in 1939, was confirmed by the Education Act of 1944 and the Education (Scotland) Act of 1945.

All local education authorities are required to ensure that adequate facilities for the recreational and social needs of young people exist in their areas. In areas where voluntary youth organizations are well established, local education authorities co-operate with them, for example, by making grants, by offering the use of premises and playing fields, by lending equipment, and by employing youth organizers to help in the development of local youth work; and where existing services are inadequate, the authorities make provision themselves (usually in the form of youth centres and clubs). Most local education authorities have also appointed local youth committees or councils, on which official and voluntary bodies are represented.

In Northern Ireland, in accordance with strong local tradition, youth work is carried out mainly by voluntary organizations, which are eligible to receive financial assistance by way of direct grant from the Ministry of Education for Northern Ireland under the Youth Welfare, Physical Training and Recreation Acts (Northern Ireland), 1938-47. In practice, most of the necessary funds for the support of these organizations are found from voluntary sources. The substantial contribution of the local authorities under these Acts is made mainly in the provision of playing fields, swimming baths and other facilities. In addition, the local education authorities provide further education facilities, under the Education Acts (Northern Ireland), 1947-56, which in some respects approximate to the work of the voluntary organizations.

Twenty-four of the largest voluntary youth organizations, each with an adolescent membership in England and Wales of at least 10,000, belong to the *Standing Conference of National Voluntary Youth Organizations*. The Conference, with which other, smaller, youth groups are associated, was founded in 1936 as a consultative body which takes action only in the name of its constituent members and

with their consent. Its member organizations have a common aim in the development of character through educational and recreational interests, and in the promotion of the physical, mental and spiritual training of their members. Scotland and Northern Ireland have separate Standing Conferences, and there is a Regional Standing Conference for Wales.

In addition, each of the leading political parties maintains a junior organization; and there are a number of bodies which, although not specifically youth organizations, promote the welfare of young people by providing them with opportunities for physical training, holidays, camping and travel.

Contacts with democratic youth movements in other countries are promoted by the *World Assembly of Youth (WAY)*, which was founded in 1949, following a youth conference, held in London in the previous year, at which 25 countries were represented. In 1956 it comprised the National Youth Committees of 53 countries. The British National Committee of WAY includes representatives of most of the leading youth organizations in the United Kingdom.

Finance for youth work is provided by voluntary subscriptions from members of youth organizations and others, by money-raising efforts by members, by contributions from local education authorities and direct grants from the Education Departments, and by grants from charitable trusts such as King George's Jubilee Trust and the King George VI Foundation.

The local education authorities finance youth work under their direct control and also assist the local clubs and branches of voluntary youth organizations. For their expenditure on this work they receive grant aid from the Education Departments.

Direct grants are made by the Education Departments to some national voluntary youth organizations towards the cost of administration and training carried out at their headquarters, and towards capital expenditure incurred by local branches.

For the financial year 1957-58, direct grants by the Ministry of Education to voluntary youth organizations in England and Wales are estimated at £298,000, and direct grants by the Scottish Education Department at £87,000, while local education authorities will spend considerably more than these amounts on youth services. The Ministry of Education for Northern Ireland estimates its expenditure on youth work in 1957-58 at £101,000, and local authorities and local education authorities will spend further sums for this purpose.

Since its inauguration in 1935, King George's Jubilee Trust has contributed over £1 million for youth work, and the King George VI Foundation (created in 1953) has allocated a similar sum to finance three schemes for the provision of youth leadership training courses, national recreation centres and youth hostels. In addition, the Foundation undertook in 1955 to provide £50,000 to finance the five-year experimental period of a nation-wide scheme, the Duke of Edinburgh's Award, designed to encourage young people to attain high standards of achievement in various spheres of endeavour, and to develop their fitness, initiative and determination.

Some Voluntary Youth Organizations

The following examples are selected to illustrate the variety and wide scope of the services and activities provided by voluntary organizations in Britain concerned with the welfare of young people in their leisure hours. Among the other numerous voluntary youth organizations are the *Catholic Young Men's Society*, the *Methodist Association of Youth Clubs* and other religious groups, the *Co-operative Youth Movement*, and the *Welsh League of Youth*.

Scouts and Guides

The *Boy Scouts Association* and the *Girl Guides Association*, which were founded by Lord Baden-Powell in 1908 and 1910 respectively, aim to develop character and good citizenship in boys and girls by training them in habits of observation, self-reliance, self-discipline, loyalty and consideration for others, and by promoting physical fitness and a knowledge of useful crafts. Both associations have worldwide affiliations, and are undenominational and non-political in character.

In March 1957, there were 246,894 Boy Scouts (aged 11 to 15 years), Senior Scouts (15 to 18) and Rovers (over 17½ years) in the United Kingdom. This total includes Sea Scouts and Air Scouts. There were also 254,077 Wolf Cubs (aged 8 to 11 years). At the end of 1956 there were 227,000 Girl Guides in the United Kingdom, including Cadets and Land, Sea and Air Rangers (aged 15 to 21 years). There were also 240,000 Brownies (aged 7½ to 11 years).

Other Uniformed Organizations

The *Boys' Brigade*, founded in 1883, is essentially a Protestant religious organization. Every company is attached to a church, and regular attendance at church is a vital principle. Companies have frequent drill parades, there are club rooms for games and other pastimes, and summer camps are held.

The *Church Lads' Brigade*, founded in 1891, is a similar organization attached to the Anglican Church. Companies are formed in parishes under the direct control of the incumbent. Summer camps are a special feature of the Brigade.

The *Girls' Life Brigade*, founded in 1902, is an inter-denominational organization. Each company is connected with a church or other religious body.

The *National Association of Training Corps for Girls* comprises the *Girls' Training Corps*, the *Girls' Nautical Training Corps* and the *Women's Junior Air Corps*. Each constituent corps, besides its special activities, gives a basic training in physical education, health and hygiene, craftsmanship and public affairs. Cadets are trained for responsibility through personal service.

National Associations of Clubs

The *National Association of Boys' Clubs* and the *National Association of Mixed Clubs and Girls' Clubs* provide recreational facilities for young people designed to develop their mental, physical and spiritual well-being. Discussion groups, handicrafts, drama, music and many other activities are encouraged.

Pre-Service Organizations

Pre-Service organizations, which comprise the *Sea Cadet Corps*, the *Army Cadet Force*, the *Air Training Corps* and the *Combined Cadet Force* (see pp. 110, 114 and 116), have special connections with the respective Service Departments and receive financial grants from them. The training of boys for entry into the armed forces, provided by these organizations, is linked with training to promote their social, educational and physical development.

Young Farmers' Clubs

The *National Federation of Young Farmers' Clubs* (see also p. 171) instructs its members in agricultural subjects and rural crafts, and each club has the support of an advisory committee on which local farmers are represented.

Youth Sections

Youth Sections are maintained by several adult voluntary organizations which have a particular function; for example, the *British Red Cross Society* and the *St. John Ambulance Brigade* train their young members in first aid and home-nursing.

Political Party Youth Groups

Youth groups which are junior branches of the political parties in the United Kingdom are maintained by each of the leading parties to stimulate interest in politics, to spread knowledge of party policy among young people, and to obtain party recruits. Members are encouraged to form debating societies and to engage in other social activities, and they are trained to take an active part in party politics. These groups receive no aid from public funds.

Other Bodies Concerned with Youth Work

Outward Bound Trust

The Outward Bound Trust maintains mountain schools at Eskdale and at Ullswater, in the Lake District, and sea schools at Aberdovey, in North Wales, and at Burghead, Morayshire, in Scotland. In these schools it provides four-week character-building courses for boys, mainly young employees of industrial firms sent at their employers' expense. Since the Trust was founded in 1946, more than 15,000 boys have passed through the Outward Bound Schools. The boys live as a community and are given the opportunity to assess and develop their qualities of courage, endurance, initiative and self-discipline in learning the techniques of sailing or of rock-climbing, by various physical tests, and in expeditions over rough hill country lasting several days. Similar, but modified, courses for girls are held at the National Recreation Centres, Bisham Abbey in Berkshire and Plas y Brenin in North Wales, and occasionally at the Trust's mountain schools.

Youth Hostels Associations

The Youth Hostels Association (YHA), which was founded in 1930, seeks to promote a greater knowledge of, and love for, the countryside. It caters for young people of limited means by providing hostels where they can stay for a small charge when on walking or cycling tours or canoe trips. In 1956, the YHA in England and Wales had a membership of over 192,000; it maintains 286 hostels in England and Wales. The Scottish YHA has 31,000 members and 94 hostels, and the Northern Ireland Association, 4,000 members and 15 hostels. The YHA is linked closely with similar organizations in other countries and, through its International Travel Bureau, it encourages and facilitates the exchange of visits.

The Central Council of Physical Recreation

The Central Council of Physical Recreation, on which the leading voluntary youth organizations are represented and from which they receive practical and advisory services, is grant-aided by the Ministry of Education, by the corresponding Department in Northern Ireland, and by the King George VI Foundation. It was established in 1935 to improve the physical and mental health of the community through physical recreation. The Central Council arranges training courses and provides instructors in games and athletics for young people and adults who wish to learn new forms of physical recreation or to improve their standards under expert tuition, and it plans and judges athletic competitions and organizes demonstrations of sport and physical training. It also arranges training holidays for young people in its three National Recreation Centres. The corresponding body in Scotland, the Scottish Council of Physical Recreation, maintains two National Recreation Centres, and is grant-aided by the Scottish Education Department and the King George VI Foundation.

The National Playing Fields Association

The National Playing Fields Association is a central organization, founded in 1925, with 54 affiliated county and city associations throughout England and Wales,

and branches covering Scotland and Northern Ireland. The Association encourages the provision and preservation of public playing fields and playgrounds for the present and future needs of all sections of the community and advises local authorities and sports organizations on the acquisition, layout, construction and use of grounds. It also keeps a watch on all matters relating to playing fields, endeavours to stimulate recreational activity by grants, publications and persuasion, carries out technical research and pioneers new ideas. The Association has spent over £1 million since its inception in providing public playing fields and playgrounds. It also provides an information service for Commonwealth countries overseas.

XI. HOUSING AND PLANNING

PROBLEMS AND ADMINISTRATION

The problems of housing and of planning the use of land in Britain have their origins mainly in the sevenfold expansion of the population in the last two and a half centuries and its concentration in industrial urban areas. This gave rise to overcrowding in the older houses in the centres of cities and to the unplanned spread of outer suburbs. Overcrowding persisted in spite of a high rate of building in the nineteen-thirties and was aggravated by the second world war which left behind increased needs and new opportunities for housing and planning. New building had virtually ceased for six years, while the United Kingdom population had risen by nearly $1\frac{1}{2}$ million; meanwhile, approximately one house in every three had been destroyed or damaged by enemy action.

Ministerial Responsibility for Housing and Planning

The Minister of Housing and Local Government is responsible in England and Wales for formulating housing policy, for housing standards and for general supervision of the housing programme. In planning, the Minister is responsible for implementing general policy regarding the use and development of land throughout England and Wales, and for the direction and guidance of local planning authorities, the New Towns Development Corporations and the National Parks Commission in the carrying out of their planning functions.

The Secretary of State for Scotland has similar responsibilities in Scotland.

In Northern Ireland, the Minister of Health and Local Government is responsible for housing and planning.

The Ministry of Works acts as production authority in Great Britain for the building industry (see p. 140). The Agricultural Departments are responsible for advising on the agricultural value of land proposed for housing or other development. The Board of Trade is responsible for regulating the distribution of industrial development. An Inter-Departmental Committee on Services' Land Requirements meets to harmonize Service and civilian needs and proposals for land use.

HOUSING

While responsibility for housing policy and for the general execution of the housing programme rests with the Minister (see above), local authorities have executive responsibilities (as set out below) for housing in their areas.

HOUSING AUTHORITIES

In England and Wales and Northern Ireland, the local housing authorities are the councils of county boroughs, boroughs (including metropolitan boroughs), urban

districts and rural districts, the London County Council and the Common Council of the City of London. In Scotland, all town and county councils are housing authorities.

Housing Powers and Duties of Local Authorities

The local housing authorities are responsible for ensuring as far as possible that housing conditions in their areas are satisfactory. They must ensure that all dwellings in their areas comply with certain standards of fitness, design, construction and equipment. Under the Housing Acts they are empowered to provide housing accommodation themselves by erecting houses on land acquired by them, by acquisition of suitable houses, or by the conversion of existing buildings.

Scottish Special Housing Association

The Scottish Special Housing Association, a statutory body, assists local authorities in their housing programmes. It has built about one in eight of the permanent post-war houses completed in Scotland. The Association is financed entirely from Government funds and is under the general direction of the Secretary of State for Scotland.

Northern Ireland Housing Trust

The Northern Ireland Housing Trust, a statutory body, was established in 1945 for the purpose of erecting houses for letting to supplement the activities of local authorities. The Trust has built about a quarter of Northern Ireland's post-war houses.

PROGRESS AND POLICY

There are in all about 15½ million houses in the United Kingdom: 13½ million in England and Wales, 1½ million in Scotland, and nearly half a million in Northern Ireland.

Housebuilding was restarted after the second world war early in 1945. By mid-1957, 2,757,234 new permanent houses had been built in the United Kingdom, besides nearly 160,000 temporary houses (some of which are now being replaced). Many other means have been employed to rehouse the families needing homes, including repair and reconditioning of war-damaged and other dilapidated property and the adaptation and conversion of old houses.

When the most pressing needs for additional accommodation had been met, the local housing authorities were, in 1954, required to prepare proposals for dealing with houses unfit for human habitation, in order to hasten slum clearance; and it is on slum clearance that the main emphasis in local authority housing is now laid. In 1955 and 1956, 76,629 unfit dwellings in Great Britain were demolished or closed pending demolition. A similar campaign was launched in Northern Ireland at the end of 1956.

New Building

The agencies for building houses in Britain are local authorities, New Towns Development Corporations, private builders, certain Government Departments which need to house the families of the armed forces or other services, and housing associations which are non-profit-making bodies providing houses mostly for letting rather than for sale. There are also Self-Help Groups whose members, in their spare time, are building houses to be occupied by group members. Some of these groups are organized as housing associations.

Local authorities (that is, for the most part, private builders under contract to

local authorities) have built about three-quarters of the permanent houses completed since the second world war. In the first post-war period, when resources were very limited and the demand for houses urgent and widespread, local authorities were made responsible for the greater part of the programme. Since the beginning of 1952, private enterprise has been able to build an increasing proportion of the new houses; the restrictions on private building imposed by the post-war licensing system were finally abolished in November 1954.

In 1956, 268,724 new houses were completed in England and Wales, 31,501 in Scotland, and 7,049 in Northern Ireland. Of the United Kingdom total of 307,274, 56 per cent were built by housing authorities and New Towns Development Corporations, 41 by private builders, and the remainder by Government Departments and voluntary housing associations.

Local authority houses are normally built for letting, and privately built houses for owner-occupation. In England, Wales and Scotland, local authority houses may be sold on certain conditions, with the consent of the Minister, to occupying tenants or to persons in need of a house for their own use.

The central Departments have issued manuals of guidance for local authorities setting standards of space, structure, design and equipment for different types of houses, and describing how estates can be laid out attractively while saving land and money, by the use of new and improved types of layout.

A number of new forms of construction for permanent houses have been developed with practical encouragement from the Government during the experimental stage. Some of these new types were steel-framed, some of pre-cast concrete, some concrete poured on the site, and some timber-framed. A number of proved new systems have competed successfully with traditional house-building methods and these have made a considerable contribution to the housing programme.

Slum Clearance

Because of the need to concentrate on providing new houses for families without a separate home of their own, slum clearance was virtually in abeyance for some years after the end of the second world war, and the number of houses demolished was relatively small. With the increase in the number of new houses it became possible, however, to resume the campaign of slum clearance which the war had interrupted.

Returns made by local housing authorities in 1955 indicated that there were about one million slum dwellings in Great Britain which ought to be cleared. In England and Wales, about 850,000, or 6.5 per cent of all houses, were estimated to be unfit for habitation. In Scotland, over 145,000 houses (about 10 per cent of all houses) were estimated to be unfit and due for demolition. Local authorities in England and Wales proposed the demolition of approximately 375,000 houses (44 per cent of all unfit houses) within five years, and Scottish authorities proposed to demolish or close 39,000 houses in three years. Local authorities in Northern Ireland are carrying out a similar survey to establish the number of houses unfit for habitation.

The Government's target for slum clearance in England and Wales, announced in November 1955, is to secure as soon as possible the rehousing of at least 200,000 persons a year from unfit houses, involving the demolition or closure of between 60,000 and 70,000 such houses. An Exchequer subsidy of £22 1s. a year for 60 years (i.e. the duration of the loan period) is payable to the local authority for every dwelling built to rehouse a family displaced from an unfit house.

To help in those areas of Great Britain where the number of slum houses is so large that it would not be practicable to replace all of them within the next few years,

local authorities are empowered to acquire houses unfit for human habitation and to patch them in order that they may be occupied for a strictly limited period pending their demolition. The intention is that these houses should be demolished as early as possible: patching is not intended as an alternative to slum clearance. Exchequer contributions are available to meet part of the costs of acquisition and patching.

Housing authorities are under a statutory obligation to see that other accommodation exists or can be provided by them for persons to be displaced from slum clearance areas. Compensation is not payable for the demolition of a house unfit for human habitation, but, in England and Wales, owner-occupiers and business occupiers may, in certain circumstances, receive payments to alleviate hardship. Payments are also awarded, where appropriate, in recognition of good maintenance. Hardship payments are not provided in Scotland, where the basis of compensation for unfit houses is different, but payments in recognition of good maintenance are available as in England and Wales.

HOUSING FINANCE

The average 3-bedroom house built by a local authority in England and Wales in 1956 had a superficial area of about 912 square feet and cost about £1,470 to build. Trends affecting the cost of building in recent years have been a reduction in size due to the adoption of space-saving designs, and improved productivity to which the greater use of mechanical plant and better organization and management have contributed. These factors have helped to offset increases in wages and cost of materials.

The initial capital cost of houses built by or for local authorities is met by raising loans; current expenditure, including loan repayment and interest on loans, is met from rents, rates and, where available, subsidies. Local authorities may raise loans for housing either in the open market or by borrowing from the Public Works Loan Board (see p. 71).

Funds for private enterprise housing are obtained in the main by borrowing. The chief agencies concerned in lending money are the building societies (see p. 316), insurance companies, industrial and provident societies, and local authorities.

Subsidies

Housing subsidies, at varying rates and for varying purposes, have been provided in Britain since 1919. After the second world war, high rates of subsidy, payable annually for 60 years, were provided under the Housing (Financial and Miscellaneous Provisions) Act, 1946, and the Housing Act, 1952, for all new local authority houses. A standard rate of subsidy was paid for ordinary flats or houses built to meet general needs, and special rates of subsidy were provided for special types of housing (e.g., high blocks of flats and blocks of flats built on expensive sites), houses built for special purposes (e.g., for the agricultural population) and houses in special areas (e.g., poor areas of low rate-paying capacity).

The Housing Subsidies Act, 1956, continued to provide subsidies for special classes of housing but initiated a change of policy. It provided a higher rate of subsidy (£24 a house a year) for houses built to relieve congestion in overcrowded areas, houses built by New Towns Development Corporations and houses built to meet the urgent needs of industry, while continuing at the same rate (£22 1s. a house a year) the subsidy on houses built to replace slums, but it reduced, and provided for the abolition of, the standard subsidy on dwellings built for general needs. The annual subsidy on houses in the last category was reduced to £10 a house and it was

abolished as from November 1956, except in respect of one-bedroom dwellings as an encouragement to the provision of accommodation for elderly and single persons.

For flats, other than those provided for general needs, higher subsidies are payable for blocks of four or more storeys. There is also a subsidy for residential hostels built by local authorities or by certain other bodies.

Housing subsidies are separately provided for in Scotland and Northern Ireland where the amounts are generally higher on account of the different circumstances. Subsidy rates in Scotland were revised under the Housing and Town Development (Scotland) Act, 1957. These include a subsidy of £24 a house a year for housing to meet general needs, with higher rates of subsidy for special needs, particularly houses built to meet the urgent needs of industry and to relieve congestion in overcrowded areas. In Northern Ireland, annual subsidies are paid for 60 years to local authorities, the Northern Ireland Housing Trust and housing associations. The Housing Subsidy Order (Northern Ireland), 1956, altered the basis on which subsidy is paid, and prescribed a subsidy higher than the standard rate in respect of houses for persons displaced from slum houses. In addition 'lump sum' subsidies are paid to private persons who build houses for letting or for owner-occupation. Under the Housing on Farms Act (Northern Ireland), 1950, grants are available for the provision of new houses and for the reconditioning of existing premises to accommodate farmers and approved workers.

The cost of housing subsidies in the United Kingdom for the calendar year 1956 was £107 million (£78 million paid by the central Government and £29 million paid by local authorities).

House Purchase Schemes

Loans to enable persons to buy their houses by a system of instalment purchase are provided by many local authorities as well as by building societies, certain insurance companies and other financial institutions.

Many local authorities also operate a scheme whereby, for a house costing up to £2,500, they guarantee part of the loan made by a building society so that an advance greater than normal (up to 95 per cent of the value of the house in some cases) may be made to the purchaser. The Exchequer undertakes to share any liability local authorities may incur under this scheme.

Improvement Grants

The Housing Act, 1949, provides Exchequer assistance for the improvement of existing housing or adaptation of buildings for housing by local authorities or private owners in England and Wales. Grants can be made by local authorities, with Exchequer assistance, to persons converting or improving existing buildings for housing at a cost of over £100 a dwelling. The grants may amount to half the cost, with a maximum grant of £400. There are certain technical conditions which the dwellings as improved or converted must satisfy to ensure that public money is only spent on property that will provide satisfactory accommodation for a sufficiently long period. The Housing Repairs and Rents Act, 1954, considerably eased the conditions attaching to these grants. Similar provisions apply in Scotland and are contained in the Housing (Scotland) Act, 1950, and the Housing (Repairs and Rents) (Scotland) Act, 1954.

Rent Control

The great majority of the privately owned houses in Great Britain which are let are subject to rent control. Houses owned by local authorities, New Towns

Development Corporations, housing associations, and the Scottish Special Housing Association are, in general, free from control, as are new houses completed since 30th August, 1954.

In the autumn of 1956, the Government announced a policy of progressive abolition of rent control on the grounds that the existing system led to deterioration and wasteful use of the nation's stock of housing accommodation.

The first Rent Restrictions Act was passed in 1915. The Acts now in force, either wholly or in part, are the Rent and Mortgage Interest Restrictions Acts, 1920 to 1939, the Landlord and Tenant (Rent Control) Act, 1949, the Housing Repairs and Rents Acts, 1954, and the Rent Act, 1957.

These Rent Restrictions Acts, which apply, with few exceptions, to all unfurnished dwellings below a certain rateable value, limit the rent a landlord may legally recover from a tenant, while at the same time giving the tenant in most circumstances security of tenure. The Acts also make illegal most premiums for the grant of a tenancy of rent-controlled premises. Landlords restricted in this way are themselves protected against undue increases in rates of mortgage interest and against the calling in of mortgages so long as they pay the restricted interest due. The Housing Repairs and Rents Acts, 1954, allowed landlords to increase their rents to pay for repairs, subject to certain conditions and to a maximum limit.

The Rent Act, 1957, establishes, for houses which remain in control in England and Wales, revised rent limits more in keeping with the current value of money and the cost of maintenance, and permits in Scotland an increase in controlled rents subject to certain conditions. It provides that new unfurnished lettings should be free of control, whether of the 4½ million houses now in owner-occupation, or of houses at present controlled which fall vacant and are re-let. In addition, over 800,000 houses let at controlled rents are released from control by the lowering of the limits of rateable value below which rented houses are subject to control.¹ The Act provides for the de-control from time to time of further categories of houses by Order, subject to approval by Parliament. The Act provides for certain exceptions and safeguards for the protection of tenants.

In England and Wales, the rents payable for houses, or parts of houses, let furnished or in which services are provided, are controlled by the Furnished Houses (Rent Control) Act, 1946. The Rent Act, 1957, provides that if the premises let unfurnished would be above the rateable value limits for control, they should not, if let furnished, come within the scope of the Act of 1946. Local rent tribunals, appointed for the purpose, determine the rents of furnished lettings in cases referred to them by either party or by the local authority. Similar legislation for controlling rents of furnished lettings was passed for Scotland in 1943.

Somewhat similar measures of control apply in Northern Ireland. In 1951, however, legislation was passed which permitted prescribed increases in the rent of controlled houses, provided they were maintained in good repair; and the Housing (Miscellaneous Provisions) and Rent Restriction Law (Amendment) Act (Northern Ireland), 1956, provided for an increase of one-third in the rent levels fixed by the 1951 Act where the landlord had recently incurred expenditure of a certain amount on repairs. The 1956 Act also released from control houses with a net annual value of over £50 (with certain safeguards) and houses with a net annual value of over £26 of which the landlord was in actual possession when the Act came into force, or of which he subsequently obtained possession.

¹ The limits under the Act are £40 a year in the London Metropolitan Police District and Scotland and £30 a year elsewhere. For definition of rateable value see p. 71.



an art class at a London secondary school.



Diphtheria immunization at a health centre. Deaths from diphtheria have fallen to about 10 a year in Great Britain (see p. 365).



The rebuilt city centre of Coventry seen from the Cathedral tower.

Bungalows for old people in the new town of Hemel Hempstead, Hertfordshire: they are within easy reach of the neighbourhood centre. Fifteen new towns are being built (see p. 394).



In Stepney, East London, modern flats are replacing outworn houses. This is part of a national slum clearance campaign (see pp. 387-8).

TOWN AND COUNTRY PLANNING

The land of Britain is one of the most densely populated areas in the world and it is therefore of vital importance in the public interest that competing claims to its use should be settled in such a way that the necessary balance between them is maintained.

From 1909 onwards, the idea of the planned use of land was given a degree of expression in successive Acts of Parliament, but because the pattern of development over much of the country had already hardened into large unplanned urban concentrations (as a result of the industrialization processes of the previous century) the powers granted to planning authorities by the early Acts were inadequate for the task in hand.

The twenty years between the two world wars were decades of expansion in industry, engineering and house-building; population was increasing, and there was a general movement towards better standards of living, and consequently a greater need for systematic planning than had hitherto been required. At the beginning of the nineteen-thirties, a major effort was made to consolidate and strengthen planning law and to extend the planning powers of central and local authorities to the point at which they could exercise effective control. Despite this effort, which culminated in the Town and Country Planning Act, 1932, inter-war planning legislation had only a limited effect, mainly because it failed to deal adequately with the question of compensation, which had always been an obstacle to satisfactory planning. By the nineteen-twenties, the principle had been accepted that the property of an individual might be subjected to restrictions in the public interest, provided that he received some compensation out of public funds for any deprivation (which went beyond the requirements of good neighbourliness) that he might suffer thereby. The method adopted for implementing this principle, however, placed so heavy a financial burden on planning authorities that they were often prevented from, or at least hampered in, carrying out their work. As a result, at the time of the outbreak of the second world war, many of the outstanding problems of land use remained unsolved.

Renewed efforts were made to deal with these problems during the course of the war. Between 1937 and 1942 three expert committees were appointed to study and report upon (1) the unregulated growth and spread of industry, (2) the hampering of planning by the financial and administrative difficulties of compensation and betterment and (3) the encroachment of urban development upon the countryside. After the war, other committees studied the question of New Towns and National Parks.

Almost all the principal planning recommendations of these committees have now been incorporated in Acts of Parliament, as follows: the Distribution of Industry Act, 1945; the New Towns Act, 1946; the Town and Country Planning Act, 1947; the Town and Country Planning (Scotland) Act, 1947; the National Parks and Access to the Countryside Act, 1949; the Town Development Act, 1952; the Town and Country Planning Act, 1953; the Town and Country Planning Act, 1954; and the Town and Country Planning (Scotland) Act, 1954.

The Town and Country Planning Acts

The Town and Country Planning Act, 1947, and the Town and Country Planning (Scotland) Act, 1947, are comprehensive and radical measures which provide a framework or pattern of land use for the whole of Great Britain.¹

¹ For an account of town and country planning legislation in Northern Ireland, see p. 398.

Their main purposes are:

1. To co-ordinate planning throughout the country by means of development plans against which day-to-day development can be considered.
2. To bring development (with certain exceptions) under control by making it subject to the permission of a local planning authority or of a central Government Department.
3. To extend both the powers of public authorities to acquire and develop land for planning purposes and the scope and scale of grants from central funds to local authorities towards carrying out the acquisition and clearing of land.
4. To deal with certain specific amenity problems, e.g., the preservation of trees and woodlands and of buildings of special historic or architectural interest, and the control of the display of advertisements.

The 1947 Acts were also intended to solve the compensation-betterment problem; and, to this end, they provided for the transfer of development values in land to the State, the establishment of a system of 'development charges' payable before development could take place by any person whose land was increased in value by the grant of planning permission to develop, and the setting up of a £300 million fund from which payments could be made to owners whose land was depreciated in value by the passing of the Acts. It was hoped that by these provisions the pre-war obstacles to effective planning might be removed; but, in the event, serious difficulties were encountered in the working of the system, due mainly to the fact that the development charge became in effect a tax on development. The financial provisions of the 1947 Acts have therefore been amended in three subsequent Acts: the Town and Country Planning Act, 1953, which abolished the development charges and suspended payment from the £300 million fund; and the Town and Country Planning Act, 1954, and the Town and Country Planning (Scotland) Act, 1954, which provided a new scheme for the payment of compensation for depreciation in land values and a new basis of compensation for public acquisition. Under the terms of the Acts, claims for compensation out of the £300 million fund form the basis for all future compensation payments, but payments will not actually be made unless and until loss is suffered. Since development charges have been abolished, owners will normally be able to realize the full value of their land on the open market and compensation will, in fact, become payable only when land is acquired by a public authority or restricted against development. On compulsory acquisition, compensation is paid for development value only if a claim on the £300 million fund had been established or could have been established, if made, and up to the value of the claim. Loss of development value through the imposition of planning restrictions, other than restrictions in the interests of 'good neighbourliness', is to be met by the State, in order that local planning authorities shall continue to be relieved of the burden of paying the compensation for which they were responsible until the passing of the 1947 Acts.

The 1954 Acts also provide a transitional system of payments, again based on claims, to redress the financial effects on owners of land of the provisions of the 1947 Acts and also a simplified and extended system of planning grants to local planning authorities to replace that of the 1947 Acts.

Development Plans

Under the terms of the 1947 Acts, local planning authorities in England and Wales and in Scotland are required to prepare, and submit to the Minister of

Housing and Local Government and to the Secretary of State for Scotland respectively, development plans covering the whole of their districts, based on a survey of physical and other resources; by the end of 1956, all but two of those in England and Wales and more than half of those in Scotland had already done so, and about two-thirds of the plans in England and Wales, and 30 plans in Scotland, had been approved. The local authorities for the purpose are: in England and Wales, the county councils, the county borough councils, or, where necessary, joint planning boards; and in Scotland, the councils of counties and of large burghs, and the councils of the two small burghs of St. Andrews and Thurso. Provision is made in the Acts for public inquiry before any plan receives ministerial approval, so that persons whose land is affected may have an opportunity to state their case; and for a five-yearly revision of development plans. By the end of 1956, 11 plans had been approved without the need to hold an inquiry or hearing, and 85 inquiries and two hearings had been held, which varied in duration from one day to several weeks.

Individual plans for the reconstruction of parts of many of the large towns and cities in Great Britain have also been drawn up and approved, and in many cases considerable progress has been made. For example, by the end of October 1956, in the City of London, projects valued at over £24 million had been completed, work valued at nearly £32 million was under construction and some £17 million worth of building had been commissioned.

The Distribution of Industry

The Distribution of Industry Acts, 1945 and 1950, and the Town and Country Planning Acts, 1947, contain provisions to control the general location of industry throughout the country (see pp. 134-5).

General problems of industrial development are dealt with jointly by a number of Government Departments, but the main responsibility for controlling the siting of industry as apart from its general location rests with the local planning authorities, for it is their duty to ensure that industrial development fits properly into existing and expanding communities and is consistent with the best use of land.

The New Towns

The New Towns Act, 1946, gives the Minister of Housing and Local Government and the Secretary of State for Scotland, who are the responsible ministers, powers to make an order designating any area of land (which may include as its nucleus the area of an existing town) as the site of a proposed new town after consultation with the local authorities concerned, and if it is in the public interest to do so. Once the site has been designated, the responsible minister appoints a Development Corporation (consisting of a chairman and up to eight other members) to be responsible for the development of the new town. One of the first tasks of the development corporation is to prepare a master plan which becomes the basis for development proposals, each of which covers a part of the area. Every proposal must be submitted to the responsible Minister who must consult the local planning authority and, together with the Treasury, must be satisfied with the proposal on economic grounds before giving approval.

The development corporations have powers in general (subject to the consent of the Minister of Housing and Local Government or the Secretary of State for Scotland) to acquire, by agreement or compulsory purchase, any land or property necessary for their purposes. They may provide housing, commercial and industrial premises, estate roads and sewers and other buildings essential for the development

of the towns; and, in certain circumstances, they may make provision for main services. In England and Wales, the Minister of Housing and Local Government has made a special development order to exempt the development corporations from the necessity of obtaining planning permission from the local planning authorities; but in Scotland, in the absence of a similar order, permission to develop has to be obtained from the local planning authority.

The capital cost of developing the new towns is advanced to the corporations from public funds and must be repaid on terms approved by the ministers with the concurrence of the Treasury. The corporations must submit their reports annually to the Minister or to the Secretary of State for Scotland, who are responsible for laying them before Parliament; the accounts of the corporations must be audited annually and are then presented to Parliament by the Comptroller and Auditor General.

Fifteen new towns are coming into being in Great Britain (see map, p. 395)—twelve in England and Wales and three in Scotland. Eight of the new towns in England and Wales—Basildon and Harlow in Essex; Hemel Hempstead, Stevenage, Hatfield and Welwyn in Hertfordshire; Crawley in Sussex; and Bracknell in Berkshire—are designed to help in absorbing excess population from the Greater London area; four others—Corby in Northamptonshire; Aycliffe and Peterlee in Durham; and Cwmbran in Monmouthshire—are to serve the special needs of their areas. Of the Scottish new towns, East Kilbride in Lanarkshire and Cumbernauld in Dunbartonshire are being established to assist in housing the surplus population from Glasgow; while Glenrothes in Fife provides housing and other facilities for miners and their families transferring to an area where mining activities are steadily expanding.

In spite of the fact that the development corporations have been somewhat handicapped by shortages of materials and labour and by restrictions on capital investment, their work represents a notable achievement in the translation of planning into reality. By the end of June 1957, the total population of the new towns in England and Wales, designed to be 550,000 when the towns are completed, had reached an estimated total of 315,000 (including the people previously living in the area); 53,790 houses had been built by the development corporations, and a further 9,780 were under construction; 270 factories had been established and a further 42 were being erected; 837 shops had been completed, and 439 more were being built; 90 schools had been finished and 26 more were under construction. Many miles of roads had been laid, and large main sewerage works had kept pace with domestic and industrial needs.

In the Scottish new towns, by the same date, the population, eventually to be 125,000, had reached an estimated figure of just over 32,000; 6,560 houses had been built, with a further 1,696 under construction; 71 shops had been completed and 42 were under construction; nine new schools were in use and the building of one more was in progress; and the extension of communications and public services was under way.

Under the New Towns Acts of 1946, 1952, 1953 and 1955, Parliament approved a consolidated fund of £250 million to provide for advances to the development corporations for work on the new towns. By the end of June 1957, £215 million of expenditure from this amount had been approved by the Minister of Housing and Local Government and the Secretary of State for Scotland.

National Parks and Access to the Countryside

The National Parks and Access to the Countryside Act, 1949, provided for the designation of a number of extensive areas of beautiful country in England and

New Towns National Parks & Forest Parks



Wales as National Parks. It was laid down that the characteristic landscape of these areas was to be carefully preserved, and that facilities for open-air recreation were to be improved or provided.

A National Parks Commission for England and Wales was set up by the Act of 1949, and by June 1957 its work had resulted in the establishment of ten of the 12 National Parks recommended by the National Parks (England and Wales) Committee, which reported in 1947.

The established parks are: the Peak District, the Lake District, Snowdonia in North Wales, Dartmoor in Devon, the Pembrokeshire Coast, the North York Moors, the Yorkshire Dales, Exmoor in Somerset and Devon, Northumberland (comprising most of the upland country from the Cheviots in the north to the Roman Wall in the south), and the Brecon Beacons in South Wales (see map, p. 395). These parks cover a total area of 5,248 square miles, or one-eleventh of the area of England and Wales. The administrative arrangements for the parks are as follows: the Peak District and Lake District National Parks are administered by Joint Planning Boards; for Dartmoor, the Pembrokeshire Coast, the North York Moors and Northumberland, special Park Planning Committees of the county councils concerned have been set up; while in Snowdonia, the Yorkshire Dales and Exmoor there are special Park Planning Committees of each of the constituent county councils concerned with the parks under the general supervision of a Park Joint Advisory Committee.

Under the provisions of the 1949 Act, the Commission was also given authority to select other, less extensive, areas in England and Wales for designation as 'areas of outstanding natural beauty' in order to keep them unspoiled. By the end of June 1957, three such areas had been established, another had been designated, and proposals for a further nine were under consideration.

A Scottish National Parks Working Party has considered all five areas recommended as National Parks in Scotland—the Trossachs, Glen Affric, the Cairngorms, Wester Ross (Loch Maree) and Glen Coe—with a view to their possible development under existing statutory powers, and has submitted to the Secretary of State for Scotland a report on each of these areas.

In addition to the establishment of National Parks, the Act provided that a complete survey should be made of all footpaths and bridle-ways in England and Wales to be a comprehensive national record of public rights of way and that long-distance routes should be created, which by connecting existing footpaths and bridle-ways would become continuous rights of way. Individual surveys of footpaths are being carried out by parish and county district councils; on completion, they are collated and published by the county councils. Responsibility for making proposals for long-distance routes rests with the National Parks Commission; once the proposals are approved by the Minister of Housing and Local Government, it falls to the local authorities to give effect to them. By the end of June 1957, the National Parks Commission's proposals for the creation of five routes, covering some 850 miles, had been approved (see map, p. 395); progress had been made by means of surveys, cairn building and footpath agreements, towards their completion; and discussions were taking place between the Commission and the relevant local authorities regarding the establishment of several more routes of this kind.

The Act also gives local authorities the task of surveying in their areas the access enjoyed by the public to open country, i.e. mountain, moor, heath, down, cliff and beach, and empowers them to improve such access, where necessary, by means of agreements with owners or by access orders. By the end of 1956, agreements granting access to some 12,000 acres, mainly in the Kinder Scout area of the Peak District, had been drawn up, and further negotiations are in progress.

Nature Conservation

The responsibility for nature conservation rests with the Nature Conservancy (see p. 414), which derives the necessary powers for the proper discharge of its functions from the National Parks and Access to the Countryside Act, 1949. These functions (the provision of advice, the practice of conservation, and the stimulation and conduct of research) entail the acquisition and full control of a representative series of Reserves, as well as the establishment of laboratories (see p. 414).

Fifty-six Nature Reserves, covering 121,823 acres, had been declared by the end of June 1957, of which 34 are in England, 15 in Scotland and 7 in Wales: of these, the Cairngorms, which covers 39,639 acres, is the largest Reserve in Great Britain and one of the largest in Europe. Two Forest Nature Reserves have been set up, in agreement with the Forestry Commission and the Commissioners of Crown Lands, to be managed in the interest of ecological research and of timber production.

In addition to national Nature Reserves and Forest Nature Reserves, there were, by end-June 1957, six local Nature Reserves, established and administered by local authorities, in consultation with the Nature Conservancy, using their own powers under the Act. For information on the National Forest Parks, see pp. 180 and 181.

The Government is empowered, under the Bird Protection Act, 1954, to establish bird sanctuaries¹ in Great Britain. The first sanctuary was established in October 1955; since then, three more have been established, one in England and two in Scotland.

Preservation of Amenities

Responsibility for the preservation of the historic, scenic and architectural beauties of Great Britain (from tree preservation and the preservation of ancient inns to the prevention of atmospheric pollution, see p. 182) is vested mainly in the Minister of Housing and Local Government, the Secretary of State for Scotland, and the various statutory planning authorities and commissions. The Ministry of Works, however, is also concerned, in that it is the Department responsible for the maintenance of royal parks and palaces and, in addition, is empowered by the provisions of the Historic Buildings and Ancient Monuments Act, 1953, to assist in the preservation of historic houses by making grants (after consultation with specially constituted Historic Buildings Councils, see p. 428) for their upkeep together with their contents and their adjoining land. By July 1957, grants totalling £1,272,241 had been approved towards the cost of urgently needed structural repairs to 425 historic buildings in England, Scotland and Wales.

Unofficial amenity societies, wholly dependent upon the support of their members, include: the Council for the Preservation of Rural England, founded in 1926 to organize concerted action to secure the protection of rural scenery and of town and country amenities from disfigurement or injury; the Association for the Preservation of Rural Scotland, founded in 1927 for the protection of rural scenery and the amenities of country districts and towns and villages in Scotland; the Commons, Open Spaces and Footpaths Preservation Society; the Ramblers' Association; the Society for the Protection of Ancient Buildings; the Pilgrim Trust²; the National Trust for Places of Historic Interest or Natural Beauty in England, Wales and Northern Ireland; and the National Trust for Scotland.² The

¹ Other bird sanctuaries have existed in Britain for many years, in the care of naturalist societies and other bodies.

² For further information on the Pilgrim Trust, see p. 424; and on the National Trust for England, Wales and Northern Ireland, and for Scotland, see p. 428.

National Trust for England, Wales and Northern Ireland (which was founded in 1895 and by the end of 1956 had nearly 61,000 members) is the largest landowner in the United Kingdom other than the State and State institutions. It has acquired, mainly through gifts, about a thousand properties, which it holds for the enjoyment of the public; it administers over 250,000 acres of land of great natural beauty (including 31,000 acres of woodland); and it owns many fine gardens. The National Trust for Scotland, which was founded in 1931 to promote the preservation of places of historic or architectural interest or of natural beauty in Scotland, for the benefit of the public, now has under its care some 60 properties, covering in all about 55,000 acres.

Planning in Northern Ireland

Town and Country Planning in Northern Ireland is governed by two enactments: the Planning and Housing Act (Northern Ireland) 1931, and the Planning (Interim Development) Act (Northern Ireland), 1944.

The Act of 1931, which continues to be the main source from which power to prepare a planning scheme is derived, provides for the preparation by local authorities of planning schemes for development or redevelopment of their areas, with the general object of securing proper sanitary conditions, amenities and conveniences in connection with the laying out and use of land. The Interim Development Act of 1944 enables persons wishing to carry out development to do so without delay, while ensuring that such development shall conform to the provisions likely to be included in the planning scheme for the area.

The provisions of the Act brought under planning control all land in Northern Ireland and required every local authority to prepare a planning scheme for its area. Interim control is exercised in accordance with the section of the Act which requires that, where application is made to an authority for permission to develop, the authority may grant the application conditionally or unconditionally or may refuse it altogether. In the event of a refusal or conditional approval, the applicant has a right to appeal to the Ministry of Health and Local Government for Northern Ireland (which is the Department primarily responsible for the administration of the Planning Acts).

Since the Act of 1944 was passed, all local planning authorities in Northern Ireland have made appreciable progress in the preparation of outline plans which indicate broadly the proposals for their areas. The outline plans not only provide a foundation for the preparation of more detailed plans at a later stage but also facilitate materially the work of interim development control. Many interim development applications have been decided by local planning authorities, and appeals lodged with the Ministry have been relatively few.

XII. RELIGION, SCIENCE, AND THE ARTS

RELIGION

Every person living in Britain possesses the rights of religious freedom as described in Article 18 of the Universal Declaration of Human Rights: he may change his religion at will and may manifest his religion in teaching, practice, worship and observance. Churches and religious societies of any faith may own property, conduct schools and propagate their faith in speech and writing.

Freedom of conscience for minority religious groups and for non-religious groups has been achieved gradually and not without a struggle. Legal insistence on strict conformity with the established church was first modified over 250 years ago with the passing of the Toleration Act of 1689, which granted freedom of worship to Protestant dissenters. In 1829, the repeal of the Test and Corporation Acts freed non-conformists from political disabilities, and made it possible for them to be appointed to public offices. Roman Catholics gained political emancipation under the Roman Catholic Relief Act, 1829; the Jewish Relief Act, 1858, enabled Jews to become members of Parliament; while religious tests that had been imposed on prospective students and members of the academic staff of the universities of Oxford and Cambridge were successively abolished by the Acts of 1854, 1856 and 1871. Nowadays, public offices are open without distinction to members of all religious groups or of none.¹

The Church of England

The Church of England is the established Church, and claims to be the ancient Catholic Church of the land. At the Reformation it repudiated the supremacy of the Pope, but retained the historic episcopate, the creeds, the sacraments, and the appeal to Scripture, upon which its doctrine is based: therefore it claims to be both Catholic and Reformed. Its form of worship is embodied in the Book of Common Prayer, which was first compiled in 1549. Religious Orders were restored a hundred years ago.

No single law defines the establishment of the Church of England in any such way as, for example, the Treaty of Union, 1707, defines the position of the Church of Scotland. The relation of Church and State in England is one of mutual obligations: of privileges accorded to the Church but balanced by certain duties.

The Church of England is uniquely related to the Crown. The Sovereign, who must be a member of the Church of England, is called 'Defender of the Faith' (a statutory title as protector of the Church) and promises on his or her accession to uphold it. The coronation of the Sovereign is performed by the Archbishop of Canterbury, Primate of all England; prayers for the Sovereign and other members of the Royal Family are said in all the statutory services of the Church; all bishops

¹ An exception is that the Lord Chancellor may not be a Roman Catholic.

and deans are appointed by the Sovereign on the advice of the Prime Minister; and all the clergy take the oath of allegiance to the Crown.

The second link of Church and State is through the House of Lords, in which the two archbishops of Canterbury and York and 24 bishops have seats. This makes it possible for the views of Church leaders to be expressed freely on any great moral issue raised in connection with the corporate conduct of the State, as well as on more narrowly ecclesiastical issues—a matter of particular significance in view of the fact that clergy of the Church of England are legally disqualified from sitting in the House of Commons, and that the Church is therefore not specifically represented in that House.

The State recognizes and protects church property, but it makes no payments to the Church except for services rendered (e.g., chaplaincies to the armed forces and to prisons). Church property belongs to parishes, dioceses or church societies. An investigation in 1951 showed that half the Church's income came from present giving and half from past giving, in the form of endowments. Endowments produced an income of £8½ million a year and, of this total, property representing an annual income of £7 million was administered by the Church Commissioners, most of it for specific purposes from which it could not be transferred. Property administered by the Church Commissioners at the end of March 1956 produced a gross income of approximately £11 million a year, but there may be other factors affecting the aggregate which any new inquiry would have to take into account. The Commissioners include representatives of the State (including four laymen nominated by the Crown), and present an annual report to Parliament.

The Church of England is not free to change its forms of worship, as laid down in the Book of Common Prayer, without the consent of Parliament. In 1928 a proposed revision was approved for submission to Parliament by the Church Assembly and the Convocations of Canterbury and York (see below), though with substantial minority opposition, but it was rejected by the House of Commons. A church-appointed commission on Church-State relations, which reported in January 1952, suggested certain changes in the relations between Church and State, but was opposed to disestablishment; its report was unanimously accepted by the Church Assembly.

The Church is organized mainly by geographical areas (dioceses subdivided into parishes), and not by congregations. Everyone in England is born in a parish—about two-thirds being baptized by the established Church to which the great majority tend to look for personal services (baptism of children, marriage and burial), and which is expected to play a part in local life. Only those who are baptized and confirmed may receive the Holy Communion, but anyone who is baptized and not a member of another Church and who is over 17 years of age may apply for membership of the electoral roll of the parish where he or she habitually worships. The number on the roll is just under 3 million, but this figure by no means represents the total Church membership.¹

Spiritual authority in the Church of England rests in the bishops. There are 43 dioceses, 29 in the province of Canterbury and 14 in that of York. The most ancient authoritative bodies in the Church in matters of doctrine and discipline are the Convocations of Canterbury and York. Each is presided over by its archbishop and consists of an upper house of bishops and a lower house of deans, archdeacons and elected clergy. The Houses of the Convocations meet separately or together in May and October.

¹ No inquiries are made about religious beliefs in population censuses or other official returns, and for this reason, no uniform basis exists for assessing the exact number of adherents to the various Churches, which adopt different criteria in counting their members.

The Church of England has its own ecclesiastical courts (see p. 80), which exist for disciplining the moral and ecclesiastical offences of the clergy, for granting faculties for alterations in churches, and for dealing with questions of repair to church fabric and with disputed rights to pews. They have no power to award damages or grant injunctions or, except as regards certain minor offences, to inflict any of the punishments open to the temporal courts. The remedies open to ecclesiastical courts are monition, suspension *ab ingressu ecclesiae*, penance and excommunication; and against the clergy, further remedies such as suspension from office or benefice, deprivation of benefice, inhibition from exercising the cure of souls, deposition or degradation. Sentences passed by the ecclesiastical courts¹ are upheld by the State. The highest court of appeal against such sentences is the Judicial Committee of the Privy Council.

In 1919, by Act of Parliament, the Church of England was given a National Assembly, commonly called the Church Assembly. This consists of three houses, Bishops, Clergy and Laity. The Laity (347 in number, including 95 women) are elected on the basis of the electoral rolls to represent their dioceses. The Church Assembly may pass regulations and measures. Regulations affect matters which do not require parliamentary consent: for example, the Diocesan Conferences were set up in 1935 by regulation. Measures, when passed through successive stages, are presented to an Ecclesiastical Committee of both Houses of Parliament, consisting of 30 members, 15 of whom are appointed by the Lord Chancellor, and 15 by the Speaker of the House of Commons. This committee reports on the expediency and possible legal results of the measure; and on its advice, the measure is either laid before Parliament and forwarded on resolution for the Royal Assent, or more rarely, is the subject of debate like any other Bill.² The advantages of this procedure to the State are the removal of the greater part of church business from its overcrowded debating time; the advantages to the Church are the initiation, discussion and framing of necessary matters by a representative church body and their speedy passing into operation.

The Assembly co-ordinates the vast scattered labours of the Church through Councils which report to it annually. The Training Colleges Council is concerned with 27 colleges in England and Wales for the training of teachers—an indication of the part played by the Church in the country's educational system. The Schools Council, in co-operation with the Church Assembly, deals with matters affecting the church schools. The Central Advisory Council of Training for the Ministry arranges for recruitment to the ministry in schools, colleges, universities and, among older men, for the selection of ordination candidates for training in accordance with plans approved by the bishops; and for the inspection of theological colleges, of which there were 24 in England at the end of 1956.

At the time when the Church Assembly was set up, the Laity were associated in the government of the local churches through elected bodies, the Parochial Church Councils.

Anglican Communities

In the United Kingdom, there are unestablished Anglican Churches in Ireland, Scotland and Wales: the Church of Ireland (disestablished in 1869) has 14 dioceses or united dioceses, and some 478,000 members; the Episcopal Church in Scotland, 7 dioceses and some 116,000 members; and the Church in Wales (disestablished in 1920) 6 dioceses and some 200,000 Easter communicants.

¹ Procedure in ecclesiastical courts is now under review.

² Parliament has no power to amend a measure of this kind; but it may reject it altogether.

Outside the United Kingdom the Anglican Communion exists wherever Englishmen have gone as settlers, traders and missionaries. The Protestant Episcopal Church in the United States of America, the Church of India, Pakistan, Burma and Ceylon, and the Anglican Churches of South Africa, Canada, Australia, New Zealand, the West Indies, China, Japan, the Middle East, West Africa and Central Africa are all autonomous members of the Anglican Communion, while there are 21 overseas dioceses, mainly in Africa and Asia, which are under the jurisdiction of the Archbishop of Canterbury. In addition, terms of limited inter-communion with the Church of South India, similar to those already existing between that Church and the Church of India, Pakistan, Burma and Ceylon, were laid down in resolutions passed by the Convocation of Canterbury in 1955.

Since 1867, except for the war years, the Lambeth Conference has met every tenth year as an unofficial consultation between all Anglican bishops; the next meeting is to be held in July and August 1958. The conference has no authority, but enjoys great moral prestige, and its findings on doctrine, discipline, relations with other communions, and on the attitude of the Churches to political and social questions are widely studied. A periodic Anglican Congress (which includes clergy not in episcopal orders and laymen as well as bishops) is held in the years between the Lambeth Conferences. The first took place at Minneapolis in the United States in 1954; it is expected that each future congress will be held in a different country.

The Church of Scotland

The established Church in Scotland is the Church of Scotland, which in government is Presbyterian. It has been described as 'the supreme example of a Church which is established and yet is free'. Its position, defined in the Treaty of Union, 1707, was further safeguarded by the Church of Scotland Act, 1921.

Whereas in Episcopacy, church government is a hierarchy of persons, in Presbyterianism there is a hierarchy of courts. All ministers are of equal status, and each of the 2,289 churches is governed locally by a Kirk Session, consisting of the minister and elected elders (of whom there are over 42,000 in all): above this is the Court of the Presbytery, then the Court of the Synod, and finally the General Assembly, which meets annually and consists of elected ministers and elders presided over by an elected Moderator who serves for one year. The Sovereign is represented at the General Assembly by the Lord High Commissioner. The complete freedom of the Church of Scotland in all spiritual matters and its right to appoint its own officers and decide all matters of doctrine and discipline has been fought for by the Church with the utmost vigour down the years, and is recognized by Parliament; its decisions are not subject to parliamentary debate or modification.

The thorough training of the ministry—lasting a minimum of six years—has given the Church a high reputation for scholarship and has in turn influenced the standard of education in Scotland. The communicant membership of the Church of Scotland is over a million and a quarter.

The Free Churches

The phrase 'Free Churches' has now come into common use, especially to describe in England those Churches which were more generally known in the past as Nonconformist Churches. Strictly speaking, all Churches in Wales and Northern Ireland are Free Churches, since in those countries there is no Established Church, but the Churches formally described as Free Churches are the Methodist, Baptist, Congregational and (other than the Church of Scotland) Presbyterian Churches. There are other religious associations, e.g., the Society of Friends and the Salvation Army, which have links in certain ways with the main Free Churches.

The word 'Nonconformist' signifies dissent from certain of the formularies and practices of the Church of England. The Free Churches would more positively affirm that the reason for their existence is a deep conviction about the nature of the Church. The Baptist, Congregational and Presbyterian Churches have their roots in the Reformation movement, and the Methodist Church originated in the evangelical revival led by John Wesley within the Church of England in the eighteenth century. The Baptist and Congregational Churches regard the Church as a covenanted community of believers. The Presbyterian Churches lay great stress on the doctrine of the Sovereignty of God and the way in which that must be reflected in the ordering of Christ's Church.

The Methodist Churches

The largest of the Free Churches is the Methodist Church, the product of a union of Methodist Churches in 1932. It has 742,000 adult full members. The supreme authority in the Church is the annual Conference, and the system of government is in many ways presbyterian: the Leaders' Meeting corresponding to the Kirk Session, with Circuit Meetings and District Synods resembling Presbytery and Synod. One of the Church's characteristics is its strong emphasis on lay leadership. There are nearly 23,000 trained lay preachers sharing the ministers' work and preaching in thousands of local churches.

Methodist Churches which did not join the union in 1932 include: the Independent Methodists, in which ministerial service is on a purely voluntary basis and women (many of whom are ministers) have full equality with men; and the Wesleyan Reform Union which, while retaining the essential Methodist doctrine, gives autonomy to each of its 177 individual Churches.

The Congregational and Baptist Churches

The Congregational and Baptist Churches both regard the Church as a covenanted fellowship of believers; ministers (who may be men or women) are called to special service, and trained and recognized by the Church. Local Churches have formed county and national unions, whose secretariat and assemblies have much influence, but no compulsive authority over them, since great importance is attached to the autonomy of local church meetings.

The Congregationalists in Britain, including Welsh Independents, number 340,000 and the Baptists 335,000 adult members. Baptists differ from Congregationalists in practising the baptism of believers only; they do not baptize infants.

The Unestablished Presbyterian Churches

The largest of the Presbyterian Churches outside the established Church of Scotland is the Presbyterian (or Calvinist Methodist) Church of Wales, which arose from the revivalist movement led by Howell Harris in 1735, and now embraces a considerable proportion of the Welsh-speaking population; its members number some 150,000. The Presbyterian Church in Ireland is the next in size, followed by the Presbyterian Church of England, which is organized in fourteen presbyteries. The highest court of the Presbyterian Church of England is the General Assembly; women are admitted to the eldership and ministry.

Other Presbyterian Churches in Britain include: the Free Church of Scotland; the United Free Church of Scotland; the Free Presbyterian Church of Scotland; the Reformed Presbyterian Church of Scotland; the Reformed Presbyterian Church of Ireland (which consists of 38 congregations and preaching stations, all but 5 of which are in Northern Ireland); and the Non-Subscribing Presbyterian Church of Ireland, comprising 4 presbyteries and synods (3 of which are in Northern Ireland) with 30 congregations.

Other Christian Denominations

Among other Christian denominations in the United Kingdom are: the Unitarian and Free Christian Churches, which number about 300 and are united by loyalty to the principle of freedom of thought in religion; the Churches of Christ (known also in the United States of America as Disciples of Christ) which have been an organized community in Great Britain since early in the nineteenth century, and have a membership of about 10,000; the British Province of the Moravian Church, which is an international missionary church; the Free Church of England (or Reformed Episcopal Church), which was formed in 1844 as a direct result of the Oxford Movement; the Society of Friends; and the Salvation Army.

The Society of Friends, or Quakers, was founded in the middle of the seventeenth century by George Fox. It has no ordained ministry and does not observe the sacraments. One of the chief characteristics of the Quakers is their belief in pacifism and their firm adherence to pacifist methods. Their influence in many parts of the world, especially in social reform and in the relief of suffering, is very wide in relation to their numbers. There are about 21,000 Quakers in Britain.

The Salvation Army, founded by William Booth, a Methodist, in 1878, is a religious movement, composed of men and women who seek the spiritual and social betterment of their fellows, primarily by preaching the gospel to those hitherto untouched by religious effort. The movement, in which military rather than ecclesiastical terminology is used, has branches all over the world, and its social work (particularly that connected with the welfare of members of the British armed forces serving overseas) is well supported.

The Christian Scientists, who are in no way connected with any other Free Church, have over 340 branch Churches and societies in Britain.

The Roman Catholic Church

The Roman Catholic hierarchy in England and Wales, which became temporarily extinct during the sixteenth century, was restored in 1850; the Scottish hierarchy became extinct in the early seventeenth century and was restored in 1878, while the Irish hierarchy never became completely extinct. The normal government of the Church, namely by territorial archbishops and bishops, is once again the rule in the whole of the United Kingdom.

The central territorial unit of the Roman Catholic hierarchical organization is the province or archdiocese under the metropolitan, who is always an archbishop. The chairman of the bench of bishops in England and Wales is the Archbishop of Westminster. A province normally comprises several dioceses, each under a bishop aided by a chapter of canons and others, and by priests in charge of the parishes into which the diocese is sub-divided. In England and Wales, at the end of 1956, there were four provinces: Westminster, Liverpool, Birmingham and Cardiff; 14 dioceses; and 1,919 parishes. In Scotland, there were two provinces: St. Andrews and Edinburgh, and Glasgow; six dioceses; and about 375 parishes. In Northern Ireland, there were five dioceses (several of which, since there is one hierarchy for the whole of Ireland, have territory partly in the Republic of Ireland and partly in Northern Ireland) all of these are in the Province of Armagh; and 172 parishes. In the whole of the United Kingdom, there are over four and a half million adherents, including children, to the Roman Catholic faith.

The Roman Catholic Church attaches great importance to the education of Roman Catholic children in their own faith, and requires that the children of marriages between Roman Catholics and members of any other Church should be brought up as Roman Catholics. Many schools for Roman Catholic children in the United Kingdom are staffed by members of the great Roman Catholic Orders for

men and women, who also undertake other social work such as nursing, child care, and the conduct of homes for the aged.

Jewry

Jews first settled in England at the time of the Norman conquest, but were expelled at the beginning of the thirteenth century by an edict of Edward I. The present Anglo-Jewish community dates from 1656, the earliest arrivals being the Sephardi (from Spain and Portugal). At the end of the seventeenth century an Ashkenazi community (from Germany and East Europe) was established, which increased rapidly and spread to the principal provincial cities. By 1956, as a result of the virtual destruction of whole Jewish communities on the Continent during the second world war, the Anglo-Jewish community of some 400,000 had become the largest group of Jews in Europe.

The Anglo-Jewish community is divided into two schools of thought, each of which has its own form of worship and its own services: the Orthodox (the original groups) and the Reform. The Reform Movement, which attaches less religious importance to some of the ancient rituals and practices of the Jewish faith, began in 1840. It was followed in 1901 by the establishment of the Liberal Jewish Movement which, in addition, lays emphasis on the reinterpretation of traditional Judaism in the light of modern thought and custom. Of the Jews in Great Britain who belong to any kind of synagogue, about 80 per cent are Orthodox. The Chief Rabbi is the head of the largest group (Ashkenazi) within Orthodox Jewry; the Haham is the head of the Sephardi group.

Synagogues in Britain of all sections of Jewry, number approximately 445, including 17 Liberal and 15 Reform congregations. There are a few schools which cater exclusively for Jewish children, but the vast majority attend the ordinary State or independent schools, and receive extra-curricular instruction in the Jewish faith.

Other Religious Communities

Among other non-Christian communities in Britain, the Moslems are the most widely represented. The principal mosque is the Shah Jehan Mosque at Woking, and there are also mosques in London, Birmingham, Manchester, Cardiff and Glasgow.

A Buddhist temple was ceremonially opened in South Kensington, London, in May 1954; and other premises were opened in 1956 as a meeting place and discussion centre for adherents of Buddhism.

Co-operation between the Churches

An outstanding feature of recent years has been the growth of co-operation between the Churches. The British Council of Churches was founded in 1942 and includes official representatives from almost all the Churches of the British Isles, with the notable exception of the Roman Catholic Church. The Council facilitates common action between the Churches and seeks to further the cause of Christian unity. The Archbishop of Canterbury is president. In addition, many though not all of the Free Churches in England and Wales are members of the Free Church Federal Council (formed in 1940 by the amalgamation of the Federal Council of Evangelical Free Churches with the National Free Church Council), the aims of which are to promote unity and joint action between the Free Churches, and to provide a channel through which the Free Churches can communicate and negotiate with central and local government organs as a united body. Exploratory discussions on changes in organization to allow of closer relations between the Church

of England, the Church of Scotland, the Episcopal Church in Scotland, and the Presbyterian Church of England have been taking place for the last few years, and a report containing a number of proposals was issued in 1957. In 1956, conversations between representatives of the Church of England and the Methodist Church were also initiated.

The Anglican, Presbyterian and Free Churches in the four countries which make up the British Isles also participate in the World Council of Churches, which was constituted at Amsterdam, Netherlands, in 1948, and held its second assembly at Evanston, Illinois, U.S.A., in August 1954. The Council links together 162 Churches in 49 nations for co-operation in action and the study of common problems.

Co-operation of other Churches with the Roman Catholic Church takes place on specific issues, but there is no machinery of continuous co-operation. The Council of Christians and Jews works for better understanding between members of the two religions, and deals with problems arising in the social field.

THE PROMOTION OF THE SCIENCES

While the promotion of the sciences in the United Kingdom is largely the concern of those learned societies and institutions devoted specifically to this end, only a small part of the research which is vital to science is carried out directly by them. Most of the 'pure' or 'fundamental' research is conducted in the universities, which also play an essential part in promoting the sciences by maintaining a steady supply of trained scientists. In practice, it has become impossible to distinguish clearly between science and its extensive applications in everyday life, with the result that scientific research in the widest sense has become the concern also of industry and of various Departments of Government.

In recent years it has become an acknowledged responsibility of the Government not only to undertake research directly but also to keep under review the facilities for the training of scientists, to encourage fundamental research, to finance certain research projects, and to ensure that adequate research is directed to matters of national interest. As a result a system of collaboration has developed between the universities, industry, the learned societies and the Government which is of great value to the community and leaves the greatest possible measure of freedom to individual scientists.

Though scientific research is carried out mainly under three different kinds of administration—university, industry and Government—there is strong liaison and close co-operation between them, while the learned societies remain free to play a most important part in the discussion and publication of the results of research.

Important work is also undertaken by independent organizations—for example, in medical research, by the British Empire Cancer Campaign, the Imperial Cancer Research Fund, the Nuffield Foundation, the Lister Institute of Preventive Medicine, the Wellcome Foundation and Trust, and by some large pharmaceutical firms. The Nuffield Foundation, which was established by Lord Nuffield in 1943, has a wider scope. Its aims are: the advancement of health and the prevention and relief of sickness; the advancement of social well-being; the care and comfort of the aged poor; the advancement of education; and such other charitable purposes as shall be declared by Lord Nuffield in his lifetime and by the trustees after his death. Prominent among the Foundation's many activities are the promotion of medical, scientific and social research and the development of medical services and of technical and commercial education. Its resources consist of a fund of £10 million provided by Lord Nuffield and of gifts and bequests from other persons.



The world's largest steerable pencil-beam radio telescope at Jodrell Bank (see pp. 409 and 422). It has an estimated reach of 1,000 million light years; the reflector bowl, 250 feet across, rests on 180-foot towers which rotate on a track 352 feet in diameter.



The control room and computers. The telescope will be floodlit by night.



Chatsworth.
The Derbyshire home of the Dukes of Devonshire, built about 1700, is one of many historic houses open to the public.



Compton Wynates.
This early Tudor house in Warwickshire is about 200 years older than Chatsworth.



Hopetoun House.
This mid-eighteenth-century Georgian mansion near Edinburgh has received a grant from the Historic Buildings Council (see p. 428).

THE LEARNED SOCIETIES

The learned societies have had a profound and lasting influence upon the development and organization of science in Britain; not only have they provided the background for the continuity of research from the seventeenth century onwards, but they have been a meeting ground where all scientists can forgather for the exchange of ideas, and a reliable source from which new ideas for the enrichment of knowledge can flow. Although today the bulk of research operations is conducted under auspices other than theirs, the learned societies have retained their traditional function of facilitating the spread of scientific knowledge and the application of new discoveries.

At present there are over 200 learned scientific societies in Britain with approximately 400 scientific publications. There are also numerous technical institutions and professional associations, many of which are playing a distinguished part in promoting their own branches of science and are interested in the education and professional well-being of their members. Prominent examples of these are the British Medical Association, the Institution of Civil Engineers, the Institution of Mechanical Engineers, the Institution of Electrical Engineers, the Institution of Metallurgists, the Royal Institute of Chemistry, the Institute of Physics, and the Institute of Biology.

The Royal Society (or, more fully, the Royal Society of London), founded in 1660, occupies a unique place in the country's scientific affairs, although for two centuries scientists were in a minority among its members, whose interests lay mainly in history, art, archaeology or exploration. The Society has always been independent of State control but its advice on scientific matters has frequently been sought by the Government. Today its influence remains as strong as ever and its Fellows serve on most of the Advisory Councils of Government Departments.

Its Fellowship consists of approximately 500 eminent scientists and 50 foreign members. Admission of the former is restricted to 25 a year, and of the latter to four a year; a few eminent non-scientists are also elected to Fellowships. The Society maintains a library (145,000 books of a purely scientific nature), issues a large number of publications, including the *Philosophical Transactions* and the *Proceedings*, and convenes conferences which are attended by scientists from all countries.

In addition, the Society is responsible for the administration of many research funds and special funds derived from various sources and a number of Government grants. These funds and grants are used for the promotion of science through research, publications, congresses, the award of medals, lectures, and in many other ways.

The Royal Society of Arts (originally the Society for the Encouragement of Arts, Manufactures and Commerce) was founded in 1754, and as it was the first society of its kind its work was at first very wide, covering scientific, technical, industrial and commercial matters on a world-wide scale. As institutions devoted to the specialized branches of science and industry came to be established, the Society gradually abandoned some of its earlier fields of work, but it is still a recognized forum for the discussion of technical and other subjects.

The Royal Institution was founded in 1799 as a public body for facilitating the introduction of useful mechanical inventions and improvements, and for teaching the application of science to everyday life. Later it undertook the 'promotion of chemical science by experiments and lectures for improving arts and manufactures', and 'the diffusion and extension of useful knowledge'. Its character, however, was largely determined by the work of Sir Humphry Davy and Michael Faraday who established a tradition of research. Today, the Institution has extensive research

laboratories, and lectures are given on the recent developments in science and other branches of knowledge. Its library of some 70,000 books includes many early scientific works and manuscripts.

The British Association for the Advancement of Science was founded in 1831 to promote general interest in science and its applications. At the present day one of its chief activities is the Annual Meeting, attended by many young students as well as by eminent scientists. Its 13 sections cover the whole range of pure and applied science other than medical science, and there is a division for studying the social and international relations of science. Collaboration with other scientific organizations has always been an important function of the British Association, and it has an organized relationship with over 150 scientific bodies and learned societies. It has also played an important part in the development of science by taking or recommending action to remove obstacles to the discovery and application of scientific knowledge.

THE UNIVERSITIES

The universities carry the main responsibility for the pursuit of fundamental research and for the training of scientists. During recent years there has also been a considerable expansion of technological training and research facilities within the universities, all of which now offer work in one or more technological subjects (e.g., applied science, engineering, metallurgy and industrial fermentation).

According to a survey carried out by the Ministry of Labour and National Service, the number of qualified scientists and engineers (i.e. holders of degrees or diplomas, or members of certain professional institutions) in employment in Great Britain at the beginning of 1956 was 142,000, including some 7,000 engaged in postgraduate research at universities and on National Service. Starting from these figures the Committee on Scientific Manpower of the Advisory Council on Scientific Policy has estimated that over the next ten to fifteen years the present annual output of some 10,000 qualified scientists and engineers should be raised to 20,000. The Government has accepted this figure as a reasonable goal and will support measures to ensure that the universities and technical colleges together will be able to produce at least this number. The Government's plans for a large-scale and rapid expansion of education in advanced technology include the increase of advanced work at technical colleges, as well as at the universities (see pp. 376 and 377). Certain technical colleges in England and Wales have been designated as 'colleges of advanced technology'; in Scotland, advanced instruction in a wide range of technologies is given at Central Institutions (see p. 376). Details of the Government's plans for technical education were published in February 1956 (*Cmd.* 9703).

Nearly all universities and university colleges in the United Kingdom (see p. 374) have laboratories or research departments. Over two-thirds of the income of the universities comes from Government sources. There is no direct departmental control and the method of administering the grant—through the University Grants Committee (see p. 374)—ensures academic freedom. Additional funds for the prosecution of research are also secured in some instances by the private endowment of research fellowships generally awarded by the universities to selected persons, or by grants from outside bodies tenable at the universities. Examples are the Leverhulme Fellowships, the Imperial Chemical Industries Fellowships and the research grants of the Nuffield Foundation.

The universities are also assisted by grants from industry and commerce and from the Government Research Councils. An example of the close co-operation that has been achieved between several branches of industry and the research

departments of universities is the Glass Delegation of the University of Sheffield. This is responsible for the general direction of the work of the Department of Glass Technology and is composed of members appointed by the Council of the University and representatives of firms and companies who subscribe funds for the furtherance of training and research. A notable example of co-operation between a Government Department, an independent organization and a university is the world's largest steerable pencil-beam radio telescope (see photograph facing p. 406) at Jodrell Bank, Cheshire, which is being financed jointly by the Department of Scientific and Industrial Research (see p. 412) and the Nuffield Foundation, and developed by Manchester University. The telescope will be used mainly for the study of stars detectable only from their emission of electromagnetic waves, very distant nebulae and galaxies.

RESEARCH IN INDUSTRY

Industrial research in Britain is conducted by individual industrial firms and organizations independently of Government aid, by co-operative Research Associations which make use of facilities afforded by the Government, by sponsored research institutes, and by universities and some of the major technical colleges. (Estimates of the expenditure of these various research agencies are given on pp. 422-3.)

The main nationalized industries have their own research establishments and also give financial support to organizations concerned with research into matters of interest to them. An account of the research arrangements of the National Coal Board, the Central Electricity Authority and the Gas Council is given on pp. 186, 195 and 198.

Research Associations

A scheme to form Research Associations, by which the Government associated itself with groups of firms having similar interests, was started in 1915, on the recommendation of the then newly formed Advisory Council for Scientific and Industrial Research, which has only recently been replaced by an Executive Council with rather different functions (see p. 412). In 1957 there were 46 such Research Associations (see Appendix II, pp. 458-9) with a combined income of £4 million, of which about one-third is contributed by the Government through the Industrial Grants Committee of the Department of Scientific and Industrial Research. The amounts of the Government grants are related to the contributions made by the industries concerned.

The Research Associations are autonomous bodies, governed by their own councils, the large majority of whose members are representatives of industry. The councils are advised by research committees in the preparation of research programmes.

Sponsored Research Institutes. A number of sponsored research institutes have been established to meet the needs of private firms which are unable to maintain fully equipped research laboratories. In these institutes research can be carried out confidentially so that the results and any patents which may arise from it are retained as the property of the sponsoring body. The principal institutes are the *Fulmer Research Institute* and the *Sondes Place Research Institute*.

National Research Development Corporation. The National Research Development Corporation (NRDC) was set up by the Board of Trade in 1948. Its function is primarily to develop, in the public interest, inventions resulting from research carried out by Government Departments and other public bodies. Under the Development of Inventions Act, 1954, however, NRDC is now allowed, under certain conditions, to initiate research as well as to develop inventions resulting

from research. It is an independent body, subject only to general direction by the Board of Trade, with powers to borrow from Government funds up to £5 million in the first ten years of its life. Projects selected for development include electronic digital computers, Merton diffraction gratings, a lightweight power unit, a potato harvester, printed electrical circuits, and the manufacture of cortisone from hecogenin obtained from the sisal plant.

GOVERNMENT RESEARCH ORGANIZATION

Early Developments

Although the active participation by the Government in scientific effort is, for the most part, a twentieth-century development, its association with science dates from a much earlier time. Interest in navigation led Charles II in 1675 to establish Britain's first State-supported institution—the Royal Observatory at Greenwich, now transferred to Herstmonceux, Sussex—for the purpose of correcting the tables of the positions of the moon and fixed stars 'for the use of his seamen'. The Geological Survey of Great Britain—the first national institution of its kind in the world—originated in 1835. In 1842 the Department of the Government Chemist was founded, and in 1854 'for the safe-guarding of seamen' the Meteorological Office was established by the Board of Trade. All these Government Departments were using scientific knowledge but there was little organized effort towards the application of the discoveries made in pure science. Government scientific organization, like many British institutions, evolved gradually in response to the changing social and economic circumstances of the times.

The need for research in physics and engineering, and particularly into methods of precise measurement, led to the establishment of the National Physical Laboratory under the control of the Royal Society in 1900, with a modest grant from the Treasury towards equipment and a yearly grant towards upkeep.

From 1909, however, the Government assumed a wider responsibility for promoting and encouraging scientific research and since that time its assistance has been adapted to meet the rapidly changing conditions in industry and education.

The Development Commission (see p. 171), appointed in 1909 by the Government, recommended that financial aid should be made available from the Development Fund to 'aid and develop agriculture and rural industries by promoting scientific research'. In 1911 the Development Fund was used to establish a scheme which led to the formation of most of the present-day agricultural research institutes.

In 1913 a Medical Research Committee (the forerunner of the Medical Research Council) was appointed to administer the research funds provided under the National Health Insurance Act of 1911.

Up to the outbreak of the first world war, the Government's contribution to scientific research was made directly through such organizations as these, and indirectly through grants administered on its behalf by such bodies as the Royal Society and the Imperial College of Science and Technology in London.

The recognition of the importance of scientific research and of the application of scientific knowledge to commerce and industry led to the establishment of the Department of Scientific and Industrial Research (DSIR) as a separate Government Department in 1916.

In 1918 financial responsibility for the National Physical Laboratory was transferred from the Royal Society to the DSIR, although the Royal Society continued to advise on the scientific direction of the Laboratory.

The Forestry Commissioners were appointed in 1919 with powers to undertake and aid research for the promotion of forestry.

In 1920 the Government established the Medical Research Council with a grant-in-aid provided directly by Parliament.

The third of the Councils created by the Government for the promotion of research, the Agricultural Research Council, was established in 1931. In addition to its duties as adviser to the Development Commissioners and the Agricultural Departments (for England and Wales and for Scotland), the Council was given funds of its own from which grants could be made for special research projects.

During the second world war a Scientific Advisory Committee to the War Cabinet was created, with the object of co-ordinating defence research and civil research.

The Lord President of the Council, as the Minister responsible for the three Research Councils and as President of the Scientific Advisory Committee, came to be regarded as the member of the Cabinet responsible for the direction of Government scientific organization.

Post-war Developments

At the end of the second world war, the Government established an Advisory Council on Scientific Policy 'to advise the Lord President of the Council in the exercise of his responsibility for the formulation and execution of Government scientific policy'.

The Advisory Council, appointed by the Lord President in January 1947, has 15 members—12 eminent scientists from the universities, industry and Government service, and 3 senior Government administrators.

In the same year the Defence Research Policy Committee was established 'to advise the Minister of Defence and Chiefs of Staff on matters connected with the formulation of scientific policy in the defence field'.

These two bodies replaced the Scientific Advisory Committee to the War Cabinet.

In order to give adequate attention to each of the subjects within its wide range of interest, the Advisory Council has established the following standing committees:

- the Committee on Scientific Manpower;
- the Scientific Library and Technical Information Committee; and
- the Committee on Overseas Scientific Relations.

Government Machinery for Civil Scientific Research

The principles underlying Government scientific organization are briefly as follows:

1. The Lord President of the Council is responsible for the formulation and execution of Government scientific policy and is advised by the Advisory Council on Scientific Policy on general questions which relate to the whole field of civil science.
2. The Lord President is the Minister responsible to Parliament for the Council for Scientific and Industrial Research, the Medical Research Council, the Agricultural Research Council, and the Nature Conservancy, and is chairman of the three Privy Council Committees to which they report—the Committees for Scientific and Industrial Research, Medical Research, and Agricultural Research and Nature Conservation.
3. The Prime Minister is the Minister responsible to Parliament for general oversight of the development of atomic energy, and appoints the members of the Atomic Energy Authority (see pp. 414-6).
4. Other Ministers are responsible for the scientific establishments within their own Departments.

5. The advice of the Research Councils is at the disposal of the Executive Departments and there is close liaison between them, but the Research Councils are not subject to departmental control.

Department of Scientific and Industrial Research

The DSIR is responsible to the Committee of the Privy Council for Scientific and Industrial Research of which the Lord President is chairman. Since DSIR was set up in 1916, this Committee has been advised by an Advisory Council for Scientific and Industrial Research, which included in its membership eminent scientists and leading industrialists, two members closely connected with organized labour and assessors appointed by Government Departments. But, in 1955, with the large increase in the Department's work, the Government set up a Committee of Inquiry into its organization.

The report of this Committee was accepted by the Government and its recommendations embodied in the Department of Scientific and Industrial Research Act, 1956. The first and main purpose of this Act was to replace the existing Advisory Council by an Executive Council for Scientific and Industrial Research; the second, to provide in a specific Act of Parliament for the expenditure of the Department to be met out of funds provided by Parliament.

The Council, which consists of a Chairman and 12 members, is charged with the organization, development and encouragement of scientific and industrial research and with the dissemination of the results of such research, and, in particular, may:

- (1) encourage and support scientific research in universities, technical colleges and other institutions;
- (2) establish or develop institutions or departments of institutions for investigation and research relating to the advancement of trade and industry; and
- (3) take steps to further the practical application of the results of scientific and industrial research.

The DSIR discharges these functions through 13 national research organizations under its own control and direction and financed from its own Vote, and one, the Fire Research Organization, which is maintained by the Department and the Fire Office Committee jointly; and also through the autonomous Research Associations (see Appendix II, pp. 458-9).

The Council may also make grants for these purposes and grants for postgraduate instruction in science and technology to individual workers or to institutions.

The close contacts maintained between the DSIR and other Government Departments, Research Associations and other bodies help to ensure that the scientific resources of the Department are applied to the solution of problems which are of most importance to the national economy and are used to make the maximum contribution to improving industrial efficiency.

Medical Research Council

The Medical Research Council (MRC), the successor of the Medical Research Committee, was incorporated under its present title by Royal Charter in 1920.

The MRC is responsible to the Committee of the Privy Council for Medical Research, of which the Lord President is chairman and the Secretaries of State for the Home Department, Scotland, Commonwealth Relations, and the Colonies, and the Ministers of Health and of Labour and National Service are members.

The members of the Council, appointed by the Committee of the Privy Council for a period normally of four years, are twelve in number. Nine members, representing the different branches of medical knowledge and the fundamental sciences

on which these are based, are appointed after consultation with the President of the Royal Society and with the Council. On retirement these scientific members are not eligible for reappointment. Three members are appointed in respect of other than scientific qualifications; one of them must be a member of the House of Lords and one a member of the House of Commons.

The Council's chief function is to undertake or promote scientific investigations to obtain new knowledge likely to be of value in the field of curative and preventive medicine. In planning and carrying out its research programme, the Council may be assisted by special committees which it appoints to advise on particular subjects. In general, the arrangements for the support of research fall under three headings:

1. Investigations by members of the Council's scientific staff, mostly working in the Council's own research establishments.
2. Temporary research grants to independent investigators in universities and elsewhere.
3. Research scholarships, travelling scholarships and fellowships for work both at home and abroad.

The Council's own research activities are conducted in the National Institute for Medical Research, at Mill Hill and Hampstead, London, and in some 50 smaller establishments, generally known as Research Units or Groups, which are attached in most cases to universities and hospitals (listed in Appendix II, pp. 459-61); some of these are concerned with clinical research and others with laboratory studies. In 1951, the Council assumed the major financial responsibility for the Institute of Cancer Research, which has continued to receive substantial support from the British Empire Cancer Campaign. The Council also undertakes medical research in certain dependent territories and, with additional support from Colonial Development and Welfare funds, maintains laboratories in the Gambia and units in Uganda and Jamaica.

The MRC administers the *Public Health Laboratory Service* on behalf of the Ministry of Health (see p. 367).

Agricultural Research Council

The Agricultural Research Council (ARC) was established by Royal Charter in 1931. It is responsible to a Committee of the Privy Council for agricultural research, consisting of the Lord President of the Council, the Minister of Agriculture, Fisheries and Food and the Secretary of State for Scotland.

Under the Agricultural Research Act, 1956, which took effect from 1st April, 1956, the ARC was charged with the organization and development of agricultural research, and there was established an Agricultural Research Fund into which are paid the Parliamentary grant-in-aid, and other sums received by the Council, and out of which are met all expenses incurred by the Council under the Act or in accordance with the terms of its Charter. The accounts of the Fund are audited by the Comptroller and Auditor General.

The Council consists of not more than 18 nor fewer than 15 members, five of whom are appointed for their general experience of and interest in agriculture. Others are appointed by the Committee of the Privy Council, after consultation with the President of the Royal Society, on account of their qualifications in one or other of the sciences relating to agriculture. Included in the Council's membership are the Chief Scientific Adviser (Agriculture) and the Chief Veterinary Officer of the Ministry of Agriculture, Fisheries and Food, also one member appointed by the Minister of Agriculture, Fisheries and Food and one by the Secretary of State

for Scotland. The Council has 17 research stations and units under its direct control in Great Britain (see Appendix II, pp. 461-2).

Since 1st April, 1956, when the Agricultural Research Act came into force, responsibility for the administration and financing of the independent research institutes in England and Wales (but not in Scotland) was transferred to the Council from the Ministry of Agriculture, Fisheries and Food. The programmes of all these institutes are co-ordinated and approved by the Council and are integrated with those of the independent research institutes in Scotland and of the institutes and units directly controlled and financed by the Council.¹

The Council also makes grants to universities and other recognized research institutions for special investigations, and awards research fellowships, training grants and research studentships in agricultural and veterinary science, including, for the first time in 1956, scholarships in agricultural and dairy engineering and statistics.

Nature Conservancy

The Nature Conservancy was established by Royal Charter in 1949 and is directly responsible to the Lord President of the Council as Chairman of the Privy Council Committee for Nature Conservation. Its functions, as summarized in the charter, are 'to provide scientific advice on the conservation and control of the natural flora and fauna of Great Britain; to establish, maintain and manage nature reserves in Great Britain (see p. 397), including the maintenance of physical features of scientific interest; and to organize and develop the research and scientific service related thereto'.

Research stations have been set up by the Conservancy at Merlewood, Grange-over-Sands in Lancashire, and Furzebrook, Wareham in Dorset, and field stations at Moor House, Westmorland, and at Anancaun, Ross-shire, where long-term ecological research is undertaken into such problems as the relation of vegetation to soils and climates, peat growth, effects of grazing and of moor burning, coastal erosion, roadside spraying and the spread of myxomatosis. Grants are made for research, and the Conservancy awards a number of postgraduate studentships annually.

Atomic Energy Authority

Before 1946 the Department of Scientific and Industrial Research was responsible for atomic energy research and development.

From 1946 to the end of 1953, this responsibility rested with the Minister of Supply. By April 1953, however, the Government had decided in principle to transfer responsibility for atomic energy from the Minister of Supply to a non-departmental organization, in view both of the growing importance of the industrial applications of atomic energy and the need for an organization for atomic energy more akin to that of a large industrial undertaking. It was subsequently announced that, as from 1st January, 1954, the Lord President of the Council would be generally responsible for the development of atomic energy in the United Kingdom.

Under the Atomic Energy Authority Act, 1954, the United Kingdom Atomic Energy Authority assumed responsibility for the operation of the atomic energy project from 1st August, 1954. The Lord President remained responsible to Parliament for atomic energy policy generally and also, subject to the consent of the Treasury, for providing funds for the Authority out of money provided by Parliament. In particular, he had the duty of securing that, in the Authority's operations,

¹For a list of these institutes and units see Appendix II, pp. 461-2.

the proper degrees of importance were attached to the various applications of atomic energy. He was assisted, in the exercise of these responsibilities, by the Atomic Energy Office, which also provides any necessary liaison between the Authority and other Government Departments. In April 1957, the Lord President's responsibility for atomic energy was transferred, by Order in Council, to the Prime Minister. The Minister of Supply continues to be responsible for providing atomic weapons to the Services and places contracts with the Authority for the production of nuclear components of such weapons and research related to them; the Authority is free to conduct experimental work which may lead to improved types of warheads for such weapons. The Atomic Energy Authority advises the Electricity Authorities on nuclear factors in the construction of power stations (see p. 192).

The Atomic Energy Authority, whose members are appointed by the Prime Minister, may consist of not fewer than eight and not more than 11 members, including the chairman.

The Authority, like other statutory corporations, is free from day-to-day Government control (subject to the power, given to the Minister responsible, to issue directions to the Authority on any matter where he considers over-riding national interests require his intervention), but differs from them in that the bulk of its revenue is derived from money voted by Parliament and in that its accounts are examined and certified by the Comptroller and Auditor General (see p. 300).

The Authority's establishments are divided into three groups: Research, Industrial and Weapons.

The Atomic Energy Research Establishment at Harwell, in Berkshire, is responsible for fundamental research into all aspects of atomic energy and particularly for basic research and early development work on the generation of power from nuclear energy. Harwell operates a number of experimental and materials testing reactors. Some assistance is given to the Weapons Group on specific problems.

The Harwell Establishment, and its principal outstation, the Radiochemical Centre at Amersham, in Buckinghamshire, are also concerned with preparing and distributing radio-isotopes and other radioactive substances (see p. 218).

In March 1956, the Atomic Energy Authority announced that it was acquiring two built-up areas on Grove Airfield, near Wantage, Berkshire, as a site for a small outstation of the Harwell Establishment primarily intended to allow the Technological Irradiation Group to develop more rapidly in association with industrial requirements. This group, a part of the Harwell Isotope Division, was formed in June 1955 to assist industry in making full use of the large amounts of radioactive material which will become available from the expanding nuclear energy programme (see p. 192). As Harwell is now nearing its limit for growth, another site at Winfrith Heath, in Dorset, will accommodate further expansion.

At Harwell, there are both isotope and reactor schools. The Isotope School was started in April 1951. The first laboratories were in a converted wooden hut, but the school has moved twice to larger and better equipped premises. From its inception until 1st February, 1957, 817 students from 40 countries had passed through the school.

The Reactor School at Harwell was opened on 27th September, 1954; its object is to provide training for staff from industrial firms so as to accelerate industrial participation in the atomic energy project. For the first course, 41 students were enrolled. The first course open to overseas students was held in the autumn of 1955; of a total of 49 students on that course, 21 were from overseas countries. Up to, and including, the first course in 1957, a total of 471 students have passed through the reactor school, of whom 84 came from overseas. New buildings, which

will increase its capacity, were completed in September 1956, and the programme of courses has been adapted to meet the needs of several types of student.

The production of fissile material and the design, construction and operation of certain prototype nuclear plants (see p. 192) are directed from the headquarters of the Industrial Group at Risley, near Warrington in Lancashire. The Group is responsible for atomic factories and laboratories at Springfields, Windscale and Capenhurst, and also for laboratories at Culcheth and Dounreay. Research on atomic weapons is carried on at the establishment at Aldermaston, in Berkshire, and at outstations at Woolwich, London, at Foulness in Essex and at Orfordness in Suffolk (see map, p. 193).

The London office of the Atomic Energy Authority is responsible for materials procurement and for various centralized functions relating to such matters as staff, finance and international relations.

National Institute for Research in Nuclear Science

In February 1957, the Government set up a National Institute for Research in Nuclear Science, which provides, for common use by universities and others, facilities and equipment which are beyond the scope of individual universities and institutions carrying out research in the nuclear field. It does not replace the research already being done in individual universities with assistance from Government funds; nor does it affect the Government's participation in the international scheme for common facilities set up in Geneva under the auspices of the European Organization for Nuclear Research (CERN). The Institute is financed in the main by grants through the Atomic Energy Authority from the Atomic Energy Vote. The universities' expenditure is confined to the payment of salaries and expenses of their own academic staff using the research facilities provided.

The Institute is managed by a governing board appointed jointly by the Lord President of the Council and the Chancellor of the Exchequer, and consists of representatives of the universities, the Atomic Energy Authority, the University Grants Committee, the Royal Society and the Department of Scientific and Industrial Research, with an independent chairman.

Other Government-sponsored Scientific Research

All Departments rely on one or other of the Government Research Councils for scientific advice. While some use these bodies as their main source of scientific information, a few have set up supplementary research organizations of their own.

Defence Research with Civil Applications

Research and development undertaken by the Admiralty is primarily directed to meeting the requirements of the Royal Navy, but a substantial amount of this work has important civil applications. Furthermore, the Admiralty is responsible through the Royal Naval Scientific Service for inter-Service electronic valve research and development. The research activities of the Royal Observatory and the National Institute of Oceanography, which are mainly in the civil field, are also administered by the Admiralty.

The Ministry of Supply carries out research needed to meet the technical requirements of defence and is also responsible for research in some civilian fields, e.g., the Royal Aircraft Establishment, the National Gas Turbine Establishment at Farnborough, and the Royal Radar Establishment at Malvern. Some fundamental research is also carried out for the Ministry by universities and industrial organizations.

The Air Ministry is responsible for the Meteorological Office (see p. 45), where the research carried out has many applications on the civil side.

Agriculture

Apart from research at the grant-aided Institutes and the centres financed by the Agricultural Research Council and the Department of Agriculture for Scotland, the Ministry of Agriculture, Fisheries and Food conducts research in its own Veterinary Laboratories at Weybridge, Surrey and at Lasswade, Midlothian, Scotland, and also at its Plant Pathology Laboratory at Harpenden, Hertfordshire; and its Infestation Control Division at Tolworth, Surrey, conducts research into problems affecting the destruction and control of insect pests of stored food, rodent pests and other animal and bird pests. Limited research in entomology and helminthology is carried out by the Department of Agriculture for Scotland at its plant pathology laboratory in Edinburgh. In Northern Ireland research in all the major agricultural sciences is carried out directly by the Ministry of Agriculture.

Fisheries

The authorities concerned with fisheries research are: the Ministry of Agriculture, Fisheries and Food, which maintains four laboratories for marine, shell-fish, salmon and freshwater fisheries research, and four research vessels; the Scottish Home Department, which maintains a marine research laboratory, four research ships at Aberdeen, and a freshwater research laboratory at Pitlochry; and the Development Commissioners.

The Development Commissioners, through their Advisory Committee on Fishery Research, co-ordinate all fishery research. From the Development Fund (see p. 410) a number of independent institutions receive grants for marine and freshwater research.¹

Food

The Ministry of Agriculture, Fisheries and Food, under the direction of its Chief Scientific Adviser (Food), conducts research in nutrition and food technology. In addition, it has experimental laboratories and kitchens in London and an experimental factory at Aberdeen to facilitate the commercial development and application of the results of research.

Forestry

The Forestry Commission (see pp. 177-8) undertakes experimental work relating to silvicultural and allied problems. By means of grants, it also aids forest research work undertaken by various universities and other institutions, including the Imperial Forestry Institute, Oxford.

Power

The Ministry of Power has responsibility for research on safety in mines, and plays a direct part in research such as that into the development of coal-consuming gas turbines, underground gasification and total gasification. There is close collaboration between the Ministry, the Scientific Departments of the National Coal Board, the Central Electricity Authority, the Gas Council, and the Fuel Research Station of the Department of Scientific and Industrial Research, all of which are responsible for research in their own fields.

Transport

The Ministry of Transport and Civil Aviation is concerned with research into aspects of marine navigation, road construction and airport operations, but most

¹The Marine Biological Association, Plymouth; University of Liverpool (Port Erin Biological Station); Scottish Marine Biological Association, Millport, Isle of Cumbrae; Freshwater Biological Association, Ambleside, Westmorland; Dove Marine Laboratory (King's College, Newcastle upon Tyne).

of the basic work is carried out for the Ministry by the Admiralty, the Department of Scientific and Industrial Research and the Ministry of Supply. Research on radio aids for marine navigation, for instance, is undertaken by the Admiralty, while the Department of Scientific and Industrial Research concerns itself with researches into the materials and construction of roads, soil mechanics and road safety.

A variety of researches of an operational and applied character are conducted by Ministry staff, sometimes in collaboration with the research establishments mentioned above. Studies have been made of problems related to matters such as the landing and take-off of aircraft, slippery runways, aircraft noise and telecommunications.

Land Use and Planning

The Ministry of Housing and Local Government is responsible for policy relating to the use and development of land in England and Wales. Through its Technical Services Directorate, the Ministry deals with technical planning and geographical, geological, economic and sociological research. Similar arrangements are made for Scotland by the Department of Health for Scotland. The Ministry of Health and Local Government is responsible for the general administration of the planning legislation in Northern Ireland.

Building

The Ministry of Works is responsible for reviewing the whole field of research and technical development of the building industry and for ensuring that the results of research are made available to the industry. Research is carried out by the Department of Scientific and Industrial Research, in particular at the Building Research Station.

Radio and Telecommunications

The Post Office undertakes scientific research on a wide range of subjects relating to telephone, telegraph and radio systems which is carried out by the Research Branch of the Engineering Department. It also undertakes the experimental development of radio transmitters and receivers for Post Office services and other Government Departments. The Post Office keeps in close touch with the British Broadcasting Corporation (BBC) and the Independent Television Authority (ITA) in connection with the development of broadcasting techniques.

Analytical Chemistry

The Department of the Government Chemist is responsible for providing analytical services to all Government Departments that may require them. It carries out special investigations, e.g., in connection with nutritional and physiological surveys, and conducts fundamental research in infra-red spectrography, chromatography and X-ray study of crystals.

Medicine and Health

In addition to the work carried on under the aegis of the Medical Research Council, the Ministry of Health may conduct and promote research into the cause, prevention and treatment of illness or mental defectiveness.

The Department of Health for Scotland has similar responsibilities, and an Advisory Committee on Medical Research in Scotland works with the Medical Research Council.

In Northern Ireland, the Hospitals Authority (a statutory body set up by the Minister of Health and Local Government) has power to conduct or assist medical research. In addition, it has a statutory duty to provide adequate bacteriological and pathological services.

The General Register Office carries out research in four main fields: (1) analysis and interpretation of statistics of causes of death; (2) statistical inquiry into the treatment of cancer and its results; (3) morbidity as revealed in hospital statistics; and (4) mental health.

Colonial Research

The bulk of the research work relating to Colonial development is done locally, but much of it requires close collaboration with research institutes and laboratories in Britain. It is the function of the Colonial Research Council to co-ordinate the work of the specialist committees and to advise on general questions relating to policy. The specialist bodies concerned deal with research into such subjects as agriculture, animal health, forestry, medicine, social science and colonial products.

Anti-Locust Research

Since 1929, the Government has financed an Anti-Locust Research Centre in London which, since 1931, has been internationally adopted as the world centre for locust research. This organization has during the past twenty years received and co-ordinated information on locust movements and breeding from some 40 countries, undertaken scientific research into the life-history and habits of the different species, and investigated and developed methods for their control and destruction.

Other Research Work

Finally there are a number of scientific institutions administered by Government Departments which undertake a certain amount of research work in addition to their other scientific activities. These include the Royal Botanic Gardens (Kew) and the Ordnance Survey Department. The main library at Kew Gardens, attached to the Herbarium, one of the amenities offered to research workers, was founded in 1853 and consists of more than 50,000 botanical books including a section of books on botanical exploration. The library is classified both by subject and geographically, and contains a valuable collection of prints and drawings of plants. Two branch libraries at Kew comprise books on gardening and on economic botany respectively. The Ordnance Survey was founded in 1791 to prepare a map of Great Britain mainly for defence purposes. The present work of the Survey, which is now the responsibility of the Ministry of Agriculture, Fisheries and Food, is chiefly civil in character.

Scientific Museums

The British Museum (Natural History)—an independent section of the British Museum—contains one of the world's largest collections of natural history material and is recognized as a leading research institution.

The Science Museum illustrates the development of pure and applied science in all countries, but chiefly in Great Britain which has always held a leading place in engineering, agriculture, navigation, mining, aeronautics, and in the development of industrial machinery and processes, all of which are represented in the Museum's collections. The geology of Britain is known in more exact detail than that of any other country in the world, and the Geological Survey, responsible for this work, has an outstanding collection of exhibits in its Geological Museum. These three museums are in South Kensington, London.

Important collections outside London are the Museum of Science and Industry, Birmingham, and the Museum of the History of Science, Oxford.

The Parliamentary and Scientific Committee

The Parliamentary and Scientific Committee was founded at the end of 1939 by members of the House of Commons and replaced the former Parliamentary Science Committee. It is one of a number of informal, unofficial, all-party Parliamentary groups which have grown up spontaneously and have a varying degree of influence (see p. 34). Membership is open to members of Parliament of any party and in both Houses, and also to nominated representatives of such non-profit-making scientific and technological organizations in Britain as may be affiliated under its constitution. Membership in 1956 comprised 173 members of Parliament and representatives of 100 scientific and technological institutions. The aims and objects of the committee are:

1. To provide members of Parliament with authoritative scientific information from time to time in connection with debates.
2. To bring to the notice of members of Parliament and Government Departments the results of scientific research and technical development which bear upon questions of current public interest.
3. To arrange for suitable action through parliamentary channels whenever necessary to ensure that proper regard is had for the scientific point of view.
4. To examine all relevant legislation and to take such action as may be suitable.
5. To watch the financing of scientific research.
6. To provide its members and other approved subscribers with a regular summary of scientific matters dealt with in Parliament.

Broadly speaking, the activities of the committee may be divided under two headings. First it provides, as far as possible, for a regular exchange of information between members of Parliament and scientists; secondly, it endeavours to ensure that action is taken to right matters seen to be wrong in the light of such information.

Scientific Liaison Overseas

The history of scientific progress is essentially a story involving many nations; the organization of a country's scientific research would be incomplete without provision for adequate liaison with other countries.

Before the second world war, international scientific collaboration took place through the exchange of university staffs, the awards of scholarships and fellowships, the close relations existing between the learned societies in this country and their equivalent bodies abroad, and through international conferences and congresses.

The war and the post-war period saw the emergence of a number of new developments in overseas scientific collaboration, including the exchange of scientific information. Well-known examples are the specialized agencies of the United Nations Organization, e.g., the Food and Agriculture Organization, and those concerned with nuclear energy, e.g., the International Atomic Energy Agency and the European Organization for Nuclear Research (CERN), in which the United Kingdom is playing a full part.

Among the various channels through which scientific liaison is conducted are:

1. *The British Commonwealth Scientific Offices.* A feature of the war-time pattern of scientific collaboration was the establishment of Scientific Missions, in London by the United States and the Commonwealth countries, and in Washington by the United Kingdom and the other Commonwealth countries; the latter subsequently

joined together as the British Commonwealth Scientific Office in Washington. Since 1948 the Scientific Offices in London of the Commonwealth countries, set up after the war, have been located in the same building, and are closely associated with the Overseas Liaison Division of the DSIR.

2. *The Standing Committee on Overseas Scientific Relations.* This committee of the Advisory Council on Scientific Policy was set up after the war to provide, among other things, for discussion of general policy on overseas scientific representation, scientific relations with Commonwealth and foreign countries, and scientific aspects of the work of the United Nations.

3. *The Overseas Liaison Division of the DSIR.* This division is responsible for the executive work arising from the Standing Committee's activities. It is regarded as the general inter-departmental body responsible for overseas scientific liaison, and is placed within the Department of Scientific and Industrial Research for convenience of organization.

4. *Commonwealth Agricultural Bureaux.* Machinery exists in the Commonwealth Agricultural Bureaux for liaison in the field of agricultural science between countries of the Commonwealth. In the United Kingdom there are 10 Bureaux, specializing in various branches of agricultural science, and two Institutes—the Commonwealth Mycological Institute and the Commonwealth Institute of Entomology. A third Institute, the Commonwealth Institute of Biological Control, has its headquarters in Ottawa, Canada. The Bureaux collect, collate and disseminate information resulting from agricultural research.

5. *The British Council.* The aims of the British Council in the pure and applied sciences are to foster closer co-operation between British scientists and scientists of other countries, and to promote a better understanding of Britain among overseas specialists by disseminating a knowledge of British activities and achievements. Under the first objective the exchange of visits between scientists in the United Kingdom and other countries is of prime importance. Besides arranging lecture or advisory tours overseas by eminent British scientists, the British Council, among many activities of a similar nature, brings to the United Kingdom every year a number of senior overseas specialists, postgraduate students and technicians on visits of varying duration, for the purpose of study in British universities and other institutions, or for discussion with British experts. In addition to publishing the *British Medical Bulletin*, intended primarily to keep overseas specialists informed of progress in medical research in Britain, the Council maintains an extensive and much used specialist information service. In the 60 countries in which the British Council is represented, libraries are maintained and in many instances these have strong sections of scientific and technological literature.

The British Council maintains at its headquarters specialist departments for medicine and science (including agriculture and engineering), while in some countries scientists are attached to its overseas representatives. The Council is advised by eminent scientists who serve on its Science Advisory Committee and on specialist panels for the different subjects.

Co-operation for the International Geophysical Year

The United Kingdom is taking a leading part in the International Geophysical Year (IGY), which started on 1st July, 1957, and is to continue until the end of 1958. During this period, scientists of some 60 nations will take part in an internationally planned and co-ordinated attempt to extend and intensify observation of the physical phenomena of the Earth.

A number of important posts connected with this project, including that of president of the special committee controlling all IGY operations, are held by United Kingdom scientists.

The Royal Society of London (see p. 407) is planning a co-ordinated research effort by Government Departments, universities and other institutions. It is obtaining Government grants, expected to total about £650,000, to cover costs of additional expenditure on IGY. Nearly half the United Kingdom contribution will be spent on the IGY Antarctic Expedition, and other work will include studies of the upper atmosphere from stations in the United Kingdom and its dependent territories. A Commonwealth Trans-Antarctic Expedition, financed partly by the various Commonwealth Governments and partly privately, was planned independently of the IGY but coincides with it and is contributing to it. British-built instruments will be used all over the world during the IGY; and in Britain itself, the Jodrell Bank radio telescope (see p. 409 and photograph facing p. 406) among many other instruments will be used to provide data.

Expenditure on Research and Development

According to estimates based on the preliminary results of a survey conducted by DSIR, Britain spent about £325 million on research and development in the financial year April 1955 to March 1956 (though this figure is subject to a margin of error, possibly as high as £80 million). Of the total expenditure, £185 million was spent by private industry, over three-quarters of it by aircraft, electrical engineering and chemical firms.

The detailed estimates, liable to be revised when the Survey is completed, are:

	<i>£ million</i>
Treatment of non-metalliferous mining products (other than coal): bricks, china, glass, cement, etc. . .	1.3
Chemicals and allied trades (other than mineral oil refining)	20
Mineral oil refining	3.1
Iron and steel	2.5
Non-ferrous metals	1.7
Engineering and shipbuilding	13
Electrical engineering	32
Vehicles (other than aircraft)	5.8
Aircraft	90
Other metal goods	2.1
Precision instruments, jewellery, etc.	1.8
Textiles, leather and clothing	5.4
Food, drink and tobacco	2.4
Wood, cork, paper and printing	1.5
Other manufacturing	2.5
Building and contracting	0.3
TOTAL	185.4

The amount of money spent in Government laboratories was £122 million, made up as follows:

	£ million
Transport and communications	1·7
Health	2·3
Mining and industry	6·5
Food, agriculture and fisheries	7·3
Supply and Service Departments	74·4
Atomic energy	30
TOTAL	122·2

Payments by Government Departments for research and development work^w not done in Government laboratories, most of which is reflected in the £185 million spent in private industry, are as follows:

<i>Department of Scientific and Industrial Research</i>	£ million
Grants to research associations	1·5
Grants to students and universities	0·7
 <i>Ministry of Supply</i>	
Payments to industry and universities	109·2
 <i>Admiralty</i>	
Research and development contracts	7·8

Publicly owned industries probably spent about £4 million. A further £16 million can reasonably be assumed to have been spent by miscellaneous organizations, such as research associations and universities.

The estimated total of approximately £325 million is therefore made up roughly as follows:

	£ million
Government laboratories, Agricultural Research Council, Medical Research Council, etc.	122
Privately owned industries	185
Publicly owned industries	4
Research associations, universities, technical colleges and other bodies	16

Some 130,000 people are engaged in research and development in United Kingdom industry (equivalent to 106,000 full-time workers or 1 per cent of the total employees). Of these, 30,000 hold a degree, or equivalent qualification, in science or engineering. Only 100,000 of them spend all their time on research and development; the rest combine this with other kinds of work. Aircraft firms lead in the proportion of manpower employed on research or development (12 per cent), followed by mineral oil refining (6 per cent), electrical engineering (4 per cent), and the chemical and allied industries (3 per cent).

THE PROMOTION OF THE ARTS

The preservation of Britain's cultural heritage and the promotion of literature and the arts are the active concern of a number of official and unofficial bodies. There is no Ministry of Fine Arts or equivalent organization to formulate or administer policy in the arts, though bodies such as the Standing Commission on Museums and Galleries (appointed 1931) and the Royal Fine Art Commission (appointed 1924) act in an advisory capacity. Government interest in the arts is expressed mainly through the provision of grants to such bodies as the Arts Council, the British Council (see p. 378), the British Film Institute (see p. 433), and the Council of Industrial Design (see p. 427), and also to the national museums and art galleries. In addition, under the Local Government Act, 1948, local authorities may use part of the revenue from the rates for the encouragement of the arts. Local education authorities also make grants to some schools of art, music and drama.

The *Arts Council of Great Britain* was established under a Royal Charter in 1946. It consists of not more than 16 honorary members appointed by the Chancellor of the Exchequer in consultation with the Minister of Education and the Secretary of State for Scotland. Its main duties are to increase the accessibility of the fine arts to the public, to improve the standard of execution in the fine arts, and to advise and to co-operate with Government Departments, local authorities and other organizations on any matter connected directly or indirectly with these objects. The corresponding body in Northern Ireland is CEMA (Council for the Encouragement of Music and the Arts).

Unofficial institutions concerned with the promotion of the arts include many charitable trusts and foundations, e.g., the Carnegie United Kingdom Trust and the Pilgrim Trust, and a large number of societies, associations and other organizations concerned with separate aspects of the arts, some of which are mentioned later in this chapter.

The *Carnegie United Kingdom Trust* was founded in 1913, by the late Andrew Carnegie. It was incorporated under Royal Charter in 1917. The Trust, which was initially founded for 'the improvement of the well-being of the masses of the people of Great Britain and Ireland', consists of 25 life trustees, 6 trustees nominated by the Corporation of Dunfermline and 3 trustees nominated by the Fife County Council. Its cultural policies include the support of adult amateur activities in music, drama and the visual arts. It also supports non-national museums. Grants totalling approximately £19,853 were made for these purposes during the year ended 31st December, 1956.

The *Pilgrim Trust* was founded in 1930 by the late Edward Stephen Harkness, an American citizen. The Trust, which has an income of about £150,000 a year, is administered by a body of trustees who are empowered to make grants towards any legally charitable object within the United Kingdom. In fact, the greater part of the Trust's income is at present being used to help to preserve the nation's heritage of architecture and history, and for the advancement of learning and the arts. The grants made for these objects during 1956 amounted to £139,292.

VISUAL ARTS

There are at present a number of British painters and sculptors of international repute as well as younger artists of great promise; and interest in their work and that of their contemporaries overseas, as well as in that of British and foreign artists of the past, is most marked in all sections of the community. This wider interest in visual art has not stopped at appreciation. There is evidence of this fact in the large numbers attending evening art classes, the growth of local art groups and local exhibitions, and the support given to holiday painting schools.

The fine arts of painting and sculpture in Britain receive State support by grants to national institutions and, indirectly, through grants made to the Arts Council, to municipal art galleries and museums, and to local education authorities for art schools and other means of promoting education in art.

In the year April 1956 to the end of March 1957 the Arts Council arranged 59 separate art exhibitions in Great Britain; 281 showings of these exhibitions were given in 52 different centres. Knowledge of Britain's fine arts is fostered overseas by the British Council by means of exhibitions, the dissemination of reproductions and photographs, lectures, and the provision of information and advice to inquirers abroad and to visitors in Britain. In the year ended March 1957, 27 fine art exhibitions organized by the Council were shown in 33 countries. The Council was also responsible for British participation in eight international exhibitions.

Museums and Art Galleries

There are in all about 900 museums and art galleries open to the public in the United Kingdom, though many are only small collections or merely a few rooms set aside in a public building for the display of local treasures.

The national museums and art galleries in London probably contain between them the most comprehensive collection of objects of artistic, archaeological, scientific, historical and general interest ever to exist within one city. The British Museum, which celebrated its bicentenary in 1953, has unparalleled collections of archaeological and ethnographical material from every part of the world, in addition to housing the national library of printed books, manuscripts, newspapers and periodicals; its Department of Prints and Drawings also possesses collections of the widest extent and richness. The Victoria and Albert Museum contains works of fine and applied art of all countries and periods, arranged mainly according to material, though since the war primary collections have been arranged to bring together, by style, period or nationality, masterpieces of all the arts. The National Gallery presents paintings by almost all the greatest European masters. The Tate Gallery embodies two collections: the British school from the eighteenth century onwards, with a few earlier works, and modern foreign schools since 1850. Both sections include modern sculpture. Frequent loan exhibitions are held in the gallery.

Other important collections in London are at the National Portrait Gallery, the Imperial War Museum, the National Maritime Museum at Greenwich, the London Museum (reopened in Kensington Palace in 1951), and Hertford House, where the famous Wallace Collection (furniture, armour, *objets d'art* and paintings, mainly French of the seventeenth and eighteenth centuries) is housed.

The Ministry of Education is responsible for the administration of the Victoria and Albert Museum and the Science Museum.¹ The other national institutions have their own Boards of Trustees, but all receive Treasury grants.

There are five national museums and art galleries in Edinburgh: the National Museum of Antiquities of Scotland, the National Gallery of Scotland, the Royal Scottish Museum, the National Portrait Gallery of Scotland, and the Scottish United Services Museum; and in Cardiff is the National Museum of Wales with its branch at St. Fagans Castle where the Welsh Folk Museum is housed. A Northern Irish Folk Museum is proposed for Belfast. The Belfast Museum and Art Gallery is municipally owned, but serves unofficially as a national institution for the whole of Northern Ireland.

Almost every city and large town has a museum devoted to art, archaeology and natural history, usually owned by the municipal authority but sometimes by a local

¹ For information on the scientific museums, see p. 419.

learned society or privately by individuals or trustees to whom some rich collector in the past has bequeathed his treasures. Both Oxford and Cambridge are rich in museums—the Ashmolean Museum in Oxford, founded in 1683, is the oldest in the country and the Fitzwilliam Museum in Cambridge has fine art galleries and a notable collection of engravings, manuscripts and books bequeathed by its founder on his death in 1861. Other universities have important collections, primarily for teaching purposes but also open to the public. Other cities with important museums and art galleries are Birmingham, Bristol, Glasgow, Leeds, Leicester, Liverpool (where part of the museum building destroyed in the war is now being rebuilt), Manchester, Norwich, Southampton, and York where the Castle Museum, with its complete reconstruction of an eighteenth-century street of shops, offers a most interesting historical display. In recent years there has been a notable development of 'period-house museums', in which outstanding examples of the private residences of former times have been taken over by national and municipal authorities for this purpose, as at Temple Newsam, Leeds; Aston Hall, Birmingham; and the Royal Pavilion, Brighton.

Temporary exhibitions produced by the Arts Council, the Art Exhibitions Bureau, and the Circulation Department of the Victoria and Albert Museum, are a regular feature of many museums.

The Museums Association, founded in 1889, is an independent organization to which museums and art galleries and members of their staffs throughout the country belong; there are also many overseas members. The Association serves as the central body for the collection of information and the discussion of matters relating to museum administration and practice, and as a training and examining body for professional qualifications. It also produces directories, a monthly journal, and other publications.

Financial assistance for improving the displays of the smaller museums is among the functions of the Carnegie United Kingdom Trust, which has done much to encourage the growth of the museum movement during the past thirty years, and at present expends an average of £10,000 a year in this field.

The various national art exhibiting societies include the Royal Academy, which, in summer, holds exhibitions of works by members and non-members and, in winter, exhibitions usually devoted to national schools of painting; the Institute of Contemporary Arts; the Royal Society of British Artists; the Royal Institute of Oil Painters; the Royal Society of Painters in Water Colours; the Royal Society of Portrait Painters; and the London Group. Some of these societies, notably the Royal Academy at Burlington House, have their own galleries in London. There are also an increasing number of amateur art societies throughout the United Kingdom which hold local exhibitions and encourage local interest in the fine arts in a variety of ways. The Contemporary Art Society uses its members' subscriptions to buy modern works which it presents to the public galleries.

Exhibitions of works by old masters and living artists are held throughout the year in the galleries of the art dealers of Bond Street and other parts of the West End of London. The Whitechapel Art Gallery shows a series of exhibitions in the East End of London; and the London County Council has shown an exhibition of sculpture in one of its parks every third year since the second world war.

Art Education

There are 15 colleges of art in the United Kingdom, each serving a region, all of which offer courses in most branches of art and a varying range of crafts; and there are schools of art in nearly all the larger towns. In London the most notable of these schools and colleges are the Royal College of Art (a national college) and

the Central School of Arts and Crafts of the London County Council, in both of which the emphasis is on industrial design, and the Slade School of Fine Arts in the University of London. At the Royal Academy Schools, founded in 1768, all instruction is provided free by Royal Academicians.

The leading academic institutions for the teaching and study of the history of art are the Courtauld Institute of the University of London, the Department of Classical Art and Archæology in University College, London, and the Warburg Institute (also a part of London University) which provides facilities for research on the character and history of the classical tradition.

Art has a place in the curriculum of every type of school and the Society for Education through Art encourages the purchase by schools of original works of art.

Industrial Design

The Council of Industrial Design was set up in 1944 by the President of the Board of Trade as a grant-aided body with the purpose of promoting the improvement of design in the products of British industry. The Council has 24 members, a majority being prominent industrialists, and there is a separate Scottish Committee.

The Council runs a permanent exhibition, at the Design Centre, in the Haymarket, London. This is a selective, changing display of well-designed British consumer goods in current production. To supplement this display, an illustrated record of good design, known as *Design Review*, is also maintained at the Centre. In addition, the Council organizes conferences and courses, maintains a record of designers, and a photographic and reference library on industrial design. It has an education section and a retail section and publishes a monthly magazine, *Design*.

Other bodies concerned with industrial design include the Royal Society of Arts (see p. 407), the Society of Industrial Artists, which is the representative professional body in Great Britain of designers engaged in industry and commerce, and the Design and Industries Association (founded in 1914). The DIA is a voluntary association of industrial companies, designers, and other bodies and individuals interested in the promotion of good design in industry.

Architecture

The Government's responsibility towards the nation's architecture is exercised on the one hand in encouraging the best and seeking to prevent the worst in new building and, on the other, in preserving the best that has been inherited from the past.

The Government Departments chiefly concerned with domestic architecture are the Ministry of Housing and Local Government, the Department of Health for Scotland, and the Northern Ireland Ministry of Health and Local Government, which are responsible in their respective countries for approving the layout and design of local authority housing schemes, and which issue reports and circulars setting standards for local authority housing. The Ministry of Housing and Local Government also encourages high standards by offering, each year, medals for the best-designed houses. The Education Departments are responsible for the supervision of building for the public education service. The Ministry of Works is the Department concerned with the construction and maintenance of Government buildings and also with the preservation of historic buildings and ancient monuments in Great Britain (see p. 397). In Northern Ireland, responsibility for the preservation of ancient buildings is vested in the Ministry of Finance. All these departments have architects on their staffs.

A number of professional, advisory and other societies and institutions exist to further the interests of architecture and the preservation of buildings of aesthetic value or historic interest.

Several State-sponsored organizations are concerned with special aspects of architecture. The Royal Fine Art Commission and the Royal Fine Art Commission for Scotland, both bodies of experts appointed by Royal Warrant, advise Government Departments and other public and quasi-public bodies on questions of public amenity or artistic importance. The National Buildings Record maintains a library (open to the public for consultation) of photographs of English and Welsh architecture and an index of architectural records in public and private possession. The Royal Commissions on Ancient and Historical Monuments for England, for Wales and Monmouthshire, and for Scotland, record in detail all ancient and historical remains in their countries and publish a series of surveys, designed ultimately to cover the whole of Great Britain. The Ancient Monuments Boards for England, Scotland, and Wales, set up under the Ancient Monuments Acts, consider which monuments should be listed in accordance with those Acts and advise the Minister of Works on any questions concerning ancient monuments. The Historic Buildings Councils for England, Scotland, and Wales, which were constituted under the Historic Buildings and Ancient Monuments Act, 1953, advise the Minister on the provision of grants towards the repair and maintenance of such buildings and their contents (see p. 397). An Historic Buildings Bureau finds new uses for unoccupied historic buildings of outstanding interest.

The leading professional architectural institution in the United Kingdom is the Royal Institute of British Architects (RIBA) which holds meetings at which papers are read and discussed, publishes a Journal and holds exhibitions, promotes and controls the training of architects through its Board of Architectural Education, and has one of the largest and most important architectural libraries in the world, housing over 65,000 books, periodicals and drawings. There are also the Incorporated Association of Architects and Surveyors, the Institute of Registered Architects and the Royal Incorporation of Architects in Scotland. Other societies include the Architectural Association, the Architecture Club, and a number of societies interested in particular aspects of architecture, such as the Modular Society.

Among the preservation societies are the Georgian Group, which is a society designed to awaken interest in Georgian architecture and to save Georgian buildings from destruction; the Society for the Protection of Ancient Buildings; the National Trust in England, Wales and Northern Ireland and the National Trust for Scotland (see p. 398), which together own more than a hundred houses of historic or architectural interest, many of which contain pictures and other works of art which are on view to the public; and the Historic Churches Preservation Trust, formed in 1952, under the chairmanship of the Archbishop of Canterbury. This Trust aims to raise £4 million to supplement the efforts of parishes to put their churches into good repair, and in four years had made grants to 669 churches and chapels.

Education in architecture is given at 19 schools of architecture recognized for exemption from the RIBA Intermediate and Final Examinations and 6 schools of architecture recognized for exemption from the Intermediate Examination only. There are also 47 schools of art and technical institutions (10 full-time) with facilities for the instruction of intending architects, which prepare students for taking externally the examinations of the RIBA. It is against the law for any person to practise or carry out work under any name, style or title containing the word 'architect' unless he or she is registered. The statutory body which regulates registration is the Architects' Registration Council of the United Kingdom.

LITERATURE

A knowledge of literature is fostered in the United Kingdom by the schools, colleges and universities of the country, in all of which English literature is taught either as part of a general course or as a specialist subject. Interest in the subject is thereafter maintained by the libraries, by the very large number of private literary societies (both national and local), by book reviews in the press, and on the radio, and by the numerous periodicals concerned in whole or in part with literature, of which the best-known critical weekly is the *Times Literary Supplement*. State support for literature is given through the Arts Council, which assists poetry—especially poetry readings—in Great Britain, and through the British Council, which is active in encouraging a knowledge of English literature abroad. Recognition of outstanding literary merit is given in the form of literary prizes, a number of which are awarded annually, e.g., the two James Tait Black Memorial prizes for biography and literature, the John Llewellyn Rhys Memorial prize for young writers of promise, the Hawthornden prize for imaginative writing, the Library Association Carnegie Medal for an outstanding book for children, and the Somerset Maugham award for young writers.

Libraries

The largest library in Britain is that of the British Museum in London (more than 6 million printed books). The National Library of Scotland (nearly 2 million volumes) is in Edinburgh, and that of Wales in Aberystwyth (more than 1 million volumes). Together with the Bodleian Library in Oxford (over 2 million volumes) and the Cambridge University Library (over 2 million volumes) these comprise the 'copyright' libraries of the country and are entitled to receive a copy of each new book published in Britain: the British Museum Library must receive a copy, the other libraries may claim one.

Other great libraries are¹: the London Library (the largest public subscription library, 600,000 volumes); the University of London Central Library (650,000)²; Edinburgh University Library (640,000); Glasgow University Library (440,000); St. Andrews University Library (532,000); the John Rylands Library, Manchester (500,000); the Science Museum Library (400,000); the Patent Office Library (365,000); the Victoria and Albert Museum Art Library (300,000); the National Library for the Blind (325,000 Braille and Moon types); the British Library of Political and Economic Science (361,000); the British Museum (Natural History) Library (200,000); the India Office Library (280,000); Queen's University Library, Belfast (200,000); the Royal Institute of International Affairs Library (94,000); the Royal Geographical Society Library (100,000); the Imperial Institute Library (150,000 items); the Public Record Office Library (which contains the National Archives and the National Register of Archives, a register and summary of some 8,000 local and private collections of records); the Royal College of Music Library (160,000); the British Drama League Library (100,000); the Library of the Royal Institute of British Architects (65,000); the Royal Academy of Music Library (60,000); and the Central Music Library (60,000). The Arts Council has founded a reference library of modern English poetry, which is housed with the National Book League.

¹ This list provides only an arbitrary selection of some of the largest libraries. Unless otherwise stated these libraries are in London where there are more than 500 libraries; and see also pp. 407–8.

² The total holding of all the libraries (college and special) of London University is over 2½ million volumes.

An important feature of library services in Britain is the co-operation within the closely knit network of libraries which greatly increases the value of the service. Library co-operation is organized regionally in the first instance, through Regional Library Bureaux, and is finally centralized in the National Central Library with its widespread system of outlier libraries (public, university and special) giving access to a total stock of 21 million books.

The public libraries of Britain maintain a service throughout the country, administered by 573 public library authorities (county councils, county borough councils, municipal borough councils and urban district councils). Together these authorities provide more than 32,000 service points; they hold over 63 million books and make more than 398 million loans a year. A feature of the service in rural areas is the travelling van, which is an itinerant library.

In addition to lending books, music scores and gramophone records, and providing special libraries for children, public libraries engage in many kinds of extension activities, such as play readings, lectures, film shows, music circles and co-operation in University Extension adult education.

The two principal organizations to which librarians belong are the Library Association and the Association of Special Libraries and Information Bureaux (ASLIB). The Library Association, with a membership of about 12,500, attempts to unite librarians and governors of libraries throughout the world and, through its many meetings, conferences, personal service and publications, including its official journal *The Library Association Record*, to provide for their general and specialized professional interests.

ASLIB, which is a documentation centre and is financed by the Department of Scientific and Industrial Research, operates in a more specialized field. One of its activities, for example, is the maintenance of an index of translations, especially from Russian and German, which have been or are being made in Britain.

Books

The output of new books in Britain amounts to over 13,000 new titles a year—in 1956, for example, British publishers issued a total of 19,107 separate titles, of which only 5,302 were reprints or new editions. In that year, the annual figures for new titles under literary subject headings were: bibliography and literary history, 220; biography, 441; essays, 129; fiction, 2,121; poetry and drama, 454.

Some classes of books are produced as Government publications by Her Majesty's Stationery Office, which is the largest publishing organization in Britain; the great majority of books, however, are produced by commercial publishers, including the university presses, notably the Cambridge University Press and the Clarendon Press (Oxford) which publish many outstanding learned works. The Clarendon Press is part of the Oxford University Press, which also has a publishing department in London.

Leading organizations representing the interests of those concerned with book production are the Publishers' Association, the Booksellers' Association, and the Society of Authors.

Literary and Philological Societies and Institutions

Societies and institutions concerned with the promotion of literature in its various forms include: the National Book League (12,500 members), which encourages the reading of and an interest in books, and which holds exhibitions, including the widely popular annual exhibitions of book design; the English Association (3,000 members), which aims at upholding the standard of English writing and speech;

and the Royal Society of Literature (250 members and 250 Fellows), which is concerned with the advancement of literature. Both the Royal Society of Edinburgh (790 Fellows), which promotes science and literature, and the British Academy, which is an organization concerned with humanistic studies and has a section dealing with literature and philology, receive grants from the Treasury.

Interest in poetry is encouraged by the Poetry Society (about 3,500 adult and 800 junior members); by the annual National Eisteddfod—the bardic festival held in Wales, the origins of which date back to the seventh century; and by the Apollo Society which, supported by the Arts Council, presents a number of poetry readings in which music as well as poetry forms part of the programme.

Among the specialist societies are the Early English Text Society, the Bibliographical Society, the Edinburgh Bibliographical Society, and several societies devoted to particular authors, of which the largest is the Dickens Fellowship (about 10,000 members).

There are also a number of clubs and societies, such as the Book Society (16,000 members), which exist to distribute selected new books to their members. The most recently established is the Poetry Book Society (780 members), which was set up in 1954 under the auspices of the Arts Council.

DRAMA

State patronage of the drama is expressed through the Arts Council, which grants subsidies to certain theatrical managements operating on a non-profit-making basis (i.e. using profits to finance future productions), provided that such managements have given evidence of serious aims and of consistently high standards of practical competence; and through the British Council, which is responsible for making the British theatre better known abroad by organizing and sponsoring international tours by important companies, including the Old Vic Theatre Company and the Shakespeare Memorial Theatre Company, and by sending overseas exhibitions of theatrical design and lecturers on drama. The Treasury is empowered, under the National Theatre Act, 1949, to support the scheme for a national theatre by contributing £1 million to the cost of building and equipping a theatre, in London, which would operate under public auspices.

Professional Theatre

The centre of the professional theatre is in London, where there are some 45 principal theatres and a number of suburban and 'little' theatres. These are let to producing managements on a commercial basis for every type of theatrical entertainment. There are also theatres in Scotland, Northern Ireland and in the provinces of England and Wales, which are served by productions touring either before or after London presentation, by companies specially formed for touring, and by local repertory companies.

In addition to managements which rent theatres for limited or long runs, there are a few companies which produce plays in theatres of their own. Among the older and better known of these organizations are the Old Vic Theatre Company in London and the Shakespeare Memorial Theatre Company at Stratford-upon-Avon, both of which are permanent companies. During 1956 there came into existence the English Stage Company at the Royal Court Theatre in Sloane Square, London, which presents a series of contemporary plays. Local repertory companies (some of which are assisted financially and otherwise by the Arts Council or, in Northern Ireland, by CEMA) may have the use of their own established repertory theatres, e.g., the Bristol Old Vic Company at the historic Theatre Royal in Bristol, or they may tour the various towns and villages in the locality,

playing from one to several nights in each place and using any building which can be made suitable for the purpose. The English Children's Theatre, a non-profit-making organization, presents children's plays in London and the provinces. The Open Air Theatre in Regent's Park, London, has been used for many summer seasons of repertory, mainly of Shakespeare and other poetic drama. The Ulster Group Theatre in Belfast specializes in Irish drama. Inevitably, the work of repertory companies varies in quality but, generally speaking, the standard of both production and acting is high; many of the leading dramatists, producers and actors in the United Kingdom started their careers in repertory.

Theatre clubs for regular patrons are run in connection with some of these company-owned theatres. In a few which sell seats only to club members, the plays are not subject to the normal requirement that they must be passed by the Lord Chamberlain¹ before presentation.

The Theatres Act, 1843, which deals with the licensing of theatres and plays, requires all new plays to be approved by the Lord Chamberlain, who may forbid the presentation of any play 'for the preservation of good manners, decorum, or of the public peace'. The number of plays for which a licence is refused amounts to little over one per cent.

Both in London and in the provinces, most managers and artists are members of one or another of the professional organizations which exist to maintain the standards of the professional theatre, to regulate the industry and to promote and safeguard the welfare of those who work in it. Organizations of this kind include the London Theatre Council, the Provincial Theatre Council, the Society of West End Managers, the Theatrical Managers' Association, the Council of Repertory Theatres, British Actors' Equity (the actors' trade union), and the League of Dramatists. The trade union of theatre staffs is the National Association of Theatrical and Kine Employees.

The Society for Theatre Research brings together those interested in the history and technique of the British theatre.

Amateur Theatre

The amateur dramatic movement is widespread throughout the United Kingdom; there are thousands of amateur dramatic societies. The movement is sponsored and fostered by local education authorities, by other public bodies, and by four special organizations—the British Drama League, the Standing Conference of Drama Associations, the Scottish Community Drama Association, and the Ulster Drama League.

The British Drama League, which was founded in 1919, operates on a basis of affiliation and individual membership. Its many services to its members include the arrangement of courses, lectures and competitions in dramatic work; the provision of an information bureau; and advice on many matters connected with the stage, e.g., play-writing, production, stage management and the organization of drama festivals. The work of the Standing Conference is mainly that of co-ordination between the various bodies concerned in the amateur dramatic movement; while the Scottish Community Drama Association fulfils, in Scotland, the functions of both the League and the Conference and is supported by the Scottish Education Department.

The Universities of Oxford and Cambridge have famous dramatic societies, and there are drama clubs and societies in many other universities and colleges.

¹ The Lord Chamberlain, whose office dates from the fourteenth century, is the senior officer of the Royal Household. His functions include the licensing of theatres in London and certain towns, and the licensing of plays for public performance.

Dramatic Training

Dramatic training is provided mainly in the large number of dramatic schools and institutions of all kinds which have been established throughout the United Kingdom. Among the most important of such institutions are the Royal Academy of Dramatic Art (which was founded in 1904 and is now grant-aided, and which provides a two-year course in all branches of stage work), the Central School of Speech Training and Dramatic Art, the Rose Braford School, the London Academy of Music and Dramatic Art, the Royal Ballet School (the former Sadler's Wells School) which provides a general education and training for the ballet, the Royal Academy of Dancing, all of which are in or near London; and there are also the Old Vic School in Bristol and the Northern Theatre School in Bradford.

Some form of education in drama is also provided in many of the schools and youth clubs of Britain, and a varying degree of recognition is given to the subject in the universities. Bristol University leads in this direction in that it has created a Department of Drama offering a course which an Arts student may take as part of his or her general degree.

FILMS

The British public, with an annual average of 22 attendances a head, possibly visits the cinema more frequently than any other people in the world. Although cinema attendance has been declining in recent years and 185 cinemas in Great Britain closed in 1956, there are in 1957 over 4,300 cinemas in Great Britain with a total of over 4 million seats, and another 150 cinemas in Northern Ireland.

The first cinematograph exhibition in Britain was given in 1896 and within ten years Britain was in the forefront of film production. This early ascendancy did not survive the impact of the first world war and since 1914 British films have had to contend with keen American competition. Legislation, first introduced in 1927 and continued by the Cinematograph Films Acts of 1938 and 1948, has given some assistance by means of the quota system, under which a certain proportion of British films must be shown in British cinemas each year. The proportion is fixed annually by Board of Trade Order, after consultation with the Cinematograph Films Council, and is subject to confirmation by Parliament. For first feature films it has stood at 30 per cent since 1950. The Cinematograph Films Act, 1957, renews the quota provisions for a further ten years.

During the second world war the British cinema re-emerged with new vitality and began again to exert an important influence on film development by the production of many notable feature films depicting Britain's ordeals and achievements in the war. These films were based on the documentary technique which had been developed since 1929 for the making of factual informative films sponsored by the Government or by commercial organizations. British feature films in the post-war years have been influenced by this trend, and realistic treatment is now a characteristic of British feature production, both in dramatic films and in the light-hearted satirical comedies that have won acclaim in recent years.

The development of the film as an art is promoted by the British Film Institute, founded in 1933, which is financed partly by an Exchequer grant and is responsible to the Privy Council. The Institute encourages the making and showing of good films and helps the public to appreciate good films. It administers the National Film Theatre in London and the National Film Archive, and maintains a library of books on the film and an Information Service. The Institute also administers grants for the encouragement of film appreciation and for the production of experimental films.

The National Film Archive contains over 7,000 films, besides scripts, art designs, posters and 120,000 photographic stills, selected to illustrate the history and the art of the film and as significant social and historical records.

The National Film Theatre shows films of outstanding historical, artistic or technical interest; it holds a unique position as a cinema offering regular programmes which are unrestricted by commercial considerations or by the age or nationality of the films shown. Its new building, erected in 1957, will be the first permanent national film theatre in the world.

The British Film Academy, founded in 1947, is a private organization, representative of senior film-makers, which exists to foster the making of creative films. It provides a meeting ground for artists and technicians and gives annual awards for films, for technical achievements and for film acting.

Financial Aid for Film Production

The art of film production is a costly one which depends upon a commercially prosperous industry for its development and well-being, and needs adequate financial backing combined with freedom for the film maker to experiment and to express his own ideas. There is no State-owned film production unit in Britain, but the National Film Finance Corporation, a statutory body set up in 1949, is empowered to lend money for film production. Its members—a chairman, a managing director, and three to five others—are appointed by the Board of Trade. Its funds (limited by statute to £8 million) are provided, up to £6 million, by advances from the Board of Trade; the remaining £2 million may be borrowed from non-Governmental sources. The Corporation is financially concerned with about half the films being made in British studios.

There is a levy on cinema admissions to provide a film production fund. This levy is quite separate from the Entertainments Duty which is a tax charged on cinema admissions. The money raised by the levy is paid out as a percentage of a film's takings, so that the more successful a film is at the box office, the more it receives from the fund. The fund was started in September 1950 on a non-statutory basis as the British Film Production Fund, known as the Eady Fund. It was based on a renewable agreement between the various trade associations, subject to Board of Trade approval. When this agreement lapsed in October 1957, the voluntary scheme was replaced by a statutory scheme with the same purpose. The Cinematograph Films Act, 1957, gives the President of the Board of Trade powers to make regulations governing the collection, by the Customs and Excise Department, of a levy from exhibitors, and the distribution of the proceeds for the benefit of British film production. A new body, the British Film Fund Agency, will undertake the distribution.

Some 40 per cent of British first feature films are produced by the two large amalgams, the Rank Organisation and the Associated British Picture Corporation, which have companies for production, distribution and exhibition. There are numerous companies (many of them only small) which produce short films.

Cinema Licensing and Film Censorship

The State takes no part in the censorship of films in Britain, but, by virtue of their power to grant licences, the local licensing authorities act as the final arbiters and censors of films proposed for showing in their areas. There are over 700 licensing authorities; they are local authorities or, in some areas, magistrates. The Cinematograph Act of 1909 required, for reasons of safety, that inflammable films should be shown only on premises licensed for the purpose; it was subsequently established that licensing authorities had the right to supervise the character of the

films exhibited. In judging the suitability of films for public showing, licensing authorities rely on the judgment of an independent body, the British Board of Film Censors, to which are submitted all films (other than newsreels) intended for public showing.

The British Board of Film Censors was set up in 1912 on the initiative of the cinema industry, which wished to ensure that a proper standard was maintained in the films offered to the public. It consists of a president, a secretary, and seven examiners. Members, who include three women, are appointed by the president as representative of the general public unconnected with the industry. The president is elected by a trade committee and is usually a man prominent in public life.

The Board, which does not use any written code of censorship, may require cuts to be made before it will grant a certificate to a film; more rarely, it will refuse a certificate. Films passed by the Board are placed in one of three categories: 'U' (suitable for universal showing); 'A' (more suitable for adults than children) and 'X' (suitable only for adults). A child or young person under 16 years of age may be admitted to a cinema showing an 'A' film only if accompanied by a responsible adult, and may not be admitted on any condition if an 'X' film is being shown.

Children and the Cinema

The Cinematograph Act, 1952, which came into force in January 1956, extended the scope of the 1909 Act and provided for the making of regulations by the Secretary of State for Home Affairs to protect the health and welfare of children in relation to their attendance at film shows. Cinemas which give children's shows require a special licence from the licensing authority and the authority is able to impose special conditions on such cinemas.

Children's cinema clubs, providing special children's programmes on Saturday mornings, are widely organized by the cinema groups and have become very popular. An important contribution to these programmes is made by the Children's Film Foundation which produces and distributes entertainment films specially designed for children. The Foundation is a non-profit-making body set up by the British film industry in 1951.

MUSIC, OPERA AND BALLET

In Britain today, music in all its forms is drawing large audiences; and orchestral concerts, choral singing, music festivals, opera and ballet are important features of British cultural life.

The British Council has done much to make British music and ballet companies more widely known throughout the world. Tours of British orchestras, soloists and opera and ballet companies are arranged, recordings of works by British composers are sponsored, and libraries of British music (recorded and in printed score) are maintained in 57 countries overseas. At the Council's headquarters in London, a central music reference library of music literature, scores and recorded music is maintained for the use of visitors. Distinguished musicians from overseas are invited to Britain as guests of the Council to gain some first-hand experience of British music and musicians, and extensive arrangements are made to cover each individual interest.

Music

Seasons of orchestral concerts are promoted every year in all the large towns and cities of Britain, some of which have well-known concert halls. In London, the principal concert halls are the Royal Festival Hall on the South Bank of the Thames, which was opened in 1951 in connection with the Festival of Britain; the Royal Albert Hall, Kensington; and Wigmore Hall, which is the premier recital centre.

Among the leading British orchestras are the London Symphony Orchestra, the BBC Symphony Orchestra, the London Philharmonic, the Royal Philharmonic, the Philharmonia, the Hallé (Manchester), the Liverpool Philharmonic, the City of Birmingham Orchestra, the Bournemouth Symphony Orchestra, the Scottish National Orchestra and the BBC Scottish Orchestra. There are also the specialized string and chamber orchestras such as the Boyd Neel Orchestra, the Jacques Orchestra and the London Mozart Players; and a number of new orchestras which have been formed during the past few years. Many of these orchestras receive financial aid from the Arts Council, to help with the cost of maintaining ensembles, of presenting new or unfamiliar works, and of improving standards generally. The City of Belfast Orchestra is financed jointly by the Belfast Corporation and CEMA.

The principal choral societies in Britain are the Royal Choral, the BBC Choral, the Huddersfield Choral, the Hallé Choir, the Liverpool Philharmonic Choir, the London Philharmonic Choir, and the Bach Choir. These and many other choral societies are associated with famous orchestras in major choral works; most of them, together with hundreds of similar choral and orchestral societies and music clubs, are affiliated to the National Federation of Music Societies, through which they are supported with funds provided by the Arts Council.

Music festivals in Britain, originating with the Three Choirs Festival held annually in Gloucester, Worcester or Hereford in rotation, have been in existence for over 200 years. The festival idea has developed considerably in recent years, and festivals of music and other arts are now held annually in many cities and towns throughout the United Kingdom. They range from the famous Edinburgh International Festival of Music and Drama, which lasts three weeks and attracts many thousands of visitors, to those, such as the Aldeburgh Festival, lasting a week or less. Among the better known are the Llangollen International Eisteddfod; the National Eisteddfod of Wales; the National Gaelic Mod held at a different place in Scotland each year; the Cheltenham Festival, devoted to contemporary British music; the York Mystery Plays and Festival; and the Leeds and Norwich Festivals of choral music, which are held on a triennial basis. An annual international festival of folk song and dancing is held by the English Folk Dance and Song Society.

Interest in amateur music-making is increasing. It is encouraged by the work of County Music Committees,¹ which are aided by the Carnegie United Kingdom Trust and united in the Standing Conference of Music Committees. The Rural Music Schools Association is concerned with music-making by amateurs in country districts; it brings together professional musicians, teachers, administrators and amateurs.

Professional organizations, which look after the interests of music and musicians, include the Musicians' Union, the Incorporated Society of Musicians, the Composers' Guild, and the Songwriters' Guild.

Specialized education in music is given at Colleges of Music, of which the most prominent are the Royal Academy of Music and the Royal College of Music in London, the Royal Manchester College, and the Royal Scottish Academy in Glasgow, all of which receive grants-in-aid. There are also the Trinity College of Music and the Guildhall School of Music and Drama in London. Youth orchestras are strongly encouraged, and children's concerts, given by symphony orchestras directed by prominent conductors, are a regular feature of the country's musical activities and have helped to develop among the youth of the community an appreciation of the world's greatest music. The National Youth Orchestra, made up of

¹ Some of these are voluntary committees and some are local education authority sub-committees.

the most promising members of school orchestras, is noted for its high standard of performance.

Opera and Ballet

Regular seasons of opera and ballet are given at the Royal Opera House, Covent Garden, which is leased by the Government¹ to the Covent Garden Opera Trust, which was formed in 1944 to make the famous opera house the home of a national opera and ballet, and which receives a Government grant through the Arts Council. The Royal Opera House has its own resident opera company and ballet company which give performances both in London and elsewhere. The opera company, which numbers about 200 and has a permanent orchestra, makes an annual tour of provincial centres. The ballet company, which in January 1957 was incorporated with the Sadler's Wells Theatre Ballet and the Sadler's Wells School to form the Royal Ballet, has a high international reputation gained as the Sadler's Wells Ballet during its visits in recent years to Canada and the United States and its European tours, arranged by the British Council.

Seasons of opera and ballet are also given at the Sadler's Wells Theatre in London; and at Glyndebourne in Sussex, an opera season, for which a company is specially assembled, is held every year. Other opera companies include the Carl Rosa, one of the oldest opera organizations in Britain; the English Opera Group, formed in 1947, and noted for its performances of chamber operas by Benjamin Britten; and Intimate Opera, which performs eighteenth and twentieth century works for two or three characters in any hall available. The Arts Council manages a small operatic group (Opera for All) which specializes in introducing opera to audiences who hitherto have been unfamiliar with it. There are also a number of amateur opera clubs both in London and in the provinces, including the City Opera Club (of London) and the Welsh National Opera Company, which is an amateur society reinforced with professional soloists. Among the ballet companies are the Ballet Rambert, Britain's oldest ballet company, which has discovered many distinguished dancers and choreographers, and the Festival Ballet.

The Royal (formerly Sadler's Wells), the Arts Educational, and the Rambert Ballet Training Schools are among several schools which have played an important part in raising British ballet to its present high standard.

¹ The Ministry of Works acquired a 42-year lease from Covent Garden Properties Limited in 1949.

XIII. SOUND AND TELEVISION BROADCASTING

Broadcasting of sound and of television in the United Kingdom is regulated under powers conferred on the Postmaster-General by the Wireless Telegraphy Acts, 1949-1955, which prohibit the sending or receiving of radio communications, except under licence. Users of sound and television receiving sets must obtain an annual licence, which can be purchased from most post offices.

Sound broadcasting services are provided solely by the British Broadcasting Corporation (BBC), which was created as a public corporation by Royal Charter in 1927. Television services are provided by both the British Broadcasting Corporation and the Independent Television Authority (ITA), which was established by the Television Act, 1954. Receiving licences are valid for the services of both the BBC and the ITA.

The number of receiving licences current in the United Kingdom at the end of July 1957 was 14,644,613, of which 7,055,702 were for sound broadcasting only, and 7,269,748 for sound and television combined. The former costs £1 annually, the latter £4, of which £1 is excise duty. One licence covers all receiving sets in a household, but a separate licence (319,163 at end-July 1957) is required for sets fitted in cars.

Broadcasting Authorities

When sound broadcasting began in the United Kingdom, it was decided in Parliament that the Postmaster-General should grant only one licence for that purpose at any one time; and the first licence (issued in 1922) was granted exclusively to a limited company (the British Broadcasting Company). The decision to grant only one licence for broadcasting was maintained when the British Broadcasting Corporation (BBC) was formed to take over the functions of the limited company; it was reaffirmed when, in 1937, the BBC's second Charter was granted, which covered the sound services and the first high definition public television service in the world, inaugurated by the BBC in 1936; and it was upheld throughout the second world war and during the post-war period until 1952.

During the war, public service television broadcasting was suspended, and transmissions were not resumed until 1946. After resumption, however, they gained rapidly both in technical efficiency and in popularity; and between 1949 and 1952 (when the BBC's Charter was again due to be renewed) the Government instituted a major review of sound and television broadcasting which aroused great interest in Parliament, in the Press and among the ordinary public. After prolonged parliamentary and general discussion (during the course of which the first non-exclusive broadcasting licence was granted to the BBC) it was decided by the Government that the potential power of television was so great that it would be undesirable to leave transmission services in this medium in the hands of a single authority, however excellent. The Independent Television Authority was therefore established to provide services additional to those of the BBC for an initial period of ten years; and

independent television transmissions began in 1955—the BBC's monopoly in the provision of sound broadcasting services remaining undisturbed.

Both the BBC and the ITA are independent authorities in so far as daily administration and presentation of programmes are concerned. The Government, however, retains ultimate control of the BBC; while the Postmaster-General, as the responsible minister, is answerable to Parliament on broad questions of policy. The Postmaster-General may also issue directions to the Corporation on a number of subjects, and may prohibit the broadcasting of any particular matter. The Government has similar powers of control over the activities of the ITA. Both the BBC and the ITA are required to publish annual Reports and Accounts, which are presented by the Postmaster-General to Parliament.

The BBC and the ITA both consult with the Postmaster-General as to the hours of broadcasting. Television broadcasting is limited to 50 hours a week and eight hours in any one day, with extensions for certain stated purposes, such as religious broadcasts, outside broadcasts and Welsh language broadcasts. The authorities may broadcast television programmes, within the prescribed maxima, during any periods best suited to the needs of their audiences. The BBC broadcasts in all four of its sound services within an overall band of some 17½ hours out of the 24.

Organization and Finance

The BBC operates under the provisions of two documents, each granted for limited periods at the end of which they may be renewed or amended: the Charter, which prescribes the constitution, internal organization and objects of the Corporation and contains certain financial provisions; and the Licence and Agreement between the Corporation and the Postmaster-General, which deals mainly with technical matters and details of finance, but also contains some important constitutional conditions. The operations of the ITA are governed by the provisions of the Television Act, 1954, which formulate its constitution, its functions, its purpose and the framework of its finances; and by the Licence (which contains technical provisions) issued to it by the Postmaster-General in 1955, for an initial ten-year period.

The British Broadcasting Corporation

Under the current charter (which came into force in 1952 and expires in 1962) the Corporation consists of nine governors (including a chairman, a vice-chairman and national governors for Scotland, Wales and Northern Ireland) each appointed for a period of not more than five years on a part-time basis by the Sovereign in Council. As a corporate body, the governors are responsible for the conduct of the whole broadcasting operation, including the content and presentation of the programmes in sound and television, and the provision and working of the installations and equipment necessary for originating and transmitting signals for general reception in the form of sound or pictures or both.

In the discharge of its responsibilities, the Corporation ensures that its services are used, in the words of the Charter, 'as a means of disseminating information, education and entertainment'; it must pay heed to the requirements of the Licence (e.g. it must allow the broadcasting of any announcement at the request of a Government Department, and it must strictly exclude commercial advertisements in any form from its programmes); and it must refrain from formulating or allowing the expression of editorial opinion, since to express such opinion would be to depart from the rule of impartiality which the BBC is expected to observe in current affairs and matters of public issue.

The governors are advised on all aspects of their work by a number of councils, established in accordance with the terms of the the Charter, e.g., the General Advisory Council, which has been in existence, except for a break during the war years, since 1934; the National Broadcasting Councils for Scotland and Wales, which, under the chairmanship of the national governors for Scotland and Wales, are responsible for the domestic sound services in those countries; and the Regional Advisory Councils for the English regions and for Northern Ireland. There are also a number of other councils and committees not specifically required by the Charter, which have been established by the BBC to advise on particular matters, e.g., religious broadcasting, schools broadcasting, music and agriculture.

The chief executive officer of the BBC is the Director-General, who is appointed by the governors at their discretion and with whom they discuss all major matters of policy and finance. Under the Director-General are six directors (the Chief Assistant to the Director-General and the Directors of Sound Broadcasting, Television Broadcasting, External Broadcasting, Engineering, and Administration) who, between them, cover the whole work of the Corporation, and who, with the Director-General, constitute the Board of Management of the BBC. The number of staff employed at 31st March, 1957, was 14,473 (including 769 part-time personnel).

The services of the BBC are financed from (1) an annual grant from the Exchequer related to revenue derived from the sale by the Post Office of wireless receiving licences; (2) an annual grant-in-aid from the Exchequer mainly for the external and other related services, i.e. the European Services, the Overseas Services, and the Monitoring Service and (3) profits from BBC publications, chiefly the *Radio Times*, which has a weekly sale of over 8 million copies and attracts a large advertising revenue. The gross revenue from the sale of licences for the year ended 31st March, 1957, amounted to £28,454,492. From this sum (under the terms of an Agreement drawn up in 1954) the Government retained £2,750,000, and the Post Office deducted the sum of £1,914,284, which was equal to the actual expenses it incurred in relation to broadcasting services, including collecting the licence fees, investigating complaints of interference, and the cost of administration. The Corporation therefore received a net income from this source of £23,790,208. Net revenue from publications amounted to £1,099,000, and grant-in-aid receipts for the same period were £5,767,000, including £345,000 against capital expenditure.

A new Agreement, dated 1st February, 1957, provides that for the purposes of home broadcasting (sound and television) the Postmaster-General is to pay to the Corporation a sum equal to 87½ per cent of the net licence revenue (i.e. the gross licence revenue less normal deductions by the Post Office) for a period of three years, which began on 1st April, 1957; and during the remainder of the term of the licence, such sum as the Treasury may authorize. Under this Agreement, as in previous agreements, additional sums may be paid to the Corporation if, on application by the BBC to the Postmaster-General, the Treasury is satisfied that the income of the Corporation is insufficient for the adequate conduct of home broadcasting during any portion of the term of the Licence.

The Independent Television Authority

The Independent Television Authority consists of a chairman, a deputy chairman and eight ordinary members (three of whom have special responsibility for Scotland, Wales and Monmouthshire, and Northern Ireland severally) appointed on a part-time salaried basis by the Postmaster-General from among persons who have distinguished themselves in various professions and careers. The Authority owns and operates the transmitting system, but the production studios and equipment are owned, and the actual programmes are provided by programme companies

under contract, who pay the Authority for the right to present programmes, which may include advertisements. The Authority is, however, required, under provisions of the Television Act, to satisfy itself that the programmes maintain certain standards—e.g., it must ensure that they do not offend against good taste or decency, that they are balanced in their subject matter, that they preserve due impartiality in presenting matters of industrial or political controversy, and that the news is reported accurately. The Authority therefore has controlling and regulatory powers of a wide and important character in regard to programmes and advertisements, as well as the task of choosing the programme contractors and drawing up the contracts under which they are to operate.

In the discharge of its duties, the Authority is advised by three statutory committees: the Advertising Advisory Committee; the Religious Advisory Committee; and the Children's Advisory Committee. The Authority has power to appoint other advisory committees, if and when it considers this to be necessary.

The chief executive officer of the ITA is the Director-General. There is also a Deputy Director-General, and a headquarters staff covering all technical, administrative, clerical, typing and office services, which numbered 60 at 30th April, 1957. Staff has also been recruited for the transmitting stations and for regional offices in the midlands and the north, bringing the total number of ITA staff to some 150. The programme companies under contract with the ITA are: Associated-Rediffusion Limited; Associated TeleVision Limited; ABC Television Limited; Granada TV Network Limited; Scottish Television Limited; Television, Wales and the West, Limited; and a group formed by the Rank Organisation, Associated Newspapers and the Amalgamated Press. A common news service is provided by Independent Television News Limited. A Standing Consultative Committee, composed of two representatives of the ITA and a representative of each of the programme companies, provides consultative machinery between the Authority and the companies on matters affecting the companies as a whole. There is also a Television Programme Contractors Association, designed to further the collective interests of the companies with such outside bodies as trade unions and sporting organizations, and generally to ensure that they speak as far as possible with one voice on public issues connected with television broadcasting policy.

The finance of the ITA is drawn from payments made to it by the programme companies which, in the year 1955-56, amounted to £423,499. In addition, advances (limited to £1 million during the first year of the Authority's existence and to a total of £2 million in all during the first five years) may be made by the Postmaster-General with the consent of the Treasury for the purpose of paying initial expenses and for providing the ITA with working capital. At end-December 1956, only £550,000 had been loaned to the Authority under this head. There is also provision in the Television Act for an annual Exchequer grant, not exceeding £750,000, to be made to the Authority, but mainly because of the general economic situation in the United Kingdom, the grant was not forthcoming during the years 1955-56 and 1956-57. An Exchequer grant, amounting to £100,000, however, is to be made available to the Authority in the year 1957-58 for the provision of programmes designed to improve the balance of the material transmitted; it is possible that it will not be necessary to use this grant.

Sound Broadcasting

The BBC operates four domestic sound broadcasting services from 55 transmitting stations, and two main groups of external broadcasting services from 39 high power, high frequency transmitters in the United Kingdom and at Tebrau in Johore. Until recently, the domestic sound services were broadcast solely on

the long and medium wavelengths allocated to the United Kingdom under the Copenhagen Agreement of 1948, which was implemented in 1950. However, the growth in the number of European broadcasting stations so increased interference on these wavelengths that, in 1955, the BBC began to establish a network of very high frequency (VHF) transmitters, twelve of which are already in operation. Plans for the building of four more such stations, to bring 96 per cent of the population within range of sound radio without interference, have been approved by the Postmaster-General. These additional stations will be brought into operation during 1958.

There are 145 studios for the domestic sound programmes, of which 54 are in London and 91 at various centres in the regional areas. The external services use 25 London studios.

Domestic Services

The domestic sound services, consisting of the Home Service, the Light Programme, the Third Programme, and Network 3, have recently been replanned, both individually and in relation to each other, to cater for the varying tastes of the listening public in accordance with the results of a review carried out by the BBC early in 1957.

The *Home Service*, which occupies some seventeen hours a day, is designed for those who wish to listen with serious attention both to entertainment and to information. It contains a wide range of musical programmes, the principal news and information broadcasts, important discussions on current affairs, party political broadcasts, religious broadcasts and schools broadcasting (see page 372). It is also the vehicle for regional broadcasting, which is the generic term for services specially compiled for listeners in Scotland, Northern Ireland, Wales, the north of England, the midlands and the west of England. All these services carry items from the basic Home Service together with programmes produced within the region; and the Welsh Service also broadcasts a daily bi-lingual service.

The *Light Programme*, which occupies some seventeen hours a day, is intended for those who wish to enjoy relaxation and distraction in the least demanding form. Its output includes variety programmes of all kinds, including programmes of dance music and light music, in which the main emphasis is placed on the quality of popular appeal. The Light Programme also contains some news and information broadcasts.

The *Third Programme*, which occupies some three hours a day, is the medium for music, drama, talks and features designed for the intellectual listener of cultivated tastes and interests. The programme has an international flavour in that many of the plays presented are translations of European drama or by American authors, concerts or operas are often relayed direct from foreign countries, and many of the talks are about foreign political thought and cultural activities in countries overseas.

In addition to these three services, *Network 3*—an innovation—occupies some two hours each evening providing programmes of specialized interest, mainly programmes of the spoken word.

Each of the domestic sound services has its own characteristics, but the Home Service and the Light Programme are planned together and are synchronized for a part of each day, while the Third Programme is co-ordinated with the other two, so far as is practicable, to ensure the widest possible choice of programmes for listeners.

External Services

The external broadcasting services of the BBC are intended to provide a link of culture, information and entertainment between the peoples of the United Kingdom and those in all other parts of the world; to present events of world-wide importance with speed and accuracy; and generally to reflect British opinion and the British way of life. They are heard in English and in 43 other languages throughout the world for a total, between them, of about 80 hours a day.

Up to September 1957, the services were divided into¹:

The *European Services*, which consist of five regional services conducted mainly in the languages of the countries to which they are directed, and an English service directed to the whole of Europe.

The *Overseas Services*, which are directed to countries outside Europe and comprise the General Overseas Service (started as the Empire Service in 1932) with its world-wide audience of English-speaking listeners, and a number of regional services in English and 25 other languages. The General Overseas Service pays special attention to its audiences in the Commonwealth, to British Forces and to British communities overseas and gives a complete programme service of 21¼ hours every day (shortly to be increased to 24 hours daily), including news bulletins, talks, music, light entertainment, religious services and sport. The regional services include the African, Caribbean, and Colonial Services; the North American, Pacific and South African Services; the Eastern Service for the Arab countries and for Ceylon, India, Persia, Israel and Pakistan; the Far Eastern Service; the Latin American Service; and 'London Calling Asia', a programme in English for South Asia, South-East Asia, and the Far East.

The external broadcasting services also include the *Transcription Services*, which record some 800 BBC programmes a year and make them available to broadcasting organizations in all parts of the world; 'English by Radio' lessons, with explanations in 36 languages, which reach an audience of several millions by direct transmission from London, by relays and by transcription recordings; and the *Monitoring Service*, which reports foreign broadcasts in more than 40 languages and works under a reciprocal agreement with its American counterpart as regards monitored material from the Far East and other areas inaudible in the United Kingdom.

The selection of the countries to which the external broadcasting services are to be directed, and the time on the air to be allotted to each, rests with the Government Departments concerned with overseas relations, but the content of the broadcasts is entirely the responsibility of the BBC.

The BBC maintains offices for its representatives in Berlin, Beirut, Delhi, New York, Ottawa, Paris, Singapore and Sydney, to encourage local interest in the BBC and to provide the BBC with advice and help concerning programmes, whether for home listeners about that area or for overseas listeners in that area; to promote good relations with the local broadcasting organizations, and to keep the BBC informed about local broadcasting and other developments of interest. The BBC has regular relations with the broadcasting organizations in nearly all parts of the world. Relations with these broadcasting organizations are handled by the External Services Liaison Department of the BBC.

¹ As a result of the issue in July 1957 of a White Paper: *Overseas Information Services*, Cmnd. 225, alterations in the External Services of the BBC have been undertaken.

Television Broadcasting

In 1936, the BBC launched the world's first public television service. By end-1957, this service was being transmitted from 18 stations and was available to over 96 per cent of the population (see map, p. 445).

The BBC television service transmits just under 50 hours of programmes a week, with permitted extensions (see p. 439). In the course of a year, the service broadcasts more than 4,000 items on a national network, made up of studio productions, outside broadcasts, films, and relays from the continent of Europe.

BBC studio productions come mainly from seven studios in London (five at Lime Grove and two at Hammersmith) and from the London Television Theatre. Regional contributions to the national network come from studios at Manchester, Birmingham, Cardiff, Glasgow and Bristol. The television film department of the BBC is housed at the recently acquired Ealing film studios; and Television News and newsreel programmes originate from a specially equipped studio at Alexandra Palace. Outside broadcasting (which during the year 1955-56 transmitted some 850 programmes, providing nearly a quarter of the total BBC television output) not only covers most parts of the United Kingdom with its mobile units, presenting programmes both of national and of specifically regional interest, but also brings scenes of events in Europe to viewers in the United Kingdom and to viewers on European networks (see p. 447).






The first regular ITA service was inaugurated in September 1955 by a programme transmission from the ITA London station at Beaulieu Heights, Croydon. By end-1957, programmes were also being transmitted for between 7 and 8 hours daily from the London station, from a station near Lichfield covering the midlands area, from two stations in the northern area—Winter Hill and Emley Moor—and from stations at Black Hill in Scotland and at St. Hilary in South Wales, making the service available to over 70 per cent of the population. By the end of 1958, programmes will also be transmitted from stations in Newcastle and the Isle of Wight (see map, p. 445); and it is estimated that, by the end of 1959, independent television will be within the reach of about 90 per cent of the population.

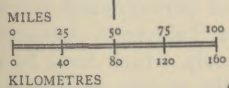
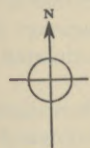
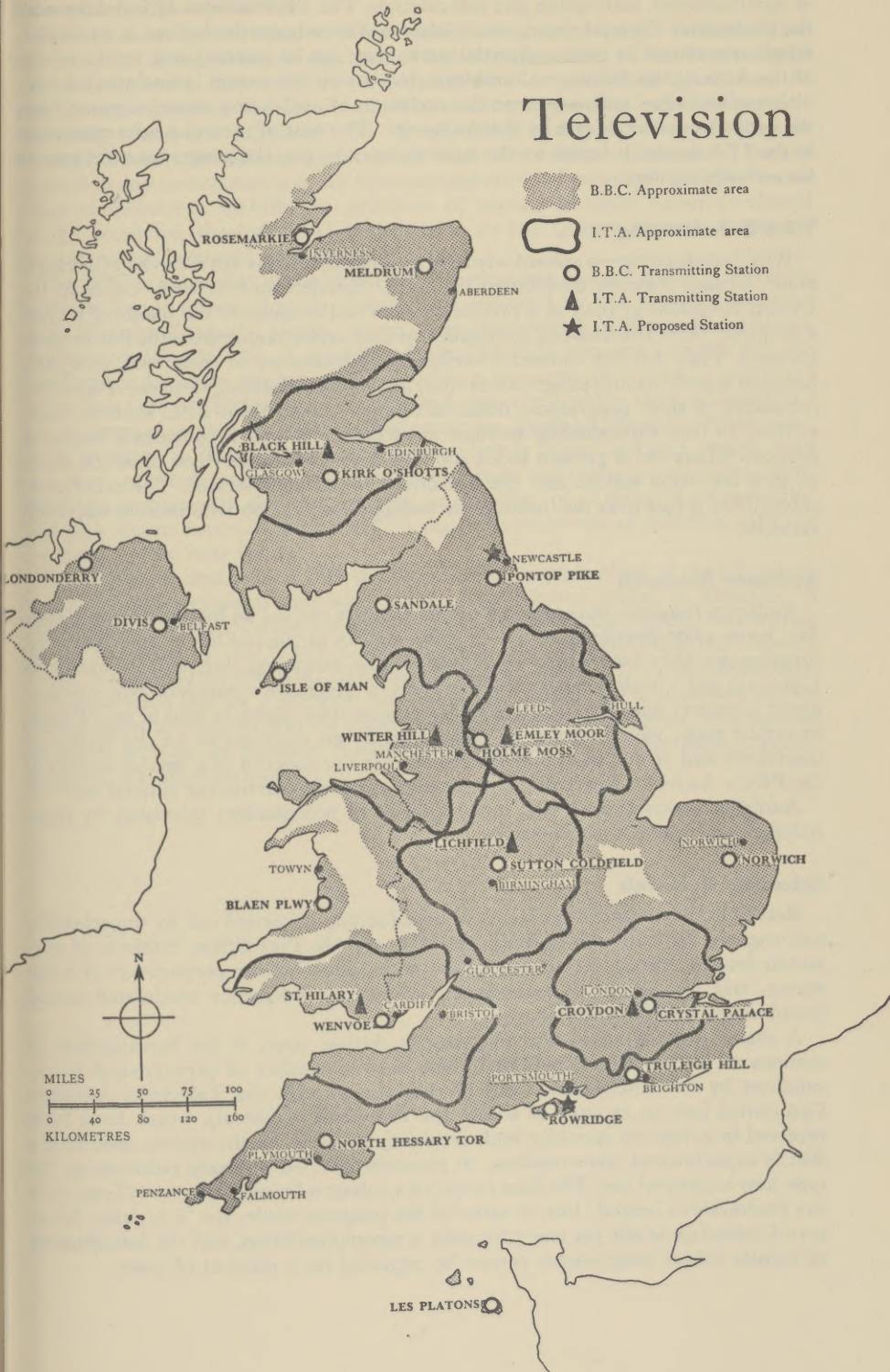
Arrangements have been made by the ITA for one programme company or group to provide the whole week's programme at the Scottish, Welsh and Isle of Wight stations. At the Authority's other stations, certain broadcasting periods during each week are allocated to each programme company. This latter arrangement encourages versatility, which is also furthered by a system of inter-regional vision and sound links, which permits the exchange of programmes between different parts of the country.

Television programmes in general include programmes of music, drama, variety and light entertainment, demonstration and documentary programmes, sports programmes, religious programmes, programmes of special interest to women and children and regular news programmes. In addition, both the BBC and the ITA started a service of educational broadcasting for schools during 1957. The BBC programme is produced in conjunction with the School Broadcasting Council.

Advertising is altogether excluded from the television programmes of the BBC, as from their sound programmes. The ITA may permit the broadcasting of advertisements (on which the programme companies depend for their revenue) provided that such broadcasting complies with the relevant provisions in the Television Act, namely, that there should be no sponsoring of programmes by advertisers, that all advertisements should be clearly distinguishable as such and recognizably separate from the rest of the programme, and that the amount of time given to advertising should not be so great as to detract from the value of the programmes as a medium

Television

-  B.B.C. Approximate area
-  I.T.A. Approximate area
-  B.B.C. Transmitting Station
-  I.T.A. Transmitting Station
-  I.T.A. Proposed Station



LES PLATONS

of entertainment, instruction and information. The ITA has also agreed rules with the Postmaster-General about certain classes of broadcasts (including, in particular, religious services) in which advertisements may not be inserted and, on the advice of the Advertising Advisory Committee, has drawn up certain 'principles for television advertising' with a view to the exclusion of misleading advertisements from the programmes broadcast by the Authority. The cost of inserting advertisements in the ITA service is borne by the advertisers, who pay the programme companies for advertising time.

Wire Broadcasting

Wire broadcasting—a system whereby radio programmes are received at a central point, whence they are distributed by wire to listeners and viewers—began in the United Kingdom in 1925 as a private venture and remains in the hands of private enterprise. Wire broadcasting companies operate under licence from the Postmaster-General. They are not allowed to originate programmes of their own, and their function is to distribute programmes from general broadcasting stations. A specified minimum of their programme material must be taken from BBC sources. Subscribers to wire broadcasting services must have ordinary broadcasting receiving licences. There are at present about 400 wire broadcasting services, of which about 70 give television service and the remainder sound-only service. The number of subscribers is just over one million, including about 50,000 who receive television services.

Audience Research

Audience research, as conducted by the BBC, is carried on by interviewing, each day, some 4,000 people (a sample or cross-section of the public) to ascertain what programmes they have heard or viewed on the preceding day, and by means of Listening and Viewing Panels, the members of which are volunteers, who are prepared to answer questions about the programmes they normally hear or see. Trends in public taste, which cannot be discovered by an examination of the results of interviews and of the reports of the panels, are the concern of a special section of the BBC's Audience Research Department, which also carries out general surveys.

Audience research is carried out on behalf of independent television by three independent research organizations.

Scientific Research

Research into technical problems of broadcasting is carried out by the scientific and engineering staffs of the BBC, the ITA, and the Post Office. Subjects of particular interest during recent years have been acoustics, the propagation of radio waves, and the design of transmitting aerials for frequency modulated sound broadcasting and for television.

A major item of work, still in progress during 1957, is the investigation of systems of colour television. There have been a number of experimental transmissions by the BBC, carried out in conjunction with the Television Advisory Committee (set up in 1952 to advise the Postmaster-General), which have been received in colour on specially built receiving sets and, on the system used in the BBC's experimental transmissions, in monochrome, on ordinary receivers of the type now in general use. The final choice of a colour television system will rest with the Postmaster-General; but, in spite of the progress made, the Television Advisory Committee is not yet ready to make a recommendation, and the introduction of regular colour programmes cannot be expected for a number of years.

International Co-operation

Britain's main contribution to international co-operation in the field of sound and television broadcasting is represented by its membership of the International Telecommunication Union (ITU)—the United Nations specialized agency responsible for the regulation and control of all international telecommunication services (including sound and television), for the allocation and registration of all radio frequencies, and (through its International Radio Consultative Committee) for the promotion and co-ordination of the international study of technical radio problems. Other contributions include the provision of experts to assist under-developed foreign countries (through ITU participation in the United Nations Expanded Programme of Technical Assistance).

The BBC is a member of the European Broadcasting Union; and it participates in the exchange of sound radio programmes arranged by the member countries of the Western European Union, as well as in the network of European television programmes (Eurovision). A permanent television link between London and the Continent to facilitate programme exchanges on this network is being constructed by the Post Office. The first section of the link was completed in 1955; it is expected that the second section—a two-way link across the English Channel—will be completed in 1958. In the meantime, a temporary link is being used and, during 1956 and 1957, selected programmes from abroad were regularly shown in the BBC television services with the participation, on occasion, of as many as 14 networks. The programme contractors of the ITA may also make use of this link with the Continent in the near future.

Close links are maintained with the broadcasting organizations of the Commonwealth countries overseas and with those of the United States of America. In March 1957, a British Commonwealth International Newsfilm Agency was formed (under the aegis of the British Commonwealth International Newsfilm Agency Trust, established by the BBC, the Rank Organisation, the Canadian Broadcasting Corporation and the Australian Broadcasting Commission) to provide a service of international news on film for subscribers anywhere in the world, who operate television services or produce cinematograph newsreels, or who might require newsreels for other purposes.

XIV. THE PRESS

The British Press caters for all political views, different levels of education and a wide range of interests. It is free from Government censorship and interference.

The British public buys more newspapers per person than any other in the world. It has been estimated (by UNESCO) that for every 1,000 inhabitants of the United Kingdom 609 copies of daily papers are sold every day. Next comes Sweden with 506 per 1,000 inhabitants. Circulation figures of individual newspapers are proportionately high. The *Sunday News of the World*, which reached a circulation of over 8 million copies, and the average circulation of which has recently (January to end-June 1957) been 7,241,396, holds the world's record for the circulation of a newspaper¹; and seven of the daily newspapers have circulations in the millions. These high figures are largely explained by the fact that the London morning papers have 'national' circulations, i.e. they are distributed throughout the British Isles, being available on the day of publication everywhere except in a few outlying islands.

Britain is, however, less well served in the size of newspapers because of the shortage of newsprint due to the fact that 50 per cent has to be imported and the remaining 50 per cent made from imported raw material and so the expenditure of foreign exchange, especially dollars, is involved. This has meant restriction of supplies in recent years when the balance of payments has been under pressure. But there has been some improvement: from an average of four to six pages in the war and immediate post-war period, daily papers rose to an average of 8 to 12 pages in 1956. Supplies of newsprint rose from about 650,000 tons in 1953 to 930,000 tons in 1956. The Government ceased to control deliveries of newsprint to the press and other users in December 1956, when the industry took over responsibility for distribution of supplies.

Prices of daily newspapers vary from 2½d. (for the majority of papers) to 4d. (for *The Times*).

According to *The Newspaper Press Directory*² there are some 150 daily and Sunday newspapers: 16 London mornings, 3 London evenings, 11 London Sundays; 19 mornings, 65 evenings and 3 Sundays in England outside London; 1 morning and 3 evenings in Wales; 7 mornings, 8 evenings and 2 Sundays in Scotland; 3 mornings and 1 evening in Northern Ireland; 1 Isle of Man daily; and 1 morning and 2 evenings in the Channel Islands.

There are over 1,300 weekly papers which are published in Greater London and almost every sizable town in the rest of the country. These papers deal mainly with news of interest to the region where they are sold. There are also the sporting papers, papers in foreign languages for groups of nationals of other lands resident in Britain, and religious papers.

¹The only higher circulation is that of the BBC's weekly, *Radio Times*, which averaged a sale of over 8½ million copies per issue for the year 1956.

²Changes in the number of newspapers occur constantly; figures are based on the 1957 edition of *The Newspaper Press Directory*, published early in 1957.

TABLE 39

'NATIONAL' NEWSPAPERS (AND LONDON EVENINGS)

Title	General Political Tendency	Owner or Controller	Circulation average Jan.-June (inc.) 1957
DAILIES			
<i>The Times</i> (1785)	Independent	Times Publishing Co. Ltd.	232,705
<i>Daily Telegraph</i> (1855)	Conservative	Lord Camrose and members of his family	1,105,376
<i>Manchester Guardian</i> (1821)	Liberal	The Scott Trust	176,924
<i>Daily Express</i> (1900)	Independent Conservative. Stresses importance of British Empire	Beaverbrook Newspapers Ltd.	4,127,085
<i>Daily Mail</i> (1896)	Conservative	Associated Newspapers Ltd.	2,138,570
<i>Daily Herald</i> (1912)	Labour	Daily Herald Ltd.	1,640,707
<i>News Chronicle</i> and <i>Daily Dispatch</i> (1846 as <i>Daily News</i>)	Liberal	Daily News Ltd.	1,394,077
<i>Daily Worker</i> (1930)	Communist	People's Press Printing Society Ltd. Editorial executives members of Communist Party	62,351
<i>Daily Mirror</i> (1903)	Left-wing	Daily Mirror Newspapers Ltd.	4,658,793
<i>Daily Sketch</i> (1909)	Conservative	Associated Newspapers Ltd.	1,304,892
LONDON EVENINGS			
<i>Evening News</i> (1881)	As for <i>Daily Mail</i>	As for <i>Daily Mail</i>	1,286,208
<i>Star</i> (1888)	As for <i>News Chronicle</i>	As for <i>News Chronicle</i>	907,707
<i>Evening Standard</i> (1827)	As for <i>Daily Express</i>	As for <i>Daily Express</i>	665,428
SUNDAYS			
<i>Observer</i> (1791)	Independent	The Observer Ltd. All shares owned by The Observer Trust	641,417
<i>Sunday Times</i> (1822)	Conservative	Kemsley Newspapers Ltd.	740,133
<i>News of the World</i> (1843)	General political sympathies Conservative	News of the World Ltd.	7,241,396
<i>People</i> (1881)	Independent	Odhams Press Ltd.	4,953,548

Continued overleaf

TABLE 39 (*contd.*)

Title	General Political Tendency	Owner or Controller	Circulation average Jan.-June (inc.) 1957
SUNDAYS (<i>contd.</i>)			
<i>Sunday Express</i> (1918)	As for <i>Daily Express</i>	As for <i>Daily Express</i>	3,411,621
<i>Sunday Dispatch</i> (1801)	As for <i>Daily Mail</i>	As for <i>Daily Mail</i>	2,334,112
<i>Reynolds News</i> (1850)	Supports the Co-operative Movement and the Labour Party	Co-operative Press Ltd. Co-operative societies are shareholders	452,226
<i>Empire News and Sunday Chronicle</i> (1884)	Conservative	Kemsley Newspapers Ltd.	2,473,004
<i>Sunday Pictorial</i> (1915)	As for <i>Daily Mirror</i>	Sunday Pictorial Newspapers Ltd.	5,676,195
<i>Sunday Graphic</i> (1915)	Conservative	Kemsley Newspapers Ltd.	1,152,325
<i>Women's Sunday Mirror</i> (1955)	As for <i>Daily Mirror</i>	Pictorial Publications Ltd.	1,777,204

In 1947, a Royal Commission on the Press was appointed to inquire into the finance, control, management and ownership of the British Press. Its report was issued in June 1949 (*Cmd. 7700*) and has been recognized as a comprehensive and authoritative analysis. Among other recommendations it suggested the establishment of a General Council of the Press and this was set up in 1953 (see p. 455).

The Commission found that the British Press 'is completely independent of outside financial interests and that its policy is the policy of those that conduct it'; there was evidence that the direct influence of advertisers on policy was 'negligible'. After studying management and ownership, the Commission concluded that 'there is nothing approaching monopoly in the Press as a whole, or . . . in any class of newspaper'.

Ownership

As Table 39 shows, several companies or groups own a number of newspapers. The five largest press groups are: Associated Newspapers Limited, which, with four London papers, owns through subsidiary companies linked under the management of Northcliffe Newspapers Group Limited a total of eleven dailies, nine weeklies and one Sunday; Kemsley Newspapers Limited, which owns eleven dailies, seven weeklies, and four Sundays; Westminster Press Group, which controls nine dailies and 38 weeklies; Provincial Newspapers Limited, which owns four dailies and 20 weeklies; and the Harmsworth Group, which runs four dailies and ten weeklies in the West country.

Groups also exist in the periodical press; among the best known are the Amalgamated Press, which publishes 51 general, women's and children's papers (the affiliated Iliffe and Sons having 33 trade, technical and specialized journals);

Odhams Press, which (in addition to two newspapers) publishes about 18 periodicals, including some with very high circulations; George Newnes and C. Arthur Pearson Limited, which publishes 25 periodicals (not including technical and trade journals, of which the Temple Press, a subsidiary, issues 14) besides technical books and papers for many branches of industry; Hulton Press Limited, which publishes fewer titles but whose magazines have very large circulations; and the Thomson-Leng group, the largest publishers of magazines in Scotland (see p. 453).

Certain newspapers and periodicals are controlled by trustees whose aim is to preserve the character and traditions of the paper and prevent control from falling into unsuitable hands. Various forms of trust govern the direction of *The Times*, *Manchester Guardian*, *News Chronicle* and *Star*, *Observer*, *Economist* and *Spectator*.

The 'National' Press

Nine morning papers with headquarters in London, and one in Manchester, are 'national' in the sense of circulating throughout the British Isles, and there are 11 'national' Sunday papers (see Table 39). In addition, the leading Scottish papers (see below) circulate widely, and certain specialized daily papers also have a circulation not limited by region, e.g., *The Financial Times* (circulation 82,212). The three London evening papers each have affiliations with one of the national dailies, but they draw their readership very largely from people living within fifty miles of London.

Provincial Newspapers

The provincial newspapers, numbering nearly a hundred morning or evening dailies and Sunday papers and nearly 1,000 weeklies, provide the general and local news expected by readers whose daily life and interests are known to, and shared by, the newspaper staff. Some 60 provincial papers still in existence were founded before 1800; the oldest being *Berrow's Worcester Journal*, dating back to 1709. With a few exceptions (e.g., *Yorkshire Post*, *Newcastle Journal*, *Northern Echo*, *Sheffield Telegraph*, *Western Mail*) they reflect no definite political tendency. The total circulation of the dailies is estimated at about 9 million and of the weeklies at about 12 million. The provincial newspaper, often read far more thoroughly than the national daily, is a valuable medium for national and local advertising.

London suburban weeklies, of which there are about 90, are closer to the provincial weeklies than to the national dailies in readership and appeal.

Ownership of the provincial press is varied: it includes individual owners, two or more partner proprietors, local printing and publishing firms, newspaper companies owning between one and half a dozen papers, or press groups controlling a chain of newspapers in different parts of the country.

Scotland

Scotland has seven morning, eight evening and two Sunday newspapers. *The Glasgow Herald*, founded in 1783, and *The Scotsman*, founded in 1817, and a daily since 1855, published in Edinburgh, are among the organs influencing serious opinion in Great Britain. The circulation of the former is 75,721 and of the latter 56,227 (average figures January to end-June 1957). Other morning papers are *The Daily Record and Mail*, *The Bulletin* (a picture paper), *The Courier and Advertiser*, and *The Press and Journal* (and Scottish editions of the *Daily Express* and *Daily Mail*). Glasgow, Edinburgh, Dundee and Aberdeen are the centres of publication. Evening papers include the *Edinburgh Evening News* and *Evening Dispatch*, Glasgow's *Evening Times* and *Evening Citizen*, Dundee's *Evening Telegraph*

and Post, Aberdeen's *Evening Express*, and the *Paisley Daily Express* and the *Greenock Telegraph*. The Sunday papers are the *Sunday Mail*, *Scottish Sunday Express*, and the *Sunday Post*.

Among the weekly papers are the *Weekly Scotsman*, the *Aberdeen Journal*, and *The People's Journal*, which also circulate outside Scotland; in all there are about 120 weekly papers published in Scottish towns.

Northern Ireland

Northern Ireland has three morning papers and one evening paper, all printed in Belfast: they are *Belfast News Letter*, *Northern Whig*, *Irish News* and *Belfast Telegraph*. In addition to three newspapers in Londonderry which are each published three times a week, there are 43 weekly papers. There is also a sporting paper, *Ireland's Saturday Night*, published each Saturday afternoon (Belfast). The majority are published by individual companies and all the counties have good coverage of local papers. There are no Sunday newspapers.

Wales

One daily morning newspaper, the *Western Mail*, a Kemsley newspaper, is printed and published in Cardiff; it has a circulation of 90,504, mainly in the southern half of Wales. In North Wales, the *Liverpool Daily Post* gives wide coverage to events in the area. Evening papers published in Wales are the *South Wales Echo*, Cardiff, the *South Wales Argus*, Newport, and the *South Wales Evening Post*, Swansea. North Wales is served by the *Liverpool Echo* and *Liverpool Express* and to a smaller extent by evening papers published in Manchester, the *Manchester Evening News* and the *Manchester Evening Chronicle*.

Since October 1954, a special Welsh edition of the *Empire News and Sunday Chronicle* has been printed in Cardiff. Other national Sunday papers carry columns of news on Welsh affairs.

The weekly press includes 48 weekly papers in English, some of them carrying articles in Welsh; nine bilingual papers; and twelve papers in Welsh, of which five are denominational papers.

Channel Islands and Isle of Man

The Channel Islands have one morning paper (*Guernsey Star*), two evening papers, one twice-weekly and two weeklies. The Isle of Man has one daily, a special weekly edition of which is published on Saturday, and four other weeklies.

Periodicals

Weekly, monthly and quarterly journals cover an enormous field. A salient feature of the last twenty-five years has been the development of periodicals with a mass appeal and the growth of the trade and technical press. There are over 3,500 periodical publications: general magazines with circulations ranging up to over a million; women's magazines, which also have large circulations; numerous publications for children; religious periodicals of various denominations; magazines dealing with sports, hobbies, fiction and humour; periodicals specializing in various subjects such as politics, finance and economics, science, the professions, and the arts; the large body of trade and technical publications whose circulations are not confined to the United Kingdom; and lastly, the journals of learned societies, trade unions, business houses, regiments, universities, colleges, schools, and other associations.

At the high circulation end of the scale are the popular periodicals, such as *Illustrated*, *John Bull*, *Tit-Bits*, *Reveille*, and *Week-End*; several of these have circulations of a million or more. Three women's weeklies (*Woman*, *Woman's Own* and *Woman's Weekly*) and one women's monthly (*Woman and Home*) also have circulations in the millions.

Of considerable influence, although their circulations are only in the tens of thousands, are the weeklies dealing with political, social and economic affairs: *The Economist*, which covers topics of the day from a far wider angle than its title would indicate and is politically independent; *The New Statesman and Nation*, a review of politics, literature and the arts with an independent socialist political tendency; *The Spectator*, which covers much the same subjects and is non-party; *Time and Tide*, which has a right-wing tendency; *Tribune*, with a left-wing but strongly anti-communist bias; and *Truth*, which is extreme right wing in its political outlook. Other papers whose circulations are in the tens of thousands are the illustrated weeklies such as *The Illustrated London News*, *The Sphere*, *The Field*, and *Country Life*, while *Punch* is the leading humour periodical. The readership of all these weeklies is greater than is apparent from their circulation figures, since they are widely read in libraries, clubs and other institutions.

Monthly and quarterly journals, generally speaking, appeal to the more serious type of reader, particularly the literary and political journals and those specializing in international and Commonwealth affairs.

Four monthly illustrated periodicals are published in Scotland: *Scottish Field*, *Scotland's Magazine*, *The Scots Magazine* (founded 1779) and *Scotland*; and two weeklies devoted to farming interests, *Farming News* and *The Scottish Farmer*. Among literary journals, probably the most famous is *Blackwood's*, published in Edinburgh. Popular magazines are numerous: the Thomson-Leng group of Dundee alone distributes about 10 million copies of weeklies in the British Isles and abroad.

In Northern Ireland, weekly, monthly and quarterly publications cover farming, the linen industry, building, motoring and politics.

News Agencies

There are three principal British news agencies:

Reuters Ltd., a world agency with some 40 offices abroad and correspondents in almost all the world's capitals, which distributes foreign and Commonwealth news to British newspapers and foreign and British news to over 3,000 papers outside Britain. It is owned by the British Press (through the Press Association and the Newspaper Proprietors' Association) and two Commonwealth news agencies, the Australian Associated Press and the New Zealand Press Association. All profits are used to develop the service.

Press Association Ltd., which distributes home news. It is owned by British provincial newspapers. All profits are used to develop the service.

Exchange Telegraph Company Ltd., a public company which distributes home news to British papers and other subscribers.

Two other agencies supply a general service of overseas news:

Associated Press, which is a branch of the Associated Press of America.

British United Press, which is a Canadian subsidiary of the United Press of America.

There are besides some 60 United Kingdom, Commonwealth and foreign

agencies and news services with offices in London, specializing in some aspects of newspaper and periodical requirements.

Training for Journalism

Until recently, and this therefore applies to most newspapermen working today, journalists were, broadly, of two classes: those who entered newspaper offices on leaving school and worked their way up, learning by experience; and university graduates who held some of the specialized posts, such as correspondents abroad or on special subjects, leader-writers and editorial office staff. The second class has always been comparatively small. The Kemsley Newspaper Group made provision for combining instruction with the practice of journalism, and courses in journalism were organized by the London Polytechnic, and by King's College, London (until the outbreak of war in 1939).

In 1952 an agreement was reached for a more comprehensive plan for the training and education of junior journalists in newspaper offices. A National Council for the Training of Journalists, on which are representatives of the principal press organizations, administers the scheme, which is based on the voluntary co-operation of newspaper offices. Examinations are taken at two levels, the lower being a general proficiency test which may be taken only after three years of active journalism, the higher, a diploma, which is awarded after further examination and submission of a thesis.

Press Institutions

Both employers and employees in the industry are well organized. On the employers' side, the most important organizations are the Newspaper Proprietors' Association, whose members are proprietors of London (national) daily and Sunday newspapers, the Newspaper Society, whose members are proprietors of provincial daily and weekly newspapers in England, Wales and Northern Ireland, the Scottish Daily Newspaper Society, the Scottish Newspaper Proprietors' Association, and the Periodical Proprietors' Association, whose membership embraces the independent publishers of trade and technical publications and general magazines. On the employees' side there are the Institute of Journalists (IoJ)—the National Association of Journalists until 1889—incorporated by Royal Charter in 1890, and the National Union of Journalists (NUJ), founded in 1907. The National Union of Journalists has a membership of about 14,000 working journalists; editors who have powers of dismissal are excluded from full membership but may be associate members. The Institute of Journalists, which has a membership of some 2,700, admits editors. Free-lance journalists (who are not on the staff of any one paper or group of papers but send contributions to any journal) may belong to the NUJ or IoJ. The aims of these organizations are the improvement of the economic status of journalists, the promotion of their professional welfare, and the safeguarding of the status of the Press and its editorial staffs.

The aims of the Guild of British Newspaper Editors are, *inter alia*, to sustain the dignity of editorship, to raise and safeguard the professional status of editors, to protect the rights and freedom of the Press, and to improve the education and training of junior journalists: the Guild has over 300 members.

The largest of other organizations directly connected with the Press is the National Society of Operative Printers and Assistants (NATSOPA), which has a varied membership connected with the production of newspapers and periodicals; in addition to the groups indicated by the title of the society, its membership includes clerical workers, dispatch hands and similar personnel. The largest of the Printers' Unions concerned is the London Typographical Society.

The General Council of the Press

Following the recommendations of the Royal Commission on the Press, a Press Council representative of the various Press organizations was set up in 1953. Its aims are:

- to preserve the established freedom of the British Press;
- to maintain the character of the British Press in accordance with the highest professional and commercial standards;
- to keep under review any developments likely to restrict the supply of information of public interest and importance;
- to promote and encourage methods of recruitment, education and training of journalists;
- to promote a proper functional relation among all sections of the profession;
- to promote technical and other research;
- to study developments in the British Press which may tend towards greater concentration or monopoly; and
- to publish periodical reports recording its own work and reviewing from time to time the various developments in the British Press and the factors affecting them.

The Council consists of eight editorial representatives, four nominees of the National Union of Journalists, three nominees of the Institute of Journalists, and ten managerial representatives.

The Press and the Law

The Press in Britain has the same freedom as the individual to do and say what it likes provided it does not transgress the law; and in general it enjoys very great liberty of comment on matters of public interest. There are no special press laws (other than those relating to such matters as the registration of newspapers), but requirements which affect the Press occur in a variety of Acts of Parliament; for example, the admission of the Press to meetings of local authorities is regulated by the Local Government Acts and restrictions on the reporting of domestic proceedings and proceedings against juveniles are imposed by legislation governing procedure in the law courts.

In particular, the Press must comply with the copyright laws and with the laws against the publication of matters protected by the Official Secrets Acts, with the laws of seditious libel, blasphemous and obscene libel, and defamation, with the laws for the protection of children from publications which might do them moral harm,¹ and against fraudulent advertising, against breach of Parliamentary privilege, and against 'contempt of court'—publication of anything affecting a case before the courts which might tend to influence the result of the trial, or of comment on court proceedings which might tend to prejudice their reputation for justice.

Public prosecutions of the Press for offences against these laws are infrequent; the majority of such legal actions as do take place are brought by private individuals seeking to protect their own interests, for example, against libel. In any legal action the editor, proprietor, publisher, printer and distributor of the newspaper, as well as the author of the article, can all be held responsible.

¹ Children and Young Persons (Harmful Publications) Act, 1955.

APPENDIX I

BRITISH CURRENCY, WEIGHTS AND MEASURES, AND CONVERSION TABLES

BRITISH CURRENCY

4 farthings = 1 penny (1d.)	5 shillings = 1 crown
12 pence = 1 shilling (1s.)	20 shillings = 1 pound (£1)
2 shillings = 1 florin	21 shillings = 1 guinea
2 shillings and 6 pence = 1 half-crown	

Coins in common use are: farthing, half-penny, penny, threepenny piece, sixpence, shilling, two shilling piece (florin), and half-crown.

Bank of England *notes* are issued in denominations of 10s., £1 and £5. Notes of £1 and 10s. are legal tender in the United Kingdom for the payment of any amount. Notes of £5 are legal tender in England and Wales only, and only for a sum of £5 or over.

£1 = 2·80 United States dollars.

BRITISH WEIGHTS AND MEASURES AND THEIR METRIC EQUIVALENTS

MEASURES OF LENGTH

1 inch = 2·54 centimetres
12 inches = 1 foot = 30·48 centimetres
3 feet = 1 yard = 0·914 metre
1,760 yards = 1 mile = 1·609 kilometres

MEASURES OF AREA

1 square inch = 6·451 square centimetres
144 square inches = 1 square foot = 929·03 square centimetres
9 square feet = 1 square yard = 0·836 square metre
4,840 square yards = 1 acre = 0·404 hectare
640 acres = 1 square mile = 2·589 square kilometres

MEASURES OF CAPACITY

1 gill = 0·142 litre	2 gallons = 1 peck = 9·092 litres
4 gills = 1 pint = 0·568 litre	4 pecks = 1 bushel = 36·37 litres
2 pints = 1 quart = 1·136 litres	8 bushels = 1 quarter = 2·909 hectolitres
4 quarts = 1 gallon = 4·546 litres	

MEASURES OF WEIGHT (AVOIRDUPOIS)

1 ounce (oz.) = 28·350 grams
16 oz. = 1 pound (lb.) = 0·454 kilogram
14 lb. = 1 stone (st.) = 6·35 kilograms
28 lb. = 1 quarter (qtr.) = 12·7 kilograms
4 quarters (112 lb.) = 1 hundredweight (cwt.) = 50·8 kilograms
20 cwt. (2,240 lb.) = 1 long ton = 1·016 metric tons
2,000 lb. = 1 short ton = 0·907 metric ton

DOUBLE CONVERSION TABLES FOR WEIGHTS AND MEASURES

Note: the central figures represent either of the two columns beside them, as the case may be—e.g., 1 centimetre = 0.394 inch, and 1 inch = 2.540 centimetres.)

Centi- metres		Inches	Metres		Yards		Kilo- metres		Miles		Hec- tares		Acres	
2.540	1	0.394	0.914	1	1.094	1.609	1	0.621	0.404	1	2.471			
5.080	2	0.787	1.829	2	2.187	3.219	2	1.243	0.809	2	4.942			
7.620	3	1.181	2.743	3	3.281	4.828	3	1.864	1.214	3	7.413			
10.160	4	1.575	3.658	4	4.374	6.437	4	2.485	1.619	4	9.884			
12.700	5	1.969	4.572	5	5.468	8.047	5	3.107	2.023	5	12.355			
15.240	6	2.362	5.486	6	6.562	9.656	6	3.728	2.428	6	14.826			
17.780	7	2.756	6.401	7	7.655	11.266	7	4.350	2.833	7	17.298			
20.320	8	3.150	7.315	8	8.749	12.875	8	4.971	3.237	8	19.769			
22.860	9	3.543	8.230	9	9.843	14.484	9	5.592	3.642	9	22.240			
25.400	10	3.937	9.144	10	10.936	16.094	10	6.214	4.047	10	24.711			

Kilo- grams		Av. Pounds		Litres		Pints		Litres		Gallons		Hecto- litres per Hectare		English Bushels per Acre	
0.454	1	2.205	0.568	1	1.760	4.546	1	0.220	0.898	1	1.113				
0.907	2	4.409	1.136	2	3.520	9.092	2	0.440	1.796	2	2.226				
1.361	3	6.614	1.705	3	5.279	13.638	3	0.660	2.695	3	3.340				
1.814	4	8.818	2.273	4	7.039	18.184	4	0.880	3.593	4	4.453				
2.268	5	11.023	2.841	5	8.799	22.730	5	1.100	4.491	5	5.566				
2.722	6	13.228	3.409	6	10.559	27.276	6	1.320	5.389	6	6.679				
3.175	7	15.432	3.978	7	12.319	31.822	7	1.540	6.287	7	7.793				
3.629	8	17.637	4.546	8	14.078	36.368	8	1.760	7.186	8	8.906				
4.082	9	19.842	5.114	9	15.838	40.914	9	1.980	8.084	9	10.019				
4.536	10	22.046	5.682	10	17.598	45.460	10	2.200	8.982	10	11.132				

THERMOMETRICAL TABLE

	<i>Fahrenheit</i>	<i>Centigrade</i>	<i>Réaumur</i>
Water boils	212°	100°	80°
Water freezes	32°	0°	0°
Blood heat	98.4°	36.9°	29.5°

To convert:

° Fahrenheit into ° Centigrade: subtract 32, then multiply by $\frac{5}{9}$.

° Centigrade into ° Fahrenheit: multiply by $\frac{9}{5}$, then add 32.

° Fahrenheit into ° Réaumur: subtract 32, then multiply by $\frac{4}{9}$.

APPENDIX II

RESEARCH INSTITUTIONS

This appendix lists the research institutions which come within the responsibility of the Government Research Councils described on pp. 409 and 412-4.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH (DSIR)

(A) Research Establishments of the Department

- Building Research Station, Garston, near Watford, Herts.
- Chemical Research Laboratory, Teddington, Middlesex.
- Joint Fire Research Organization of DSIR and Fire Offices' Committee, Boreham Wood, Elstree, Herts.
- Directorate of Food Investigation, London.
- Forest Products Research Laboratory, Princes Risborough, Bucks.
- Fuel Research Station, East Greenwich, London.
- Geological Survey and Museum, London.
- Hydraulics Research Station, Wallingford, Berks.
- Mechanical Engineering Research Laboratory, East Kilbride, Glasgow.
- National Physical Laboratory, Teddington, Middlesex.
- Pest Infestation Laboratory, Slough, Bucks.
- Radio Research Station, Slough, Bucks.
- Road Research Laboratory, Harmondsworth, Middlesex.
- Water Pollution Research Laboratory, Stevenage, Herts.

(B) Autonomous Research Associations partly financed where necessary by DSIR

- British Baking Industries Research Association, Chorley Wood, Herts.
- The British Boot, Shoe, and Allied Trades Research Association, Kettering, Northants.
- The British Cast Iron Research Association, Alvechurch, near Birmingham.
- The British Ceramic Research Association, Penkhull, Stoke-on-Trent.
- The Chalk Lime and Allied Industries Research Association, Welwyn, Herts.
- The British Coal Utilisation Research Association, Leatherhead, Surrey.
- British Coke Research Association, London.
- The British Cotton Industry Research Association, Shirley Institute, Manchester.
- Cutlery Research Council, Sheffield.
- The British Electrical and Allied Industries Research Association, Leatherhead, Surrey.
- The British Hat and Allied Feltmakers Research Association, Manchester.
- File Research Council, Sheffield.
- The Research Association of British Flour-Millers, St. Albans, Herts.
- The British Food Manufacturing Industries Research Association, Leatherhead, Surrey.

- The Fruit and Vegetable Canning and Quick Freezing Research Association, Chipping Campden, Gloucestershire.
- Research and Information Committee of the Furniture Development Council, London.
- The British Gelatine and Glue Research Association, London.
- The British Glass Industry Research Association, Sheffield.
- Heating and Ventilating Research Council, Leatherhead, Surrey.
- The Hosiery and Allied Trades Research Association, Nottingham.
- The British Hydromechanics Research Association, Harlow, Essex.
- British Internal Combustion Engine Research Association, Slough, Bucks.
- The British Iron and Steel Research Association, London.
- The British Jute Trade Research Association, Dundee, Scotland.
- The Lace Research Association, Nottingham.
- British Launderers Research Association, Hendon, London.
- The British Leather Manufacturers Research Association, Egham, Surrey.
- Linen Industry Research Association, Lambeg, Co. Antrim, Northern Ireland.
- The Parsons and Marine Engineering Turbine Research and Development Association, Wallsend-on-Tyne, Northumberland.
- The Motor Industry Research Association, Lindley, Warwickshire.
- The British Non-Ferrous Metals Research Association, London.
- The Research Association of British Paint, Colour and Varnish Manufacturers, Teddington, Middlesex.
- The British Paper and Board Industry Research Association, Kenley, Surrey.
- The Printing, Packaging and Allied Trades Research Association, Leatherhead, Surrey.
- Production Engineering Research Association of Great Britain, Melton Mowbray, Leicestershire.
- The British Rayon Research Association, Wythenshawe, Manchester.
- The Research Association of British Rubber Manufacturers, Shawbury, Shropshire.
- British Scientific Instrument Research Association, Chislehurst, Kent.
- The British Shipbuilding Research Association, London.
- Coil Spring Federation Research Organization, London.
- The British Steel Castings Research Association, Sheffield.
- The Coal Tar Research Association, Gomersal, near Leeds.
- Research and Development Committee of the Timber Development Association, London.
- British Welding Research Association, London.
- Research Council of the British Whiting Federation, Welwyn, Herts.
- Wool Industries Research Association, Headingley, Leeds.

MEDICAL RESEARCH COUNCIL

Research Establishments

- Air Hygiene Laboratory, Central Public Health Laboratory, London.
- Applied Psychology Research Unit, Cambridge.
- Antibiotics Research Station, Clevedon, Somerset.
- Betatron Research Group, Christie Hospital and Holt Radium Institute, Manchester.
- Biophysics Research Unit, King's College, London.
- Blood Group Reference Laboratory (Administered by the Council on behalf of the Ministry of Health), Lister Institute of Preventive Medicine, London.

- Blood Group Research Unit, Lister Institute of Preventive Medicine, London.
Blood Transfusion Research Unit, Postgraduate Medical School of London.
Carcinogenic Substances Research Group, Exeter University.
Cell Metabolism Research Unit, Department of Biochemistry, Oxford.
Chemical Microbiology Research Unit, Department of Biochemistry, Cambridge.
Climate and Working Efficiency Research Unit, Department of Human Anatomy, University Museum, Oxford.
Clinical Chemotherapeutic Research Unit, Western Infirmary, Glasgow.
Clinical Endocrinology Research Unit, Edinburgh.
Clinical Genetics Research Unit, Great Ormond Street Hospital for Sick Children, London.
Common Cold Research Unit, Harvard Hospital, Salisbury, Wilts.
Department of Clinical Research, University College Hospital Medical School, London.
Department of Experimental Medicine, Cambridge.
Department for Research in Industrial Medicine, The London Hospital.
Dunn Nutritional Laboratory, Cambridge.
Environmental Hygiene Research Unit, London School of Hygiene and Tropical Medicine and Medical Research Council Laboratories, London.
Experimental Radiopathology Research Unit, Hammersmith Hospital, London.
Group for Epidemiological Research on Respiratory Diseases (Air Pollution), Department of Social and Industrial Medicine, University of Sheffield.
Group for the Experimental Investigation of Behaviour, University College, London.
Group for Experimental Research in Inherited Diseases, Department of Genetics, University College, London.
Group for Research on the Occupational Aspects of Ageing, Department of Psychology, Liverpool.
Group for Research on Atmospheric Pollution, St. Bartholomew's Hospital, London.
Group for Research on Bilharzia Disease, St. Albans, Herts.
Group for Research on Body Temperature Regulation, The Radcliffe Infirmary, Oxford.
Group for Research in Chemotherapy, Moltano Institute, Cambridge.
Group for Research on Drug Sensitivity in Tuberculosis, Postgraduate Medical School of London.
Group for Research on General Effects of Radiation, Western General Hospital, Edinburgh.
Group for Research in Occupational Optics, Institute of Ophthalmology, London.
Human Nutrition Research Unit, Nutrition Building, Medical Research Council Laboratories, London.
Industrial Injuries and Burns Research Unit, Birmingham Accident Hospital.
Industrial Psychology Research Group, University College, London.
Infantile Malnutrition Research Unit, Mulago Hospital, Kampala, Uganda.
Laboratory Animals Bureau, Medical Research Council Laboratories, London.
Medical Research Council Laboratories, Fajara, Bathurst, Gambia.
Metabolic Disturbances in Surgery Research Unit, The General Infirmary, Leeds.
Microbial Genetics Research Unit, Hammersmith Hospital, London.
National Institute for Medical Research, Mill Hill, London.

Neurological Research Unit, National Hospital for Nervous Diseases, London.
 Neuropsychiatric Research Unit, Whitchurch Hospital, Cardiff.
 Obstetric Medicine Research Unit, Royal Infirmary, Aberdeen.
 Ophthalmological Research Unit, Institute of Ophthalmology, London.
 Otolological Research Unit, National Hospital for Nervous Diseases, London.
 Pneumoconiosis Research Unit, Llandough Hospital, Penarth, Glamorgan-shire.
 Psychiatric Research Group, Graylingwell Hospital, Chichester, Sussex.
 Radiobiological Research Unit, Atomic Energy Research Establishment, Harwell, Berks.
 Radiological Protection Service (jointly with the Ministry of Health), Downs Nursery Hospital, Sutton, Surrey.
 Radiotherapeutic Research Unit, Hammersmith Hospital, London.
 Rheumatism Research Unit, Canadian Red Cross Memorial Hospital, Taplow, Berks.
 Serum Laboratory, MRC Laboratories, Carshalton, Surrey.
 Social Medicine Research Unit, The London Hospital.
 Social Psychiatry Research Unit, Maudsley Hospital, London.
 Statistical Research Unit, London School of Hygiene and Tropical Medicine.
 Toxicology Research Unit, MRC Laboratories, Carshalton, Surrey.
 Trachoma Research Group, MRC Laboratories, Gambia and Lister Institute, London.
 Tropical Metabolism Research Unit, University College of the West Indies, Mona, St. Andrew, Jamaica.
 Tuberculosis Research Unit, MRC Laboratories, London.
 Unit for Research on the Experimental Pathology of the Skin, The Hospitals Centre, Birmingham.
 Unit for Research on the Molecular Structure of Biological Systems, Cavendish Laboratory, Cambridge.
 Virus Culture Laboratory, MRC Laboratories, Carshalton, Surrey.
 Virus Research Group, London School of Hygiene and Tropical Medicine.
 Wernher Group for Research on Ophthalmological Genetics, Royal College of Surgeons, London.
 Wernher Research Unit on Deafness, King's College Hospital Medical School, London.

AGRICULTURAL RESEARCH COUNCIL (ARC)

Research Establishments

The list of agricultural research organizations in the United Kingdom given below is divided into three groups: (A) those directly controlled by the Agricultural Research Council; (B) independent organizations in England and Wales in receipt of Government grants formerly provided through the Ministry of Agriculture, Fisheries and Food, but since the Agricultural Research Act, 1956, through the Agricultural Research Council; and (C) independent organizations in Scotland receiving Government grants through the Department of Agriculture for Scotland, whose programmes are co-ordinated by the ARC, in association with the Department.

- (A) Field Station, Compton, Near Newbury, Berks.
 Animal Breeding Research Organization, Edinburgh.
 Institute of Animal Physiology, Babraham, Cambridgeshire.

- Poultry Research Centre, Edinburgh.
 Unit of Biometrical Genetics, University of Birmingham.
 Unit of Embryology, University College of North Wales, Bangor.
 Unit of Experimental Agronomy, University of Oxford.
 Unit of Insect Physiology, University of Cambridge.
 Unit of Microbiology, University of Sheffield.
 Unit of Plant Cell Physiology, University of Oxford.
 Plant Growth Substances and Systemic Fungicide Unit, Wye College, Kent.
 Unit of Plant Nutrition (Micro-Nutrients), Agricultural and Horticultural
 Research Station, Long Ashton, Bristol.
 Unit of Reproductive Physiology and Biochemistry, University of Cambridge.
 Unit of Soil Physics, University of Cambridge.
 Unit of Statistics, University of Aberdeen.
 ARC Statistics Group, University of Cambridge.
 Virus Research Unit, University of Cambridge.
- (B) Rothamsted Experimental Station, Harpenden, Herts.
 East Malling Research Station, near Maidstone, Kent.
 Grassland Research Institute, Hurley, Berks.
 Agricultural and Horticultural Research Station, Long Ashton, Bristol.
 National Vegetable Research Station, Wellesbourne, Warwick.
 Welsh Plant Breeding Station, Aberystwyth, Wales.
 John Innes Horticultural Institution, Bayfordbury, Herts.
 Glasshouse Crops Research Institute, Rustington, Sussex.
 Research Institute of Plant Physiology, Imperial College of Science and Tech-
 nology, London.
 Plant Breeding Institute, Trumpington, Cambridge.
 Hop Research Centre, Wye College, Kent.
 National Institute for Research in Dairying, Reading, Berks.
 Research Institute (Animal Virus Diseases), Pirbright, Surrey.
 Houghton Poultry Research Station, Houghton, Huntingdon.
 National Institute of Agricultural Engineering, Silsoe, Bedfordshire.
- (C) Macaulay Institute for Soil Research, Aberdeen.
 Scottish Horticultural Research Institute, Mylnefield, Invergowrie, by Dundee.
 Scottish Plant Breeding Station, Pentlandsfield, Midlothian.
 Rowett Research Institute, Aberdeen.
 Hannah Dairy Research Institute, Ayr.
 Animal Diseases Research Association, Moredun Institute, Edinburgh.
 National Institute of Agricultural Engineering Scottish Station, Howden,
 Midlothian.
 Hill Farming Research Organization, Edinburgh.

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Readers in the United Kingdom are asked to note that the Central Office of Information reference documents marked with an asterisk and listed as free, are only available free of charge from United Kingdom Information Offices overseas; in the United Kingdom they may be obtained, on payment of a small charge, from the Central Office of Information, Reference Division Distribution Unit, 83 Baker Street, London, W.1., (after February 1958, Hercules Road, Westminster Bridge Road, London, W.1.).

In the United States, equivalent free material can be supplied by British Information Services, 45 Rockefeller Plaza, New York 20, N.Y.

Certain reference pamphlets produced by the Central Office of Information can be purchased from Her Majesty's Stationery Office and its Agents overseas. These pamphlets are listed here with their respective prices.

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WHEARE, K. C.	Government by Committee: An Essay on the British Constitution	<i>Oxford University Press</i>	1955	25 0
House of Commons	Manual of Procedure in the Public Business	<i>HMSO</i>	1951	7 6
Report of Select Committee on Delegated Legislation, with Minutes of Evidence		<i>HMSO</i>	1953	8 6
The British Parliament	Reference Pamphlet R.F.P.3405	<i>COI</i>	1956	free*
The Organization of Political Parties in Britain	Reference Paper R.3546	<i>COI</i>	1957	free*
Parliamentary Elections in Britain	Reference Paper R.2865	<i>COI</i>	1955	free*
The Privy Council, Her Majesty's Government, Government Departments				
BRIDGES, Sir EDWARD.	Treasury Control	<i>Athlone Press</i>	1950	2 0
EMMERSON, Sir HAROLD.	The Ministry of Works	<i>Allen & Unwin</i>	1956	15 0
FINER, S. E.	A Primer of Public Administration	<i>Muller</i>	1950	6 0
JEFFRIES, Sir CHARLES.	The Colonial Office	<i>Allen & Unwin</i>	1956	18 0
JENNINGS, Sir IVOR.	Cabinet Government. 2nd edn	<i>Cambridge University Press</i>	1951	45 0
KEITH, A. BERRIEDALE.	The British Cabinet System. 2nd edn rev. by N. H. Gibbs	<i>Stevens</i>	1952	40 0
MURRAY, C de B.	How Scotland is Governed	<i>Art Education Publishers</i>	1947	10 6
NEILL, DESMOND G., Editor.	Devolution of Government: The Experiment in Northern Ireland	For the Royal Institute of Public Administration, <i>Allen & Unwin</i>	1953	6 0
NEWSAM, Sir FRANK.	The Home Office	For the Royal Institute of Public Administration, <i>Allen & Unwin</i>	1954	18 0
STRANG, Lord, and others.	The Foreign Office	For the Royal Institute of Public Administration, <i>Allen & Unwin</i>	1955	18 0
Handbook on Scottish Administration		<i>HMSO</i>	1956	2 6

Her Majesty's Ministers and Heads of Public Departments [6 issues a year]	<i>HMSO</i>		s. d. 1 0
How Northern Ireland is Governed: Central and Local Government in Northern Ireland, by Hugh Shearman	<i>Belfast, HMSO</i>	1951	6
Report of the Royal Commission on Scottish Affairs 1952-54	Cmd 9212 <i>HMSO</i>	1954	4 0
Scottish Administration	Reference Paper R.3363 <i>COI</i>	1956	free*

The Civil Service

BRIDGES, Sir EDWARD. Portrait of a Profession: The Civil Service Tradition	<i>Cambridge University Press</i>	1950	3 6
CAMPBELL, G. A. The Civil Service in Britain	<i>Penguin Books</i>	1955	3 6
CRAIG, Sir JOHN. A History of Red Tape	<i>Macdonald & Evans</i>	1955	18 0
CRITCHLEY, T. A. The Civil Service Today	<i>Gollancz</i>	1951	12 6
DUNNILL, FRANK. The Civil Service: Some Human Aspects	<i>Allen & Unwin</i>	1956	18 0
KELSALL, R. K. Higher Civil Servants in Britain from 1870 to the Present Day	<i>Routledge & Kegan Paul</i>	1955	25 0
MONCK, BOSWORTH. How the Civil Service Works	<i>Phoenix House</i>	1952	25 0
MUNRO, C. K. The Fountains in Trafalgar Square	<i>Heinemann</i>	1952	12 6
WHEARE, K. C. The Civil Service in the Constitution	<i>Athlone Press</i>	1954	2 6
British Civil Service 1854-1954, by Wyn Griffith	<i>HMSO</i>	1954	1 0
Royal Commission on the Civil Service 1953-55. Report	Cmd 9613 <i>HMSO</i>	1955	6 6
The British Civil Service	Reference Paper R.3624 <i>COI</i>	1957	free*

Local Government

BURTON, J. H. Local Rates	<i>Stevens</i>	1950	4 0
CHESTER, D. N. Central and Local Government: Financial and Administrative Relations	<i>Macmillan</i>	1951	30 0
CLARKE, J. J. A History of Local Government	<i>Jenkins</i>	1955	25 0
——— Outlines of Local Government of the United Kingdom. 18th edn	<i>Pitman</i>	1957	20 0
The Corporation of London: Its Origin, Constitution and Duties	<i>Oxford University Press</i>	1950	
FINER, HERMAN. English Local Government	<i>Methuen</i>	1950	36 0
HADFIELD, E. C. R. and MACCOLL, J. E. British Local Government	<i>Hutchinson</i>	1948	7 6
HART, W. O. Introduction to the Law of Local Government and Administration. 6th edn	<i>Butterworth</i>	1957	45 0
JACKSON, W. ERIC. The Structure of Local Government in England and Wales. 2nd edn	<i>Longmans</i>	1955	21 0
MACNALTY, Sir A. S. Local Government	<i>Methuen</i>	1948	4 6
MAUD, Sir JOHN and FINER, S. E. Local Government in England and Wales. 2nd edn	<i>Oxford University Press</i>	1953	7 6
MORRISON, HERBERT. How London is Governed. 2nd edn	<i>James Barrie</i>	1949	8 6

ROBSON, WILLIAM A. The Development of Local Government <i>Allen & Unwin</i>	1948	s. d. 18 0
SCHOFIELD, A. N. Local Government Elections. 3rd edn <i>Shaw</i>	1954	65 0
SMELLIE, K. B. History of Local Government. 2nd edn <i>Allen & Unwin</i>	1950	16 0
WARREN, J. H. The Local Government Service <i>Allen & Unwin</i>	1952	18 0
——— The English Local Government System. 3rd edn <i>Allen & Unwin</i>	1953	15 0
Annual Report Ministry of Housing and Local Government For 1956 Cmnd 193 <i>HMSO</i>	1957	6 0
Local Government: Areas and Status of Local Authorities in England and Wales Cmnd 9831 <i>HMSO</i>	1956	1 0
Local Government Finance (England and Wales) Cmnd 209 <i>HMSO</i>	1957	1 0
Local Government Finance in Scotland Cmnd 208 <i>HMSO</i>	1957	8
Local Government: Functions of County Councils and County District Councils in England and Wales Cmnd 161 <i>HMSO</i>	1957	8
Local Government in Britain [<i>under revision</i>] COI Reference Pamphlet RF.P.2698 <i>HMSO</i>	1955	1 9
The Corporation of the City of London Reference Paper R.3654 <i>COI</i>	1957	free*

The Law

ARCHER, PETER. The Queen's Courts <i>Penguin Books</i>	1956	3 6
DENNING, Sir ALFRED. The Changing Law <i>Stevens</i>	1953	10 0
——— Freedom under the Law <i>Stevens</i>	1949	10 0
DEVLIN, PATRICK. Trial by Jury <i>Stevens</i>	1956	15 0
EDDY, J. P. The Justices' Handbook: A Guide to Law, Evidence and Procedure in Magistrates' Courts. 3rd edn <i>Stevens</i>	1953	18 0
GILES, F. T. The Criminal Law <i>Penguin Books</i>	1954	2 6
——— The Magistrates' Courts <i>Penguin Books</i>	1949	2 6
GLOAG, W. M. and HENDERSON, A. D. Introduction to the Laws of Scotland. 5th edn <i>William Green</i>	1952	63 0
HANBURY, H. G. English Courts of Law. 2nd edn <i>Oxford University Press</i>	1953	7 6
JACKSON, R. M. The Machinery of Justice in England. 2nd edn <i>Cambridge University Press</i>	1953	35 0
JAMES, PHILIP S. Introduction to English Law. 2nd edn <i>Butterworth</i>	1953	15 0
JENKS, EDWARD. The Book of English Law. 5th edn rev. by D. J. Ll. Davies <i>John Murray</i>	1953	21 0
JOYCE, J. A. Justice at Work: The Human Side of the Law ¹ <i>Chapman & Hall</i>	1952	12 6
RUBINSTEIN, RONALD. John Citizen and the Law. 3rd edn <i>Penguin Books</i>	1952	3 6

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TILLET, N. R. The Law and the People	<i>Harrap</i>	1950	8	6
Annual Reports				
The Law Society on the Legal Aid and Advice Act				
For 1955-56	<i>HMSO</i>	1957	3	0
The Law Society of Scotland on the Legal Aid Scheme				
For 1955-56	<i>HMSO</i>	1956	1	9
Criminal Statistics for England and Wales	<i>Annual</i>			
For 1955	Cmd 9884 <i>HMSO</i>	1956	7	0
Criminal Statistics, Scotland	<i>Annual</i>			
For 1956	Cmd 157 <i>HMSO</i>	1957	3	6

Treatment of Offenders

ELKIN, WINIFRED A. The English Penal System	<i>Penguin Books</i>	1957	3	6
FOX, LIONEL W. English Prison and Borstal Systems	<i>Routledge</i>	1952	30	0
FRY, MARGERY. Arms of the Law	<i>Gollancz</i>	1951	8	6
Annual Reports				
Commissioners of Prisons	For 1955 Cmd 10 <i>HMSO</i>	1956	7	0
Prisons in Scotland	For 1956 Cmd 164 <i>HMSO</i>	1957	2	6
Prediction Methods in relation to Borstal Training, by				
Dr. Hermann Mannheim and Leslie T. Wilkins	<i>HMSO</i>	1955	17	6
Prisons and Borstals. rev. edn	<i>HMSO</i>	1957	5	0
The Probation Service in Scotland	<i>HMSO</i>	1955	1	3
The Probation Service, Its Objects and Its Organisation.				
rev. edn	<i>HMSO</i>	1952	1	0
Report of the Committee on Discharged Prisoners' Aid Societies	Cmd 8879 <i>HMSO</i>	1953	1	9
Report of a Committee to Review Punishments in Prisons, Borstal Institutions, Approved Schools and Remand Homes				
Parts I and II. Prisons and Borstal Institutions	Cmd 8256 <i>HMSO</i>	1951	3	6
Parts III and IV. Approved Schools and Remand Homes	Cmd 8429 <i>HMSO</i>	1952	2	6
Report of the Royal Commission on Capital Punishment 1949-53	Cmd 8932 <i>HMSO</i>	1953	12	6
Seventh Report on the Work of the Children's Department of the Home Office	<i>HMSO</i>	1955	6	0

The Police Service

BROWNE, DOUGLAS G. The Rise of Scotland Yard	<i>Harrap</i>	1956	25	0
HART, J. M. The British Police	<i>Allen & Unwin</i>	1951	15	0
HOWARD, GEORGE. Guardians of the Queen's Peace: The Development and Work of Britain's Police	<i>Odhams</i>	1953	15	0
MARTIENSSSEN, ANTHONY. Crime and the Police ¹	<i>Secker & Warburg</i>	1951	10	6
REITH, CHARLES. A Short History of the British Police	<i>Oxford University Press</i>	1948		

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SCOTT, Sir HAROLD. Scotland Yard ¹	<i>André Deutsch</i>	1954	16	0
THOMAS, T. LEWIS. Police Administration. 2nd edn	<i>Police Review Publishing Co.</i>	1957	3	6
Annual Reports				
Commissioner of the Police of the Metropolis				
For 1956 Cmnd 222	<i>HMSO</i>	1957	5	0
H.M. Inspector of Constabulary, Scotland				
For 1956 Cmnd 172	<i>HMSO</i>	1957		9
H.M. Inspectors of Constabulary (Counties and Boroughs in England and Wales)				
For 1955-56	<i>HMSO</i>	1957	1	4
The Fire Service				
EYRE, FRANK and HADFIELD, E. C. R. The Fire Service To-day. 2nd edn	<i>Oxford University Press</i>	1953	9	6
Annual Reports				
Fire Research Board				
For 1956	<i>HMSO</i>	1957	4	0
H.M. Chief Inspector of Fire Services (England and Wales)				
For 1956 Cmnd 246	<i>HMSO</i>	1957	1	3
H.M. Inspector of Fire Services for Scotland				
For 1956 Cmnd 152	<i>HMSO</i>	1957		9
Fire Services. Report of Select Committee on Estimates, Session 1953-54	<i>HMSO</i>	1954	8	0
Fire Services in Britain	Reference Paper R.2915	<i>COI</i>	1955	free*

III. DEFENCE

Brassey's Annual: The Armed Forces Year Book 1956, edited by Rear-Admiral H. G. Thursfield	<i>Clowes</i>	1956	63	0
Jane's All the World's Aircraft 1956-57, edited by Leonard Bridgman	<i>Sampson Low</i>	1956	84	0
Jane's Fighting Ships 1956-57, edited by Raymond Blackman	<i>Sampson Low</i>	1956	84	0
KEMP, Lt.-Cdr. P. K. Fleet Air Arm	<i>Jenkins</i>	1954	16	0
— H.M. Destroyers	<i>Jenkins</i>	1956	16	0
LIPSCOMB, Cdr. F. W. The British Submarine	<i>Black</i>	1954	25	0
SHEPPARD, E. W. A Short History of the British Army. 4th edn	<i>Constable</i>	1950	30	0
Annual Estimates for the Services				
Air Estimates 1957-58	<i>HMSO</i>	1957	9	6
Memorandum by the Secretary of State for Air				
Cmnd 149	<i>HMSO</i>	1957		8
Army Estimates 1957-58	<i>HMSO</i>	1957	8	6
Memorandum of the Secretary of State for War				
Cmnd 150	<i>HMSO</i>	1957	1	0
Navy Estimates 1957-58	<i>HMSO</i>	1957	11	6
Statement of the First Lord of the Admiralty				
Cmnd 151	<i>HMSO</i>	1957	1	3
Defence: Outline of Future Policy	<i>HMSO</i>	1957		9
Defence Statistics 1957-58	<i>HMSO</i>	1957		6
Ministry of Defence Estimate	<i>Annual</i>	1957-58	1	3

¹ Also a Penguin Edition 1957, price 3s. 6d.

			s.	d.
Call Up of Men to the Forces, 1957-60	Cmnd 175	HMSO	1957	4
Central Organisation for Defence	Cmd 6923	HMSO	1946	6
Civil Defence				
Manual of Basic Training [<i>series of pamphlets</i>]		HMSO	1949	1 0
			to	to
			1956	2 0
Manual of Civil Defence. Vol. I. Pamphlet No. 1. Nuclear Weapons		HMSO	1956	2 6
The Future Organization of the Army	Cmnd 230	HMSO	1957	6
National Service	Cmd 9608	HMSO	1955	6
National Service in Britain's Armed Forces				
	Reference Paper R.3441	COI	1956	free*

IV. THE NATIONAL ECONOMY

CAIRNCROSS, A. K., <i>Editor</i> . The Scottish Economy: A Statistical Account of Scottish Life by Members of the Staff of Glasgow University		Cambridge University Press	1954	30 0
CARTER, C. F. and Roy, A. D. British Economic Statistics		Cambridge University Press	1954	25 0
CLAPHAM, Sir JOHN. A Concise Economic History of Britain: From Earliest Times to 1750		Cambridge University Press	1949	25 0
————— An Economic History of Modern Britain				
	3 vols	Cambridge University Press	1938	165 0
COURT, W. H. B. A Concise Economic History of Britain from 1750 to Recent Times		Cambridge University Press	1954	25 0
CROSLAND, C. A. R. Britain's Economic Problems		Cape	1953	12 6
JONES, G. P. and POOL, A. G. A Hundred Years of Economic Development in Great Britain 1840-1940. 2nd edn		Duckworth	1948	21 0
LEWIS, W. ARTHUR. Economic Survey 1919-1939				
		Allen & Unwin	1953	15 0
ROBERTSON, Sir DENNIS. Britain in the World Economy				
		Allen & Unwin	1954	7 6
SEERS, DUDLEY. The Levelling of Incomes since 1938		Blackwell	1951	5 0
STAMP, L. DUDLEY and BEAVER, S. H. The British Isles: a Geographic and Economic Survey		Longmans	1954	46 6
WORSWICK, G. D. N. and others. The British Economy, 1945-50				
		Oxford University Press	1952	35 0
Annual Abstract of Statistics				
No. 93, 1956		HMSO	1956	21 0
Economic Implications of Full Employment				
	Cmd 9725	HMSO	1956	9
Economic Survey <i>Annual from</i> 1947				
	For 1957 Cmnd 113	HMSO	1957	2 0
Economic Survey of Northern Ireland (Report prepared by K. S. Isles and N. Cuthbert)		Belfast, HMSO	1957	35 0
National Income and Expenditure of the United Kingdom 1938-46				
	Cmd 7099	HMSO	1947	1 0
1957 (prepared by the Central Statistical Office)		HMSO	1957	6 0
Digest of Scottish Statistics <i>Twice yearly from April</i> 1953				
		HMSO		4 0

Digest of Statistics: Northern Ireland <i>Twice yearly from March 1954</i>	Belfast, <i>HMSO</i>	s. d.
		5 0
Digest of Welsh Statistics <i>Annual from 1954</i>	<i>HMSO</i>	6 0
Economic Trends. <i>Monthly from November 1953</i>	<i>HMSO</i>	2 0
Monthly Digest of Statistics	<i>HMSO</i>	4 6

V. INDUSTRY

Organization and Production

ALLEN, G. C. British Industries and their Organization. 3rd edn	<i>Longmans</i>	1951	21 0
BRITISH PRODUCTIVITY COUNCIL. The British Productivity Council: Policy and Progress 1955-56	<i>BPC</i>	1956	1 0
————— Better Ways: Nineteen Paths to Higher Production	<i>BPC</i>	1955	2 6
BRITISH STANDARDS INSTITUTION. Year Book	<i>BSI</i>	1957	12 6
CHESTER, D. N. The Nationalised Industries: An Analysis of the Statutory Provisions. 2nd edn			
For the Royal Institute of Public Administration	<i>Allen & Unwin</i>	1951	
GOODMAN, EDWARD. Forms of Public Control and Ownership	<i>Christophers</i>	1951	8 6
GOODMAN, L. LONDON. Man and Automation	<i>Penguin Books</i>	1957	3 6
HOFFMAN, W. G. British Industry 1700-1950	<i>Blackwell</i>	1955	35 0
HOULDSWORTH, Sir HUBERT and others. Efficiency in the Nationalised Industries			
For the Royal Institute of Public Administration	<i>Allen & Unwin</i>	1952	
HUTTON, GRAHAM and others. We Too Can Prosper: The Promise of Productivity	<i>Allen & Unwin</i>	1953	12 0
OAKLEY, C. A., <i>Editor</i> . Scottish Industry: An account of what Scotland makes and where she makes it	<i>Scottish Council</i>	1953	25 0
POLITICAL AND ECONOMIC PLANNING. Government and Industry: A Survey of the Relations between Government and Privately-Owned Industry	<i>PEP</i>	1952	21 0
————— Industrial Trade Associations: Activities and Organization	<i>Allen & Unwin</i>	1957	30 0
ROBSON, W. A. Problems of Nationalized Industry	<i>Allen & Unwin</i>	1952	25 0
Room to Expand: Facilities which the Development Areas Offer to Manufacturers	<i>Board of Trade</i>	1955	free
Annual Report			
Board of Trade on the Monopolies and Restrictive Practices Acts, 1948 and 1953	<i>HMSO</i>	1957	1 4
For 1956	<i>HMSO</i>	1948	1 9
Distribution of Industry	<i>Cmd 7540</i>		
Report of the Monopolies and Restrictive Practices Commission. Collective Discrimination: A Report on Exclusive Dealing, Collective Boycotts, Aggregated Rebates and Other Discriminatory Trade Practices	<i>Cmd 9504</i>	1955	3 6

Report on the Census of Production for 1954			s. d.
Introductory Notes	<i>HMSO</i>	1956	1 0
12 Volumes [<i>in progress</i>]	<i>HMSO</i>	1957	1 6
			to
			2 0
Reports from Select Committee on Nationalised Industries			
Session 1952-53	<i>HMSO</i>	1953	6 6
Special Report	<i>HMSO</i>	1955	2 6
Industry and Employment in Scotland <i>Annual</i>			
For 1956 Cmnd 125	<i>HMSO</i>	1957	3 0
Wales and Monmouthshire: Report of Government Action for the year ended 30th June, 1956	Cmd 9887 <i>HMSO</i>	1956	3 6
Economic Development in Scotland			
Reference Paper R.3282	<i>COI</i>	1956	free*
Nationalized Industries in Britain			
Reference Paper R.3184	<i>COI</i>	1955	free*
Productivity in the United Kingdom			
Reference Paper R.3294	<i>COI</i>	1956	free*
Agriculture			
BRITISH PRODUCTIVITY COUNCIL. A Review of Productivity in Farming	<i>BPC</i>	1955	1 9
COOPER, D. W. Farmers' Co-operation in England			
<i>Agricultural Co-operation Association Ltd.</i>		1954	1 0
DIGBY, MARGARET. Agricultural Co-operation in Great Britain			
<i>Crosby Lockwood</i>		1949	6 0
EASTERBROOK, L. F. British Agriculture. 4th edn			
For the British Council, <i>Longmans</i>		1950	1 0
ERNLE, <i>Lord</i> . English Farming Past and Present	<i>Longmans</i>	1936	
HUNT, K. E. and CLARK, K. R. The State of British Agriculture 1955-56	<i>University of Oxford Agricultural Economics</i>		
<i>Research Institute</i>		1956	10 0
ORWIN, C. S. A History of English Farming	<i>Nelson</i>	1949	12 6
POLITICAL AND ECONOMIC PLANNING. Agriculture and Land Use	<i>PEP</i>	1957	2 6
SYKES, FRANK. Living from the Land	<i>Geoffrey Bles</i>	1957	21 0
WATSON, <i>Sir</i> JAMES SCOTT and MORE, J. A. Agriculture: The Science and Practice of British Farming. 10th edn	<i>Oliver & Boyd</i>	1956	31 6
Agricultural Research Service	<i>HMSO</i>	1953	2 6
Agricultural Statistics, United Kingdom 1955-56	<i>HMSO</i>	1957	3 0
Agricultural Survey of Scotland	Edinburgh, <i>HMSO</i>	1946	8 6
Annual Reports			
Animal Health Services in Great Britain For 1955	<i>HMSO</i>	1956	5 0
Department of Agriculture for Scotland			
Agriculture in Scotland 1955	Cmdnd 145 <i>HMSO</i>	1957	5 0
Annual Review and Determination of Guarantees			
For 1957 Cmnd 109	<i>HMSO</i>	1957	1 3
Crofters Commission: Report for October 1955 to December 1956	<i>HMSO</i>	1957	1 4
Crofting Conditions: Commission of Enquiry			
Cmd 9091	<i>HMSO</i>	1954	3 6

Decontrol of Food and Marketing of Agricultural Produce			s. d.
	Cmd 8989 <i>HMSO</i>	1953	4
Development Commission. Survey of Agricultural, Forestry and Fishery Products and their Utilisation, 1951	<i>HMSO</i>	1953	7 6
The Farm as a Business: A Handbook of Standards and Statistics. 2nd edn	<i>HMSO</i>	1957	7 0
Horticultural Marketing, Report of the Committee on			
	Cmnd 61 <i>HMSO</i>	1957	6 0
Long-term Assurances for Agriculture	Cmnd 23 <i>HMSO</i>	1956	8
National Agricultural Advisory Service Report: The First Eight Years 1946-1954	<i>HMSO</i>	1955	3 6
Report on Agricultural Marketing Schemes For 1938-55	<i>HMSO Annual</i>	1957	5 6
Farm Incomes in England and Wales			
	For 1954-55 <i>HMSO</i>	1957	7 0
Agriculture: Journal of the Ministry of Agriculture, Fisheries and Food	<i>Monthly</i>		9
Scottish Agriculture: Journal of the Department of Agriculture for Scotland	<i>Quarterly</i>		1 0
County Agricultural Executive Committees			
	Reference Paper R.2687 <i>COI</i>	1953	free*
Farming Britain, by A. N. Duckham	<i>COI</i>	1957	free
Land Development and Conservation: The Contribution by Countries of the Commonwealth			
	Reference Paper R.3095 <i>COI</i>	1955	free*
Rural Industries in Britain	Reference Paper R.3334 <i>COI</i>	1956	free*
Fisheries			
Fisheries Year Book and Directory 1956			
	<i>British Continental Trade Press</i>	1956	20 0
Annual Reports			
Fisheries of Scotland	For 1956 Cmnd 146 <i>HMSO</i>	1957	3 6
Herring Industry Board	For 1956 Cmnd 183 <i>HMSO</i>	1957	1 9
White Fish Authority (and Accounts) For 1956-57	<i>HMSO</i>	1957	2 0
Annual Statistical Tables			
Scottish Sea Fisheries	For 1956 <i>HMSO</i>	1957	5 0
Sea Fisheries	For 1955 <i>HMSO</i>	1956	4 0
Forestry			
CHAMPION, H. G. Forestry	<i>Oxford University Press</i>	1954	7 6
TAYLOR, W. LING. Forests and Forestry in Great Britain			
	<i>Crosby Lockwood</i>	1945	12 6
The Forestry Commission in Scotland	<i>Forestry Commission</i>	1953	free
The Role of State, Communities and Private Enterprise, in the National Forest Policy of Great Britain, by W. H. Guillebaud	<i>Forestry Commission</i>	1952	free
Statement presented by the Forestry Commission of Great Britain to the Sixth Commonwealth Forestry Conference, Canada, 1952	<i>Forestry Commission</i>	1952	free
Annual Reports			
Forestry Commissioners	For 1955-56 <i>HMSO</i>	1957	4 6
Forest Research	For 1955-56 <i>HMSO</i>	1957	6 0

			s.	d.
Britain's Forests [13 booklets]	<i>HMSO</i>	1948		6
		to		to
		1953	1	3
Census of Woodlands 1947-49: Summary Report	<i>HMSO</i>	1951		9
Dedication of Woodlands: Principles and Procedure. 4th edn	<i>HMSO</i>	1956	2	6
Marketing of Woodland Produce, Report of Departmental Committee on	<i>HMSO</i>	1956	4	6
National Forest Park and Forestry Commission Guides [9 booklets]	<i>HMSO</i>	1946	1	6
		to		to
		1957	5	0
Post-War Forest Policy	Cmd 6447 <i>HMSO</i>	1943	3	0
——— Private Woodlands	Cmd 6500 <i>HMSO</i>	1944		6
Fuel and Power				
POLITICAL AND ECONOMIC PLANNING. The British Fuel and Power Industries	<i>PEP</i>	1947	30	0
Fuel and the Future. Proceedings of a Conference under the Auspices of the Fuel Efficiency Committee. 3 vols.	<i>HMSO</i>	1948	15	6
Ministry of Fuel and Power Statistical Digest <i>Annual</i>				
For 1955	<i>HMSO</i>	1956	27	6
Report of the Committee on National Policy for the Use of Fuel and Power Resources [Ridley Report]	Cmd 8647 <i>HMSO</i>	1952	6	6
<i>Coal</i>				
NATIONAL COAL BOARD. British Coal, The Rebirth of an Industry	<i>NCB</i>	1957		free
——— Fifty Questions and Answers on British Coal	<i>NCB</i>	1955		free
——— Investing in Coal: Progress and Prospects under the Plan for Coal	<i>NCB</i>	1956	3	0
——— Plan for Coal	<i>NCB</i>	1950	2	6
——— Some Notes on the British Coal Industry	<i>NCB</i>	1955		free
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Report of the Committee of Enquiry on the Training of Supervisors	<i>HMSO</i>	1954	2	0
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Accounts Relating to the Trade and Navigation of the United Kingdom	<i>Monthly</i>		12 6
Board of Trade Journal	<i>Weekly</i>		9
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Reference Paper R.2833 <i>COI</i>	1954		free*

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	For the British Council, <i>Longmans</i>	1949	1 0
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Report of the Care of Children Committee [Curtis Report] Cmd 6922 <i>HMSO</i>	1946	4 6
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Department of Health for Scotland			
	For 1956 Cmnd 140 <i>HMSO</i>	1957	5 6
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	For 1956 Cmnd 212 <i>HMSO</i>	1957	1 3
Health and Local Government Administration in Northern Ireland	For 1955 Cmd 359 Belfast, <i>HMSO</i>	1956	5 0
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Part I. 1. National Health Service.			
2. Welfare, Food and Drugs, and Civil Defence	Cmd 9857 <i>HMSO</i>	1956	9 0
Part II. On the State of the Public Health			
	Cmnd 16 <i>HMSO</i>	1956	9 0
National Health Service Summarised Accounts <i>Annual</i>			
	For 1955-56 <i>HMSO</i>	1957	3 0
National Health Service (Scotland) Summarised Accounts <i>Annual</i>			
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Report of Committee of Enquiry into the Cost of the National Health Service [<i>Guillebaud Report</i>]	Cmd 9663 <i>HMSO</i>	1956	9 0
Report of Committee on General Practice within the National Health Service [<i>Cohen Report</i>]	<i>HMSO</i>	1954	2 6
Report of Committee on Social Workers in the Mental Health Services	Cmd 8260 <i>HMSO</i>	1951	1 6
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Report of the Royal Commission on the Law Relating to Mental Illness and Mental Deficiency, 1954-57			
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<i>Bell</i>	1955		42 0
Annual Reports			
Ministry of Education			
Education in 1956	<i>Cmd 223 HMSO</i>	1957	8 6
Education in 1900-1950	<i>Cmd 8244 HMSO</i>	1951	9 0
Ministry of Education for Northern Ireland			
<i>Cmd 368 Belfast, HMSO</i>	1957		4 6
Scottish Education Department			
Education in Scotland in 1956	<i>Cmd 162 HMSO</i>	1957	5 6
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Further Education: A Report of the Advisory Council on Education in Scotland	<i>Cmd 8454 HMSO</i>	1952	5 0
The Health of the School Child. Report of the Chief Medical Officer of the Ministry of Education for 1954 and 1955	<i>HMSO</i>	1956	6 0
Junior Secondary Education [Scotland]	<i>HMSO</i>	1955	5 0
Ministry of Education Building Bulletins: Nos. 1-11	<i>HMSO</i>	1949 to 1955	1 0 4 0
The New Secondary Education (Ministry of Education Pamphlet No. 9)	<i>HMSO</i>	1947	2 6
Our Changing Schools: A Picture for Parents	<i>HMSO</i>	1950	2 0
Primary School in Scotland: Memorandum on the Curriculum	<i>HMSO</i>	1950	2 6
Public Education in Scotland. rev. edn	<i>HMSO</i>	1955	2 0
Public Schools and the General Educational System [Fleming Report]	<i>HMSO</i>	1944	4 6
Report of the Committee on Organisation and Finance of Adult Education	<i>HMSO</i>	1954	2 6
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Secondary Education: A Report of the Advisory Council on Education in Scotland	Cmd 7005	HMSO	1947	6 0
Technical Education	Cmd 9703	HMSO	1956	1 6
The Training of Teachers (Ministry of Education Pamphlet No. 34)		HMSO	1957	1 9
University Grants Committee				
Annual Return from Universities and University Colleges				
For 1955-56	Cmdnd 211	HMSO	1957	3 6
University Development 1952-56	Cmdnd 79	HMSO	1957	1 3
Memorandum on the Ministry of Education Estimates	<i>Annual</i>			
For 1956-57	Cmd 9709	HMSO	1956	6
Education in Britain [<i>under revision</i>]				
COI Reference Pamphlet RF.P.3084	HMSO		1955	2 0
Technological Education in Britain				
COI Reference Pamphlet RF.P.3422	HMSO		1957	2 6
Universities in Britain				
Part. I. General	Reference Paper R.3165	COI	1955	free*
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Reference Paper R.3037	COI		1955	free*
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CIB			1955	3 0
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JEPHCOTT, PEARL. Some Young People.		<i>Allen & Unwin</i>	1954	12 6
JORDAN, G. W. and FISHER, E. M. Self-Portrait of Youth				
<i>Heinemann</i>			1955	12 6
KUENSTLER, P. H. K., <i>Compiler</i> . Youth Work in England: Extracts from Ministry of Education and other publications relating to Statutory and Voluntary Youth Work				
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Citizens of To-morrow: A Study of Influences Affecting the Upbringing of Young People				
For King George's Jubilee Trust	<i>Odhams</i>		1955	3 0
Purpose and Content of the Youth Service		HMSO	1945	4
Youth Services in Britain [<i>prepared by COI for the Foreign Office</i>]		HMSO	1956	free
Youth Services in Britain	Reference Paper R.3406	COI	1957	free*

XI. HOUSING AND PLANNING

Annual Report				
Ministry of Housing and Local Government				
For 1956	Cmdnd 193	HMSO	1957	6 0

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| ASHWORTH, HERBERT. Housing in Great Britain | <i>Skinner</i> | 1957 | 7 | 6 |
| Houses: The Next Step | Cmd 8996 <i>HMSO</i> | 1953 | | 9 |
| Housing in England and Wales: 1951 Census Housing Report | <i>HMSO</i> | 1956 | 60 | 0 |
| Housing Manual 1949 | <i>HMSO</i> | 1949 | 3 | 6 |
| ——— Supplement. Housing for Special Purposes | <i>HMSO</i> | 1951 | 2 | 0 |
| ——— Supplement. Houses 1952 | <i>HMSO</i> | 1952 | 1 | 0 |
| ——— Supplement. Houses 1953 | <i>HMSO</i> | 1953 | 3 | 0 |
| Housing Policy, Scotland | Cmd 8997 <i>HMSO</i> | 1953 | | 6 |
| Housing Return, England and Wales | <i>Quarterly Cmnd Paper HMSO</i> | | | 6 |
| Housing Return, Scotland | <i>Quarterly Cmnd Paper HMSO</i> | | 1 | 0 |
| The Rent Act and You | | | | |
| Questions and Answers for Landlord and Tenant [England and Wales] | <i>HMSO</i> | 1957 | | 6 |
| A Simple Guide for Scotland | <i>HMSO</i> | 1957 | | 6 |
| Housing in Britain [<i>under revision</i>] | | | | |
| Reference Pamphlet RF.P.2797 <i>COI</i> | | 1954 | | free* |
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Town and Country Planning | | | | |
| ABERCROMBIE, Sir PATRICK. Town and Country Planning, 2nd edn | <i>Oxford University Press</i> | 1943 | 7 | 6 |
| ASSOCIATION FOR PLANNING AND REGIONAL RECONSTRUCTION. Town and Country Planning Textbook | <i>Architectural Press</i> | 1950 | 42 | 0 |
| BROWN, H. J., <i>Editor</i> . Practical Points on Planning Law | <i>Sweet & Maxwell</i> | 1951 | 15 | 0 |
| GIBBERD, FREDERICK. Town Design, 2nd edn | <i>Architectural Press</i> | 1955 | 73 | 6 |
| HEAP, DESMOND. An Outline of Planning Law, 2nd edn | <i>Sweet & Maxwell</i> | 1955 | 25 | 0 |
| HOWARD, EBENEZER. Garden Cities of To-morrow. [<i>New edn of To-morrow: A Peaceful Path to Real Reform, first published in 1898</i>] | <i>Faber & Faber</i> | 1946 | 8 | 6 |
| KEEBLE, LEWIS. Principles and Practice of Town and Country Planning | <i>Estates Gazette</i> | 1952 | 47 | 6 |
| NUFFIELD COLLEGE SOCIAL RECONSTRUCTION SURVEY. Britain's Town and Country Pattern: A Summary of the Barlow, Scott and Uthwatt Reports, <i>Editor</i> G. D. H. Cole | <i>Faber & Faber</i> | 1943 | 2 | 6 |
| PURDOM, C. B. The Building of Satellite Towns: A Contribution to the Study of Town Development and Regional Planning, 2nd edn | <i>Dent</i> | 1949 | 50 | 0 |
| WILLIAMS-ELLIS, CLOUGH. Town and Country Planning For the British Council, <i>Longmans</i> | | 1951 | 2 | 6 |
| TOWN AND COUNTRY PLANNING ASSOCIATION. Town and Country Planning <i>Monthly</i> | <i>T and CPA</i> | | | 2 0 |
| Annual Reports | | | | |
| Development Corporations of the New Towns [England and Wales] | For 1956-57 <i>HMSO</i> | 1957 | 16 | 6 |
| [Scotland] | For 1956-57 <i>HMSO</i> | 1957 | 5 | 0 |
| National Parks Commission | For 1955-56 <i>HMSO</i> | 1956 | 4 | 0 |
| Nature Conservancy | For 1955-56 <i>HMSO</i> | 1956 | 4 | 6 |

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The Density of Residential Areas	<i>HMSO</i>	1952	5	0
Design in Town and Village, by T. Sharp, F. Gibberd and W. G. Holford	<i>HMSO</i>	1953	7	6
National Parks and Access to the Countryside	<i>HMSO</i>	1950		6
The New Towns Grow [<i>prepared by the Ministry of Housing and Local Government and COI</i>]	<i>HMSO</i>	1956	free	
Programme of Highland Development	Cmd 7976 <i>HMSO</i>	1950	1	0
Report of the Committee on Compensation and Betterment 1942 [Uthwatt Report]	Cmd 6386 <i>HMSO</i>	1942	4	6
Report of the Committee on Footpaths and Access to the Countryside	Cmd 7207 <i>HMSO</i>	1947	1	3
Report of the Committee on Land Utilisation in Rural Areas 1942 [Scott Report]	Cmd 6378 <i>HMSO</i>	1942	4	0
Report of the Committee on National Parks (England and Wales)	Cmd 7121 <i>HMSO</i>	1947	5	6
Report of the Committee on National Parks and Conservation of Nature in Scotland	Cmd 7235 <i>HMSO</i>	1947	2	0
Report of the Royal Commission on the Distribution of the Industrial Population 1939 [Barlow Report]	Cmd 6153 <i>HMSO</i>	1940	9	0
Town and Country Planning 1943-51: Progress Report	Cmd 8204 <i>HMSO</i>	1951	6	0
Town and Country Planning in Britain	COI Reference Pamphlet RF.P.2984 <i>HMSO</i>	1955	2	0

XII. RELIGION, SCIENCE, AND THE ARTS

Religion

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Catholic Directory, 1957	<i>Burns, Oates & Washbourne</i>	1957	18	0
CHURCH OF ENGLAND. Official Yearbook of the National Assembly of the Church of England	For 1957 <i>Society for the Promotion of Christian Knowledge</i>	1957	25	0
CHURCH OF IRELAND. The Irish Church Directory and Year Book	For 1957 <i>Church of Ireland Printing & Publishing Company</i>	1957	8	0
CHURCH OF SCOTLAND. Year Book	For 1956 <i>Church of Scotland Committee of Publications</i>	1956	5	0
Church Relations in England	<i>Church Information Board</i>	1955		4
CONGREGATIONAL UNION OF ENGLAND AND WALES. Congregational Year Book	For 1957 <i>Independent Press</i>	1957	42	0
CONGREGATIONAL UNION OF SCOTLAND. Year Book	For 1956-57 <i>Congregational Union of Scotland</i>	1956	2	6
EPISCOPAL CHURCH IN SCOTLAND. The Scottish Episcopal Church Year Book and Directory	For 1957-58 <i>Representative Church Council of the Episcopal Church in Scotland</i>	1957	7	6

METHODIST CHURCH. Minutes of the Annual Conference of the Methodist Church, 1956	<i>Methodist Publishing House</i>	1956	s. d. 15 0
PRESBYTERIAN CHURCH OF ENGLAND. Official Handbook For 1956-57	<i>Presbyterian Church of England</i>	1956	5 0
PRESBYTERIAN CHURCH OF WALES. Year Book For 1955	<i>Presbyterian Church of Wales</i>	1955	4 6
SALVATION ARMY. Year Book For 1956	<i>Salvationist Publishing & Supplies</i>	1956	4 0
UNITARIAN AND FREE CHRISTIAN CHURCHES. Year Book of the General Assembly For 1957	<i>Lindsey Press</i>	1957	5 0
UNITED FREE CHURCH OF SCOTLAND. Handbook For 1957	<i>United Free Church of Scotland</i>	1957	2 6
Who's Who in the Free Churches (and other denominations) 1951, edited by L. G. Pine	<i>Shaw Publishing Company</i>	1951	

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BAILEY, Sir EDWARD. Geological Survey of Great Britain	<i>Thomas Murby</i>	1952	22 6
BERTIN, LEONARD. Atom Harvest	<i>Secker & Warburg</i>	1956	20 0
BRITISH COUNCIL. Scientific and Learned Societies of Great Britain: A Handbook compiled from Official Sources. 58th edn	<i>Allen & Unwin</i>	1956	35 0
COMMONWEALTH AGRICULTURAL BUREAUX. Gazetteer of Agricultural and Forestry Research Stations in the British Commonwealth	<i>CAB</i>	1952	30 0
CROWTHER, J. G. Nuclear Energy in Industry	<i>Newnes</i>	1956	17 6
EDWARDS, R. S. Co-operative Industrial Research	<i>Pitman</i>	1950	20 0
FEDERATION OF BRITISH INDUSTRIES. Report of the Third Conference of Industrial Research Directors and Managers	<i>Federation of British Industries</i>	1953	3 6
————— Research and Development in British Industry: A Survey of Expenditure 1950-51	<i>Federation of British Industries</i>	1952	1 3
HARRIS, Miss P. M. and JAY, K. E. B. A List of Reports and Published Papers	<i>Atomic Energy Authority</i>	1955	7 6
HEATH, Sir H. FRANK and HETHERINGTON, A. L. Industrial Research and Development in the United Kingdom: A Survey	<i>Faber & Faber</i>	1946	25 0
HORDER, Lord. Fifty Years of Medicine	<i>Duckworth</i>	1953	5 0
HUDSON, DEREK and LUCKHURST, K. W. The Royal Society of Arts, 1754-1954	<i>Murray</i>	1954	30 0
JARAMILLO-ARANGO, Dr. JAIME. The British Contribution to Medicine	<i>Livingstone</i>	1953	25 0
JAY, K. E. B. Atomic Energy Research at Harwell	<i>Butterworth's Scientific Publications</i>	1955	5 0
————— Calder Hall: The Story of Britain's First Atomic Power Station	<i>Methuen</i>	1956	5 0
MARTIN, T. The Royal Institution For the British Council,	<i>Longmans</i>	1948	
ROYAL SOCIETY OF LONDON. Report of Empire Scientific Conference 1946. 2 vols.	<i>Cambridge University Press</i>	1948	42 0
————— The Year Book of the Royal Society of London	<i>Royal Society</i>	1957	15 0

Combining for Research: The Work of the Industrial Research Associations in the Government Scheme	<i>DSIR</i>	1956	s. d. free
Admiralty. Notes on Atomic Energy	<i>HMSO</i>	1955	6 0
Aeronautical Research Council. Review 1949-54	<i>HMSO</i>	1955	5 0
Annual Reports			
Advisory Council on Scientific Policy			
For 1955-56	Cmd 11 <i>HMSO</i>	1956	9
Atomic Energy Authority Third Report			
For 1956-57	<i>HMSO</i>	1957	3 0
Department of Scientific and Industrial Research			
For 1955-56	Cmd 213 <i>HMSO</i>	1957	9 6
Medical Research Council	For 1955-56 Cmd 180 <i>HMSO</i>	1957	9 0
Meteorological Office	For 1956-57 <i>HMSO</i>	1957	3 0
National Physical Laboratory	For 1956 <i>HMSO</i>	1957	5 0
National Research Development Corporation			
For 1955-56	<i>HMSO</i>	1957	1 0
Britain's Atomic Factories: The Story of Atomic Energy Production in Britain	<i>HMSO</i>	1954	5 0
A Description of the Work of the Department of Scientific and Industrial Research	<i>HMSO</i>	1949	1 0
Fifty Years at Farnborough	<i>HMSO</i>	1955	2 0
The Future Organisation of the U.K. Atomic Energy Project			
Cmd 8986	<i>HMSO</i>	1953	6
Government Scientific Organisation in the Civilian Field	<i>HMSO</i>	1951	1 6
Harwell: The British Atomic Energy Research Establishment 1946-51 [produced by COI for Ministry of Supply]	<i>HMSO</i>	1952	6 0
Hazards to Man of Nuclear and Allied Radiation (Medical Research Council Report)	Cmd 9780 <i>HMSO</i>	1956	5 6
Jubilee Book of the National Physical Laboratory, by John Langdon-Davies	<i>HMSO</i>	1951	4 0
Science Museum. Classified List of Historical Events in Mechanical and Electrical Engineering	<i>HMSO</i>	1955	2 0
Science Museum: The First Hundred Years	<i>HMSO</i>	1957	15 0
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The Commonwealth and Nuclear Development			
COI Reference Pamphlet RF.P.3353	<i>HMSO</i>	1956	3 6
Nuclear Energy in Britain [in preparation]			
COI Reference Pamphlet RF.P.3619	<i>HMSO</i>	1957	
Commonwealth Scientific Research			
Reference Paper R.2873	<i>COI</i>	1954	free*
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ARTS COUNCIL OF GREAT BRITAIN. The First Ten Years. Eleventh Annual Report 1955-56	<i>Arts Council</i>	1956	2 6
— Art in the Red. Twelfth Annual Report 1956-57	<i>Arts Council</i>	1957	2 6
BRITISH COUNCIL. Annual Report 1955-56	<i>British Council</i>	1956	1 0
CARNEGIE UNITED KINGDOM TRUST. Annual Report			
Dunfermline, <i>Carnegie United Kingdom Trust</i>		1957	free
<i>Visual Arts</i>			
Directory of Museums and Art Galleries in the British Isles	<i>Museums Association</i>	1948	21 0

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Thames & Hudson 1955 s. d.
126 0
- LAMB, Sir WALTER. The Royal Academy. 2nd edn *Bell* 1951 15 0
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Fifty Years' Achievement, 1895-1945. 3rd edn *Batsford* 1948 6 0
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Eyre & Spottiswoode 1956 35 0
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Penguin Books 1953 45 0
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Appendix H. Memoranda Submitted to the Committee	Cmd 8117 <i>HMSO</i>	1951	10	6
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OFFICIAL HISTORIES OF THE SECOND WORLD WAR: UNITED KINGDOM

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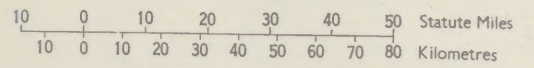
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ENGLAND & WALES

Scale 1:2,000,000



— Railways - - - - - Canals
- - - - - Shipping Routes (Distances in Nautical Miles) 3210 Heights in Feet





SCOTLAND AND NORTHERN IRELAND

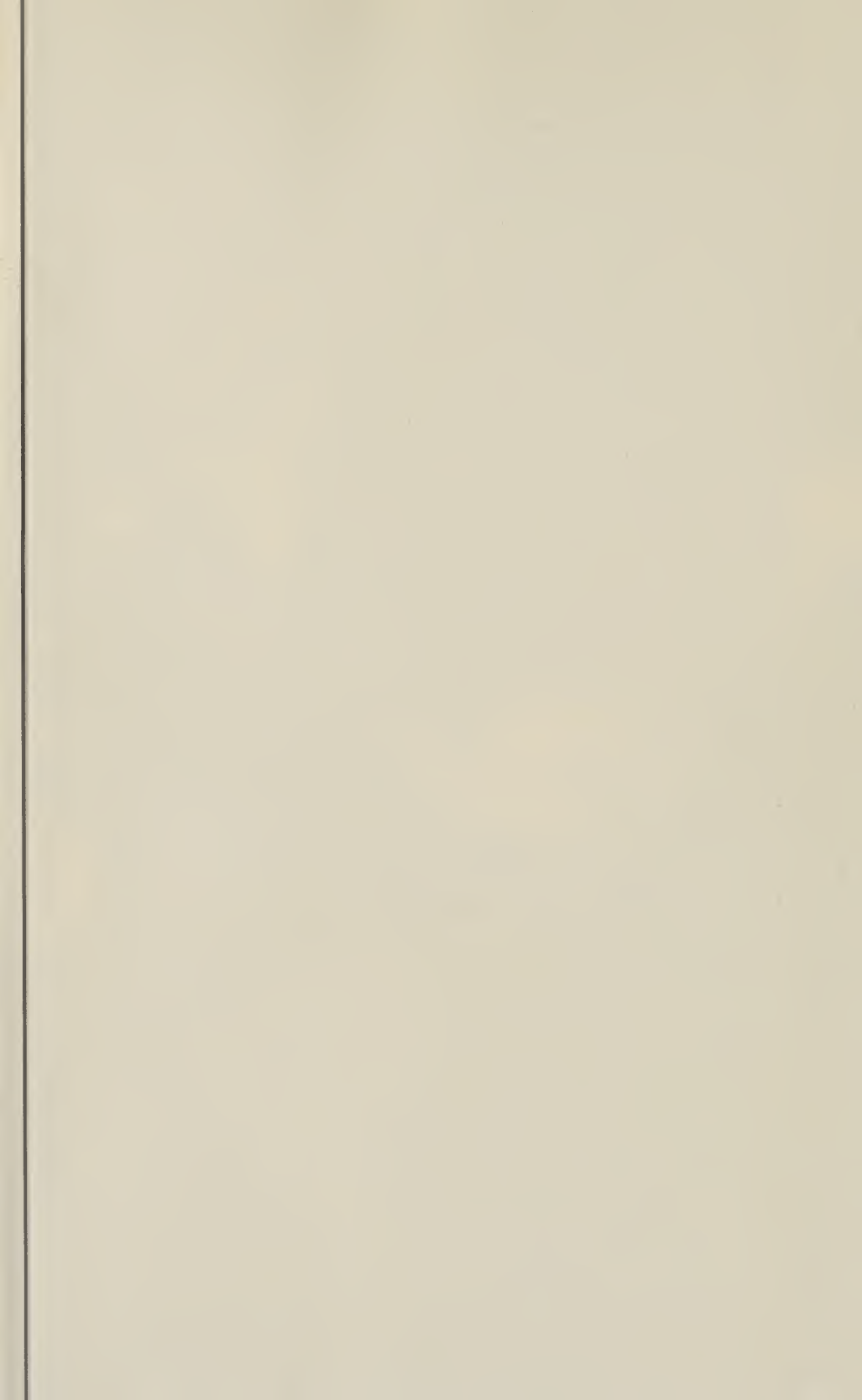
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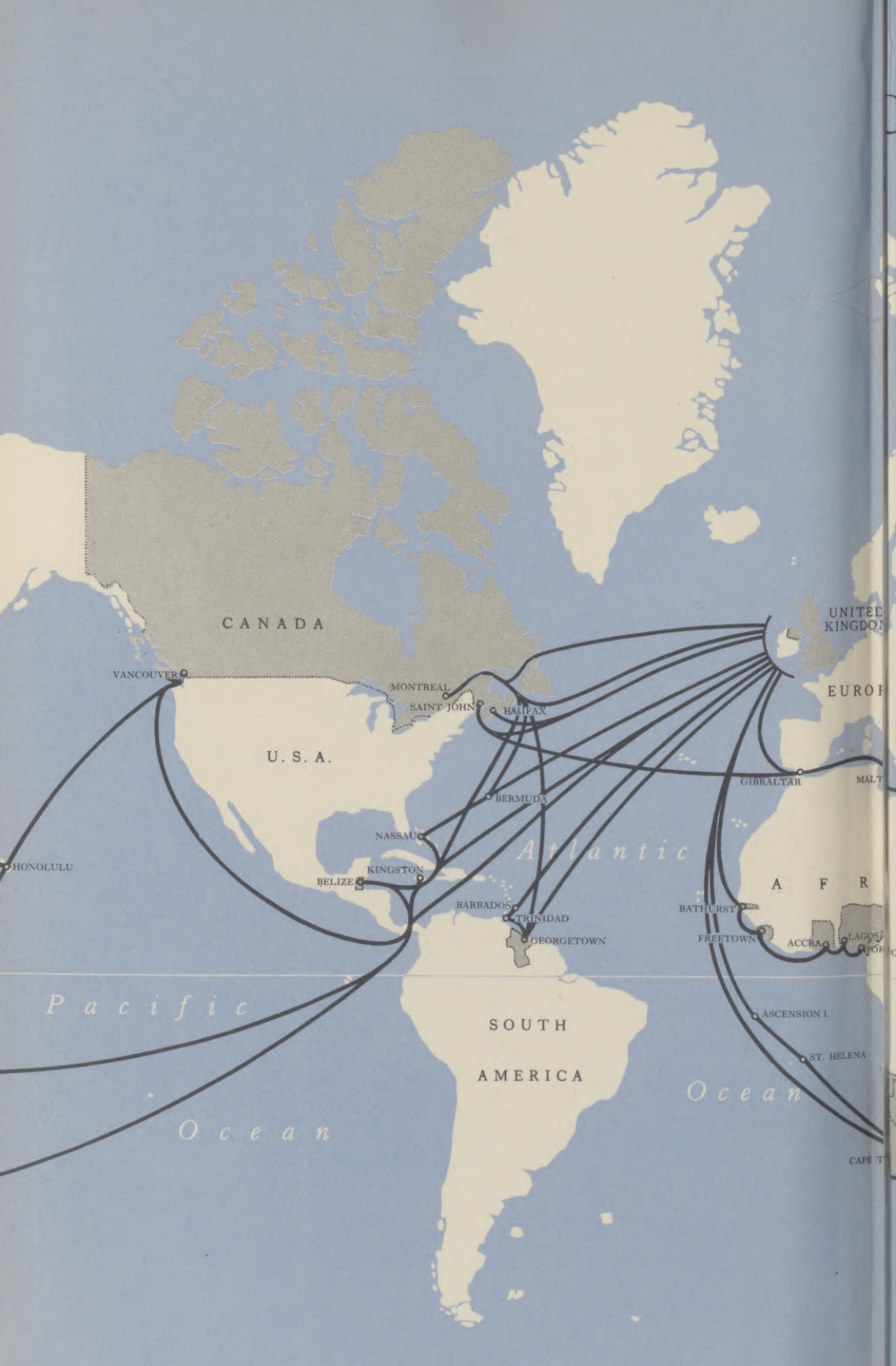
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Railways
 Canals

Shipping Routes
 3058 Heights in Feet

(Distances in Nautical Miles)





CANADA

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SOUTH
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UNITED
KINGDOM

EUROPE

Atlantic

Pacific

Ocean

Ocean

A F R

VANCOUVER

MONTREAL

SAINT JOHN

HALIFAX

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NASSAU

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GEORGETOWN

GIBRALTAR

MALT

BATHURST

FREETOWN

ACCRA

LAGOS

ASCENSION I.

ST. HELENA

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Commonwealth Sea Communications

MAIN COMMONWEALTH-OWNED LINER ROUTES



