LEAGUE OF NATIONS

THE PROBLEM OF NUTRITION

VOLUME III.

NUTRITION IN VARIOUS COUNTRIES

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NUTRITION IN VARIOUS COUNTRIES

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POST-WAR DEVELOPMENTS IN THE FIELD OF NUTRITION

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A SURVEY OF THE MEASURES TAKEN IN CERTAIN COUNTRIES BY GOVERNMENTS, PUBLIC AUTHORITIES AND NATIONAL ORGANISATIONS TO BRING ABOUT AN IMPROVEMENT IN THE NUTRITION IN VARIOUS SECTIONS OF THE POPULATION.

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REPORT OF THE SUB-COMMITTEE ON FOOD STATISTICS OF THE MIXED COMMITTEE ON THE PROBLEM OF NUTRITION.

NUTRITION IN VARIOUS COUNTRIES.

POST-WAR DEVELOPMENTS IN THE FIELD OF NUTRITION.

GENERAL OBSERVATIONS.

In order to throw light on the state of popular nutrition in its economic aspect, the Secretariat has endeavoured to bring together some information on variations which have occurred in the consumption of foodstuffs in a number of countries.

Taking a general view of countries like the United Kingdom, France, Switzerland, Belgium and the Netherlands, the question of general food shortage is not a matter for anxiety. Thanks to their wealth and their highly developed communications and widespread facilities for distribution, these countries are not exposed to the danger of scarcity. It is true that, among industrial or agricultural workers who have been particularly hard hit by unemployment or trade depression, large numbers may be underfed as the result of lack of purchasing power, in spite of the considerable efforts made to assist them. For the great majority of the population, however, the nutrition problem —though at first a problem of income—is in the main a problem of quality, balance of diet, hygiene and education.

If in these countries the dietary is bad, it is due less to any deficiency of diet than to the fact that it is ill-balanced and incomplete, containing, perhaps, an excessive proportion of certain substances, while at the same time deficient in important constituents. Very appreciable progress seems nevertheless to have been made, in spite of the limitations imposed since the war by economic difficulties, and it would be valuable to be able to show to what extent these current changes in consumption are in the direction of more rational nutrition.

In other countries, the necessity for providing means of subsistence for distressed sections of the population or for whole areas of the country is the primary purpose of endeavour. Where widespread poverty and distress have resulted from the destruction of trade and the loss of employment which the economic crisis brought about, the question is not one of establishing an ideal nutrition, but of securing sufficiency. The same is often true in more backward countries.

Evidence both from advanced and from less prosperous communities will be found among the particulars which follow.

Union of South Africa.

The Health Department of the South African Government employs a field staff of medical officers and health inspectors continuously engaged in investigating health conditions in various parts of the country.

Their reports deal with health matters in general, including conditions of nutrition. Certain of the local authorities also employ full-time medical officers of health. From the reports of these officers, the Union Health Department is able to keep itself reasonably well informed of the prevailing level of nutrition in various areas and sections of the community.

In addition to the reports furnished by officers of health, special investigations into nutrition conditions have been made at various times. Chief among these may be mentioned the investigation of the Carnegie Commission carried out in 1930-31 into the Poor White Problem in South Africa. Volume IV of the report of that Commission deals with the physical condition of the poor white and is concerned very largely with the nutrition of these people. Of the two million Europeans in the Union, approximately 300,000 were found to fall into the classification "poor whites", and practically without exception all of these were found to be definitely malnourished. These "poor whites" belong very largely to the rural agricultural class.

Of the 6 million Bantus in the Union, very useful information is obtained from the condition on recruitment for the gold-mining industry. The natives go to the mines for a contract period of nine months and then return to the native reserves. There is, therefore, a large labour turnover. Of the adult male natives presenting themselves to the recruiting agencies in the reserves, more than half are rejected as physically unfit for work on the mines chiefly for reasons of malnutrition.

Of those taken on, most arrive on the mines in an under-nourished condition. The mines appreciate this fact and deliberately allow them a period of rest with unlimited food to bring them into a condition in which they can safely be put on to hard work underground. This malnourished condition of the natives in the reserves must be attributed very largely to the almost exclusive maize diet. There is a great preponderance of starch with insufficient protein, fat and vitamin. The dietary standard laid down for native labourers on the gold-mines by Government regulation includes a number of foodstuffs intended to correct these deficiencies.

Child Nutrition in Cape Colony.

The state of child nutrition in the Cape Province as a whole is fairly satisfactory, according to investigation made by the Medical Inspector of Schools.

There are areas, however, where conditions are not good. Certain "poor white" settlements have a fairly high percentage of malnourished children, but of late years the condition has improved very much, especially in the older settled areas. Many cases also are found in some of the Karroo dorps, where extreme poverty prevents the children getting enough to eat. This state of affairs is always much aggravated during years of severe drought. There is likewise much malnutrition on some

of the diamond diggings, where want is extreme. In some fishing villages, too, especially where much salt fish is consumed, the percentage is higher than it should be, and in most areas where the ground is poor in quality and the people live on restricted and monotonous diet largely carbohydrate in character.

There had been considerable improvement in some areas, where a better and more generous diet has been introduced into indigent boarding-houses. The chief needs are more milk and dairy products generally, especially in the areas where calcium and phosphorus are deficient. In these areas, too, the eating of tinned fish, bones and all, is to be encouraged because of the calcium phosphate in these bones.

The Cape Province is supposed to be an agricultural country, but there is insufficient consumption of dairy products in far too many homes. This is due to economic reasons, and is aggravated by the high price of dairy products generally.

Australia.

Territory of Papua.

General Survey.

In the Territory of Papua, a dependency of Australia, there is a native population of about 300,000 natives and about 1,000 Europeans inhabiting some 92,000 square miles of territory. The territory in great part consists of hills and swamps. The mountains rise to heights over 13,000 feet.

For the most part, the native population still lives in villages and subsists mainly on the produce of their gardens. Apart from the work they do on the roads and as carriers for the Government, their life on the whole is very much what it must have been before the advent of Europeans. However, some pay tax varying from 10*s*. to £1 per year and have to contend at times with the introduction of influenza and the consequent respiratory infections which everywhere seem to follow it. In most areas, the population is undoubtedly increasing, but, in some few, the population appears to be stationary or even diminishing. From the European point of view, all the rural villages must be suffering from a deficiency of protein. From time to time, they may get kangaroo meat or an occasional pig, either wild or tame, but the amount cannot be very great. Nevertheless, for the most part, the rural natives, even if at times under weight, do not appear to be in bad physical condition. The native food comprises sago, sweet-potatoes, taro, bananas, and various roots described as yams or taitu. The coastal people are better off in view of their ability to get fish, crabs and shell-fish in varying amounts.

In the western part of the territory, much sago is eaten. Cases of beriberi occur and the occurrence of infantile beriberi is suspected.

Mandated Territory of New Guinea.

Nutrition of the Indigenous Population.

Village natives live under conditions which have varied extremely slightly from those existing prior to European invasion, which, in some areas, has existed for forty or fifty years, in others only a few years, and in others where the influence of European culture has been only sufficient to curb tribal warfare.

Nutritional problems of the non-indentured portion of the population must, therefore, be considered under subheadings, which are mainly environmental. Before subdividing the study of diet from the point of view of environment, it must be understood that the native population is largely vegetarian—the staple diet is mainly carbohydrate, whether it is kau-kau (sweet-potato), taro, sac-sac (sago), tapioc (tapioca) or pit-pit. Later introduction of coconuts in coastal areas has considerably improved the dietetic balance.

All protein and fatty foods (other than the small amounts of these contained in the local carbohydrate diet) are considered luxuries, and are added to the staple diet when available, whether they consist of fish in the coastal regions, pigs in all regions, kapuls (squirrels), flying foxes and muruks (cassowaries) in the interior, and coconuts and galip nuts in areas in which they grow.

Many green vegetables are eaten in all parts of the territory, but the variety is so diverse in different areas that tabulation is difficult, each section of tribes having its own list of bush plants and leaves which are recognised as a necessity for addition to the local diet.

In spite of the apparent shortage of proteins and fats, the average diet in villages is sufficient for the physical well-being of its inhabitants. Famines are almost unknown, and only occur in mountain areas in rare times, in which droughts destroy the crops, or in river-beds, where occasional floods wash away the gardens.

The universal prevalence of malaria, frambœsia and filaria (especially malaria) has much more influence on the morbidity and (especially infant) mortality than any shortage of food. The universal occurrence of tropical ulcers may, as has been stated, be of dietetic origin, but statistical figures since 1930 show an incidence in village population of only 2.7%.

Austria.

General Observations.

The Federal Ministry for Social Welfare considers that the nutrition enquiry initiated by the League of Nations should not be regarded as concerned with medical or health questions in the narrower sense of the term, but that the problem under discussion is substantially an economic one. For, if there is any question of difficulty or impossibility of obtaining food supplies when foodstuffs of every quality and in ample

quantity are available for all classes and ages of the population, the inference must be that the means for purchasing the necessary food are lacking. If, on the other hand, the supply of foodstuffs and the purchasing power are adequate, then the nourishment will also be adequate—a nourishment in keeping with current views and varying in different countries with their habits and customs.

Moreover, provided that nourishment is sufficient, an adequate supply of vitamins is in normal circumstances guaranteed, and only in abnormal circumstances is any corrective necessary. It has been indisputably proved that a freely selected mixed diet as customary in Austria contains, as a rule, all the necessary substances in quite sufficient quantity to meet the real requirements in vitamins. Valuable constituents of a complete diet, such as fruit, vegetables and black bread, are always available in the market, and anyone who has the requisite means can procure them.

These general questions have been studied by the Salzburg Provincial Administration, which considers that, in Austria, measures to improve the dietary of individual groups only would by no means solve the general problem. This problem is, in fact, so closely linked up with the economic circumstances of the State that it can even be regarded as reflecting the economic situation. The proper nutrition of the population can therefore only be expected when a State's economic situation is in perfect order, when industrial and wage-earning conditions are normal and unemployment in the State only affects the percentage which experience shows to be unavoidable even when economic conditions are absolutely normal.

Other vital conditions may be equally important. In this connection, reference may be made here to the extremely impressive reports of the Carinthian Provincial Administration, which throw a vivid light on the hardships of the life of mountain peasants from their youth up, and especially the children.

Conditions in Carinthia.

In this province, under the " Winter Aid " and Youth Welfare schemes, efforts have been made in recent years to help mothers and infants, schoolchildren and unemployed breadwinners, chiefly those no longer entitled to relief. The most comprehensive assistance, designed to ensure that the needy section of the population is provided, in particular, with the necessary food, is that given by the " Winter Aid " fund. Out of a total population of 407,145, 21,995 persons were brought under this scheme of assistance between October 1st, 1934, and September 30th, 1935. All these persons lacked even the bare necessaries of food. For the most part, they consisted of large families of the unemployed, and persons no longer entitled to relief. These necessitous persons were, under the auspices of the Federal, provincial and communal " Winter Aid " schemes, supplied with foodstuffs, chiefly meat, also

sausages, milk and cheese, and, to a smaller extent, with money and fuel, to a total value of 997,517 schillings. Apart from this relief, orders for the issue of foodstuffs to expectant mothers and women in childbirth were also issued by the Maternity and Infant Welfare Centres of the Provincial Youth Office.

In recent years, the provincial administration in Carinthia has devoted special attention, particularly in mountain district schools, to encouraging the introduction and development of midday meals and soup-kitchens in schools. In 1933, for instance, only 35,165 out of 75,079 schoolchildren in Carinthia received a hot midday meal ; of the remaining children, 22,306 had no hot midday meal, 3,601 no midday meal at all, and the other children had only an insufficient meal. The reason for such defective feeding of schoolchildren is, partly, the really serious distress prevalent among peasants in the mountains and unemployed lumbermen and, partly also, the remoteness of country schools. In 1933, only 22,985 of the above total school population of Carinthia lived near the school itself ; 20,770 children had an hour's journey to and from school, 13,779 one to two hours' journey, 5,103 up to three hours, 1,436 four hours and 530 a journey of over four hours (there and back). The provincial authorities endeavoured to obviate the resultant danger to the health of the schoolchildren by issuing warm clothing and footwear to specially necessitous cases and by promoting arrangements for school meals and soup-kitchens.

In the educational year 1934-35, sixty schools in the province had feeding-schemes. Under these schemes, altogether 278,140 rations (soup, milk-dishes, milk, cocoa, etc., and one slice of bread each) were issued free to needy children.

Conditions in Other Provinces.

According to reports from the Innsbruck Municipal Health Authority, there are still many children who come to school in the morning without breakfast. In previous years, milk was served to schoolchildren during intervals between lessons, either free or for payment, at all Innsbruck schools. Since the school year 1934-35, the free supply of milk has had to be stopped almost entirely, and even the consumption of paid school milk has greatly decreased.

In the food of larger sections of the population in Styria, a general shortage of fats and albumen is noticeable, as, owing to the rise in prices, these constituents cannot always be purchased. On the other hand, the population seems to be fairly well supplied with vegetables.

There are in Styria so-called labour camps for nursing mothers where women who would otherwise be obliged to return to heavy work within a short period after childbirth are maintained for a time and are occupied on lighter tasks.

In connection with the organisation of morning meals for children, many local group-leaders and school authorities in rural communes

have complained of the difficulty of bringing the poorest of the poor children into this work. In the country, it is often impossible to tell from the children's dress or other outward signs which homes are the poorest. The greatest care had therefore to be taken not to give children the impression that some of their number are being preferentially treated. For instance, on grounds of upbringing, a cup of cocoa should not be offered to a group of quite poor children, because even the children of somewhat better-off parents in the same school receive only a plain country breakfast at home. Country children often appreciate a cup of cocoa or a roll and butter much more than their ordinary morning meal. If everyone were given cocoa or white bread with butter or cheese, the quite poor children would in many places be distinctly better off than the less needy children, who could not be admitted to its benefits. Considerations such as these are universally heeded. Thus, poor families with numerous children are frequently given vouchers for obtaining foodstuffs, by which means assistance can be offered without reacting unfavourably on their upbringing.

Belgium.

In Belgium, according to a study of consumption indices from 1897 to 1933, [1] made by M. Dupriez and M. Borboux, the consumption of wheat has declined relatively to that of the last pre-war years. This is the inevitable corollary of the increased consumption noticeable in most of the more expensive products.

Except for coffee, the demand for groceries has risen, but very unequally. The rise since 1928 has been unusually rapid. The tremendous fall in the price of colonial produce has obviously proved a great stimulus to consumption.

The consumption of exotic fruit has been going up by leaps and bounds since 1927. The development of the trade in oranges, and especially in bananas, has been extraordinary, the volume of the latter increasing sixfold in the course of a few years. This growth in the sale of exotic fruit has a considerable effect upon the nature and variety of the dietary. In the case of meat, the general trend of the indices is regular, but this general appearance conceals important changes in regard to the kind of meat consumed. The replacement of beef by pork may be noted. In 1932, however, a strong reaction set in. Cost price and sale price respectively play a considerable part in these variations.

No progress is recorded in the beverage group, which means that, allowing for the increase of the population, there has, in effect, been a fall in consumption.

To sum up, the tendency towards the diversification of the foods consumed is obvious. Groceries are highly popular, while the consumption of bread is declining.

[1] *Bulletin of the Institute of Economic Science of the Louvain University.*

As regards other foodstuffs, indices are lacking for farm produce—butter, milk, eggs—which are all home-produced, as well as for home-grown vegetables and fruit. One might wonder whether there is not a fall in the consumption of these unrecorded items. This does not appear to be the case. It is, in fact, generally held that the home consumption of eggs has definitely increased. Similarly, it would be contrary to all past experience for the sale of butter to decline in favour of margarine during a period of marked price depreciation. Finally, it is not to be supposed that, with the low price-levels at present prevailing, vegetables and fruit will be neglected, considering that vast supplies have been thrown on the market owing to the restrictions placed on foreign trade. It would appear that the consumption of potatoes has fallen sharply; but what the rising indices indicate is precisely a displacement of consumption from the commoner kinds to the more varied and comparatively expensive kinds of food.

United Kingdom.

The official attitude towards the problems of nutrition and public health in England and Wales may be illustrated from the last report which was issued by Sir George Newman as Chief Medical Officer of the Ministry of Health, reviewing the situation in 1933.

> " Starvation is not doubt extremely rare in England, yet, although the population as a whole is obviously much better nourished than in former days, there can be no doubt that many people suffer by starving the body of certain constituents of a wholesome and sufficient dietary. The evidence of this is indisputable, and can be witnessed by all men who see cases of undernourishment, of anæmia, of rickets or of dental decay. The availability and cheapness of certain articles of food is, of course, partly responsible for their wide consumption as compared with proteins, animal fat and fresh fruit and vegetables.
>
> " The effects of inadequate ingestion of single food constituents would depend on the rôle played by the particular food factor in the living body. The individual constituents which are most likely, so far as our knowledge goes, to be deficient in human diets in this country are protein of high biological value, calcium, iron, and the essential vitamins A and D. There is, however, good reason to believe that deficiencies are rarely single, and the manifestations of human malnutrition are generally a combination of the effects of deficiencies in two or more food factors."

On the other hand, attention is directed to the difficulty of isolating the effects of food deficiencies from those resulting from other factors and a danger in attributing to malnutrition conditions which have their origin in composite causes :

> " The effects of industrial depression on populations fall into two broad categories—material and psychological; and, of the two,

the latter is perhaps the more serious. Lack of money, might, of course, lead to malnutrition, but so also might a lowering of parental efficiency. From their numerous studies of diet and social conditions amongst different classes extending over several years, Paton, Cathcart and their colleagues were not able to find any constant relation between family income and health ; but they did find a fairly definite positive correlation between health and parental efficiency ; and, since local authorities have the facilities for free distribution of food to necessitous people, it would seem that parental inefficiency may manifest itself in unwise spending of money, the choice of improper and badly cooked food, or in excessive wastage of food and other commodities, or it may be reflected in the inadequate general care and cleanliness of the children. In no respect is parental control of greater importance to the child than in the insistence on adequate and regular hours of sleep."

The problem of under-nourishment in young children is a special one which has naturally been the subject of continuous study :

" Since the early days of school medical work, more than thirty years ago, we have known of a national problem of child malnutrition, and, since 1910, of its acuteness among children below school age . . . In 1910, it was stated that ' defective nutrition stands in the forefront as the most important of all the physical defects from which school-children suffer ' . . .

" Happily, as the result of various forms of public action (including school-feeding and the provision of milk to the babies at the Child Welfare Centres), the percentage of ' malnutrition ' among entrants and elder children has fallen to a quarter or less of the earlier incidence. In 1910, London recorded 11%, which in 1933 had fallen to less than 1%. The very standard of examination for nutrition, like the standard of cleanliness, has risen beyond recognition."

On the other hand, an enquiry carried out in 1934 by the regional medical staff into the effects of unemployment upon health led to indecisive conclusions, although, in sixteen areas out of sixty-six, substantial ill-effects were reported :

" The evidence is that malnutrition is not a prominent feature, nor that it is widespread or increasing, It is chiefly reported from the most depressed area—*e.g.*, the Tyneside and other dockyard areas on the north-eastern seaboard ; but even in these areas it does not appear to be a common condition effecting more than a small proportion of the adult population, whilst its almost total absence is a noteworthy and encouraging feature of the reports from South Wales. With the exception of one of the sixty-six replies, there is no indication of any increase in the prevalence of malnutrition during the past year, and the importance attaching to that one reply is qualified by the fact that the writer is not prepared to attribute the malnutrition to unemployment."

The final conclusions of the review point to steady improvement in the nutritional and other habits affecting the popular health of England and Wales :

" The reason why the nutritional condition of the people is better than it used to be is due (*a*) to their more physiological living (fresh air, exercise, rest, cleanliness, clothing, common sense and sobriety), which gives them a body which functions properly and possesses and circulates a healthy and oxygenated blood, and (*b*) to the improvement in the variety and content of their dietary, and to the greater availability of its essential constituents. The modern organisation of transport by land and sea, which brings food promptly and regularly to our shores from all parts of the world, has modified our former insular diet, and people are becoming accustomed to the advantages of a mixed and variegated diet. Having little or no interest in doctrines and theories concerning " proteins ", " calories ", or " vitamins ", they prefer food which they like and which suits them, and, happily, they are learning to like the " protective foods " —milk, eggs, fish, fruit and fresh vegetables. Further, the purchasing power of wages increased in 1933 ; our food supply is becoming cheaper, more available and more varied ; and official returns indicate substantially increased expenditure upon, and increased consumption of, food (including an enormously increased consumption of oranges, apples, bananas, vegetables, eggs, fish and dairy products). Thus, for more than twenty years the nutrition of the people has been steadily improving, in response to changing habits and desire, to extending commercial facilities and to economic availability."

As noted in the foregoing survey, there has been in the United Kingdom a notable increase in the annual consumption of certain foodstuffs as compared with the years before the war. According to estimates of the Market Supply Committee for current consumption per head of population as compared with authoritative estimates for earlier years, the increase has been as follows :

Estimated Annual Consumption (in lb.) per Head in the United Kingdom.

	1909-1913	1924-1928	1934	1934 percentage of 1909-1913
Fruit	61	91	115	188
Vegetables (other than potatoes)	60	78	98	164
Butter	16	16	25	157
Eggs (in numbers)	104	120	152	146
Cheese	7	9	10	143
Margarine	6	12	8	133
Sugar	79	87	94	119
Meat	135	134	143	106
Potatoes	208	194	210	101
Wheat flour	211	198	197	93

It will be observed that the increase is most marked in relation to some of the " protective " foodstuffs, whereas wheat flour, meat and potatoes are comparatively stationary. In several cases, the advance recorded in the last decade is remarkable. On the other hand, while it is difficult to give strictly comparable figures for milk consumption, the evidence suggests that there has been, as compared with pre-war years, a slight falling-off in the consumption per head of liquid milk and rapid growth in the consumption of condensed milk, leaving the aggregate unchanged. The average consumption of milk per head is estimated as half a pint per day or under. Butter consumption has expanded fast.

Bulgaria.

Like most countries, Bulgaria has been hard hit by the general economic depression and by the crisis in agricultural production in particular. But, apart from the fact that any economic crisis, by reducing the income of the individual, exercices an unfavourable effect on the dietary of a nation, other causes independent of the present crisis make it impossible for the masses in Bulgaria to obtain a rational and adequate dietary, either from the point of view both of quality or from that of nutritive value. The following are the principal of these causes :

(1) Ignorance of the Bulgarian population as a whole as to the importance of nutrition from the standpoint of health and working capacity ;

(2) The large number of religious fast days, when by tradition the Bulgarian people have a very plain diet containing practically no fats or albumins ;

(3) The unequal distribution of crops in the various parts of the country, which makes it necessary for the inhabitants of the non-fertile mountain regions to pursue forms of agriculture from which they obtain only products of inferior quality and quantity.

As the result of enquiries and researches carried out by the Hygiene and Chemistry Institutes of the Sofia Medical Faculty and by the Services of the Public Health Directorate, the dietary of the Bulgarian people, and particularly of the rural population, was found to be inadequate and defective. This faulty nutrition has a deplorable effect on the working capacity of the people and on their health, particularly in the case of children.

Czechoslovakia.

THE EFFECTS OF UNEMPLOYMENT ON NUTRITION.

In Czechoslovakia, acocrding to studies made by Dr L. Feierabend, certain fundamental changes in nutrition have been brought about by unemployment. The data relating to the nutrition of the unemployed

have nowhere been compiled in the manner which the problem demands. They only relate, indeed, to a proportion of the total number of unemployed fathers of families and cannot therefore be regarded as of general application. It may, nevertheless, be of interest to describe the changes in nutrition which have latterly been observed in Czechoslovakia. To compare the influence of unemployment on the fall in the standard of nutrition, it is necessary to consider the average for the country as a whole and see how it differs from that of the families of unemployed. From this difference it will be possible to draw conclusions regarding the losses sustained by the national economy as the result of under-consumption.

The observations carried out by the Social Institute of the Czechoslovak Republic may be taken as a basis. Unfortunately, the data collected relate to a relatively small number of unemployed families and the observations only relate to a period of four consecutive weeks (February). This period has been used as the basis of an estimate for a period of fifty-two weeks.

Where reference is made to consumption among the unemployed, this means among families assisted by the State's measures of food distribution. The consumption of families has also been traced in connection with the length of the period of unemployment and consumption in families subsidised in other ways. It is more convenient for the purposes of this enquiry to use data relating only to the consumption of unemployed families in receipt of food vouchers, as this is the most general form of relief and that enjoyed by the majority of the unemployed, and to limit the enquiry to the articles most widely consumed.

Losses through Under-consumption on the part of 554,000 *Unemployed in* 1932 *and* 738,000 *Unemployed in* 1933.

	1934 Czechoslovak crowns	1933 Czechoslovak crowns
Under-consumption of :		
Beef	27,962,000	34,433,000
Pork	20,951,000	26,077,000
Pork fat	33,810,000	41,695,000
Sugar	7,284,000	9,805,000
Wheaten flour	6,608,000	22,125,000
Beer	4,586,000	7,612,000
Total	111,201,000	141,747,000

The above figures of the losses sustained by the national economy are based on the number of fathers of families. We should not be far wrong in estimating the losses caused by under-consumption on the part of *all* the unemployed in Czechoslovakia in 1932, reckoning each family as consisting, on an average, of four members, at approximately

445 million Czechoslovak crowns, and in 1933 at 564 million Czechoslovak crowns.

The national economic loss is in reality much greater. In so far as beer and sugar are concerned, the reduced consumption of coal and other adjuncts to manufacture and incidental expenses must also be taken into consideration. The unemployed, however, have reduced their consumption, not merely of the above-mentioned commodities, but also of all other commodities, as is shown by the following table :

Annual Consumption of the Families observed.

		During employment in 1931	During unemployment in 1932	+ or — percentage
Beef	kg.	11.31	5.72	— 49.4
Pork	,,	10.66	6.89	— 35.4
Veal	,,	1.82	—	— 100.0
Mutton	,,	0.91	0.52	— 42.9
Smoked meat	,,	2.99	2.34	— 21.7
Horse-flesh	,,	0.39	0.52	+ 79.3
Poultry	,,	2.21	—	— 100.0
Game	,,	1.17	1.04	— 11.1
Porkbutchers' wares	,,	8.58	6.50	— 24.2
Pork fat	,,	11.31	5.89	— 47.1
Butter	,,	4.03	3.12	— 22.6
Lard	,,	0.52	1.56	+ 300.0
Bacon	,,	0.78	0.26	— 66.7
Artificial fats	,,	4.81	5.85	+ 21.6
Milk	litres	178.23	170.82	— 4.2
Eggs	number	146.64	99.97	— 31.8
Flour	kg.	67.47	52.91	— 21.6
Flour pastes	,,	0.39	—	— 100.0
Bread	,,	109.33	113.49	+ 3.8
Confectionery	,,	15.34	7.41	— 51.7
Meal	,,	4.42	5.07	+ 14.7
Rice	,,	5.85	5.33	— 8.9
Potatoes	,,	147.68	181.61	+ 23.0
Leguminous vegetables	,,	3.51	3.38	— 3.7
Stewed prunes	,,	2.73	0.52	— 80.9
Sugar	,,	29.12	11.83	— 59.4
Roasted coffee	,,	0.52	0.52	—
Malted coffee	,,	5.33	4.03	— 24.4
Chicory	,,	2.25	2.21	— 1.8
Salt	,,	4.16	7.41	+ 78.1
Beer	litres	44.20	11.31	— 74.4
Wine	,,	0.26	—	— 100.0
Rum	,,	0.65	0.65	—
Other beverages	,,	0.26	0.26	—

According to the above table, there has been an increase in consumption among the unemployed of the following articles : horse-meat, lard, artificial fats, salt, potatoes and, to a slight extent, meal. The consumption of bread has increased almost imperceptibly. The consumption of all other articles of food has decreased, more particularly wine, poultry, stewed prunes, beer, bacon, sugar, confectionery, etc.

Under-consumption decreases all possibility of further production and also reduces the chance of renewed employment. It is under-consumption which is the root cause of the continued depression. To break the vicious circle, two possibilities are open : increase consumption and thus promote the employment of labour, or else increase employment and thus stimulate consumption, and, as consumption increases, bring a greater and greater number of the unemployed into the process of production. These two methods have been employed in all countries. The grants made to the unemployed increase consumption, but they have no other economic effects ; new wealth is not created. The other method—that is to say, the increase of employment by so-called productive relief—is much more profitable, as, at the same time, new wealth is created through the construction of buildings, streets and roads, the improvement of waterways, etc. In the majority of cases, the unemployed are paid a wage in return for their labour. This practice does not, however, guarantee that consumption will increase to the desired extent. To remedy this state of affairs even partially, a proportion of the wages might possibly be paid in kind (foodstuffs). The advantage of such a proceeding would be that the necessary foodstuffs could be bought in large quantities at lower prices and that the grants in kind might thus be increased in quantity.

Sub-Carpathian Russia.

Special attention has been devoted to nutrition problems in Sub-Carpathian Russia, which is chiefly agricultural, but is still being developed on primitive lines.

There is overproduction of meat, wine and fruit, but a serious shortage of farinaceous products ; and, even with a normal harvest, as much as 4,000 wagon-loads of cereals have to be imported. Maize, the traditional and almost exclusive diet of the population, is the chief farinaceous product. It covers more than half of the arable soil in Sub-Carpathian Russia.

The question has been under consideration for some years of replacing part at least of the maize consumption by other native cereals. Much propaganda is carried on to popularise rye and nutritive bread ; it will be some time, however, before this meets with success. The people in the uplands prefer maize, one reason being that maize meslin, which is used to make porridge (polenta, tokan), leaves no waste and can be ground as required in small quantities by hand. Barley, on the contrary, has to be ground in large quantities at the mill, often situated at a distance, and is used only for breadmaking.

Special attention is being devoted to the question of replacing maize to some extent by barley which, after being converted into groats might be substituted in various forms for maize meslin, in making porridge. The results, however, have not been very satisfactory.

By reason of its limited financial resources, the population of Sub-Carpathian Russia, 90% of which consists of farmers, is reduced to purchasing products of the soil and cereals ; for the people have only their cottages, a little grazing-land and a few domestic animals. For the rest, they are obliged to earn their living by forestry and other occupations. That is why special nutrition measures have been instituted in the country during the last few years. The object is to supply the population with the maize which they require, at reasonable prices, within reach of all, these prices being officially fixed and uniform throughout the country, whatever the distance. These measures, organised by the competent authorities, have proved satisfactory. Persons unable to earn their living and without other sources of income are given what maize they require free of charge.

Finland.

The Finnish people have won a worldwide reputation through their successes in the field of sport, but their powers of endurance in the toil of daily life are no less celebrated. The general physical standard must therefore be regarded as very high. None the less, expecially among the poorer classes, there is a good deal of physical debility as well as defects and social diseases which are directly or indirectly responsible for a considerable reduction of efficiency.

One of the most serious difficulties encountered in Finland is under-nourishment among the poorer classes. There are, for example, a considerable number of pregnant women who do not receive sufficient food or a diet suited to their condition. Moreover, especially in industry, where women are being more and more freely employed, under-nourishment makes them less able to produce healthy children ; indeed, many such women die prematurely. Infant mortality, too, is still very high in Finland owing to defective nutrition. It has also been shown that the prevalent dental diseases are mainly due to dietetic deficiencies. A great many children, again, are neither adequately nor suitably fed, with the result that such diseases as rickets, which has disastrous effects, not only on the child's physical condition, but also on his mental powers, and tuberculosis in its various forms, anæmia and diseases of the digestive organs, are widespread. A continually increasing amount is being spent by the Government, the communes, and the children's parents on the prevention and treatment of these diseases—not to mention the consequent waste of labour and educational expenses.

One of the results of these nutritional deficiencies is that, directly or indirectly, some 21% of the young men who present themselves at

army recruiting offices have to be rejected. Many students also have to break off their studies or pursue them less vigorously.

All these circumstances involve a considerable waste of vital force in a small nation, quite apart from the fact that those who are fit to work have to spend an unnecessarily large proportion of their earnings on keeping and feeding those who are unfit to work or unable fully to earn their living.

The primary cause of this position in regard to the nutrition of the greater part of the people is that the diet is not suitable in its constituents, and is not adjusted to differences in age, health, occupation and natural conditions. The great majority of the people still belong to a class earning very low wages, so that for financial reasons thay have to be satisfied with a diet which is insufficient in quantity and often too monotonous.

France.

Principal Foodstuffs.

As far as may be judged from the statistics, which are very incomplete, it would appear that the people of France are consuming less bread and cereal foods and less meat than formerly. On the other hand, they are consuming more milk products, butter and cheese, fresh vegetables and fruit, and even more fresh fish.

It is a fact generally accepted on the strength of data available from the past that, at the end of the nineteenth century, the average Frenchman consumed about 250 kilogrammes of *bread* per year ; from the investigations carried out in 1934 by the Société scientifique d'hygiène alimentaire et d'alimentation rationnelle, it would appear that, in Paris, the average *per capita* consumption scarcely exceeds 120 kilogrammes of bread each year. It may be assumed that the quantity of bread consumed by the rural population is greater ; nevertheless, the decline in the general consumption of bread has been so marked that it may be regarded as having fallen by at least 25% since the beginning of the century.

During the second half of the last century, the consumption of *meat* had very greatly increased. According to the estimates of the Office national de renseignements agricoles, it amounted, round about 1860, to 1,200,000 tons, and to more than 2,000,000 tons round about 1910, or averages of 26 and 50 kilogrammes respectively per head of population, half of those quantitites consisting of beef.

Since the war, meat consumption has varied considerably. After the end of the war, there was a marked increase in the consumption of butcher's meat in the country districts, whereas, in the cities, consumption appeared to be on the decline. Taken as a whole, therefore, consumption was more or less stable. There would, however, appear

to have been a slight increase since 1933, bringing consumption up to the level of the years 1927 and 1928.

Generally speaking, consumption of meat does not appear to have decreased as the result of the depression. Taking advantage of the fall in retail prices, the urban consumer has not only maintained but increased his consumption, which is greater than in the years of prosperity.

On the basis of the statistics compiled by the Association générale des producteurs de viande, the *Bulletin de la Confédération nationale du commerce et des industries de l'alimentation* (April 1935) gives the following table :

	Beef	Mutton	Total, including horse-flesh	Pork
		(Thousands of tons)		
1934	888	96	1,032	383
1933	866	106	1,024	360
1932	794	107	950	372
1931	777	106	939	376
1930	858	110	1,023	334
1929	917	109	1,077	314
1928	908	114	1,064	310
1927	849	114	1,003	296

As, however, the population of France has increased by approximately two millions since 1913, the consumption of meat may be regarded as having slightly decreased in the last twenty years—a fact which would, to some extent, explain the disequilibrium between supply and demand on the national market.

The consumption of fresh *fish* shows marked progress, although fish is of only secondary importance in the diet of a great part of the people of France.

The increase in the consumption of fish must be due to improved means of communication and improved organisation of the fishing industry. The amount of French and foreign fish supplied to consumers in France in 1913 was estimated at 230 million kilogrammes. In 1934, despite a decline in imports and an increase of 25% in exports, the corresponding figure was 313 million kilogrammes, which represents an increase of 36% in twenty years.

The consumption of fish could be still further increased ; the average consumption per head per annum is no more than 7 kilogrammes, or 135 grammes per week. Furthermore, this average is only reached through the inclusion of certain large towns and coastal regions ; at Rouen, for example, according to M. Altazin, President of the Fédération nationale des commerçants en poisson, the average consumption is 41.5 kilogrammes ; at Nantes, 30 kilogrammes ; at Paris (where the quantities received at the *halles* rose from 52 million kilogrammes in 1913 to 62 millions in 1930), 15 kilogrammes.

Appreciable progress may be observed in the consumption of *milk products*.

In 1913, the amount of French-produced milk supplied to consumers did not exceed 128 million hectolitres; in 1934, according to the estimates of the Confédération générale des producteurs de lait, it must have risen to 150 million hectolitres. During that period, the amount of milk for consumption as such increased by 4 million hectolitres, that of milk for butter-making by 7 million hectolitres, and that of milk for cheese-making by 6 million hectolitres.

According to M. Dupont d'Isigny, the *per capita* consumption of butter in France rose from 3 kilogrammes in 1913 to 5.16 kilogrammes in 1931. Even assuming a fall in consumption as a result of the depression, progress as compared with the pre-war period would still be very marked.

It is important to note that, in France, the consumption of margarine and similar products has always been very low, scarcely exceeding an average of 200,000 quintals, as compared with 2 million quintals of butter. The question of margarine has given rise to a great deal of very interesting controversy, into the details of which, however, it is impossible to enter. So far, margarine has escaped the thunders of Parliament, because it uses up almost the whole of the nation's edible suet, so that the prohibition of margarine would have a very serious effect upon live-stock prices.

Cheese production would also appear to be on the increase. In 1934, that industry used 24 million hectolitres of milk, as against 20 millions in 1931, 18.6 millions in 1928 and 17.5 millions a few years earlier.

With its consumption averages of 80 litres of milk per head per year, 5 kilogrammes of butter and 6 kilogrammes of cheese, France no doubt remains very far behind certain other European countries. [1] These figures, however, indicate remarkable progress in a relatively short time. The consumption of milk and butter might, nevertheless, be still further increased without much difficulty.

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[1] Compare the figures published by the Federation of the Netherlands Milk Industry showing consumption per head per annum in the following fifteen countries during 1935 :

	Litres of milk per day	Kilogrammes of butter per annum	Kilogrammes of cheese per annum
France	0.22	4.9	6.1
Germany	0.41	7.9	4.7
England	0.24	10.7	4.3
Australia	0.22	12.7	1.8
Austria	0.57	2.8	1.5
Belgium	0.26	11.0	3.0
Canada	0.66	13.8	1.5
Denmark	0.72	9.6	5.9
United States	0.60—0.80	8.1	2.0
Finland	1.40	9.5	1.4
Italy	0.13	1.2	5.5
Norway	0.63	6.0	4.8
Netherlands	0.30—0.40	5.7	7.2
Sweden	0.80	7.2	5.5
Switzerland	0.60—1.00	6.2	10.4

It must be noted that 400,000 pots of yoghourt—which was scarcely known in France twenty years ago—are supplied in Paris each day, and consumption is constantly increasing. " Champagne-milk " (full-cream milk aerated with carbonic acid, with a small percentage of fruit juice added) is now available for those who do not like ordinary milk, and was consumed in immense quantitites during the course of last summer.

The consumption of *fresh fruit* has developed very rapidly. Ten years ago, the amount of table grapes consumed was only about 750,000 quintals ; in 1929, it had already risen above a million quintals ; while in 1934, which was an exceptional year, production exceeded 2,100,000 quintals. It may be assumed that the amount consumed in 1935 exceeded 1.5 million quintals, which would mean that, during the last ten years, consumption has doubled.

As regards other fresh fruit, pre-war consumption would appear to have fluctuated between 3 and 4 million quintals. In 1935, it is believed to have exceeded 10 million quintals, which figure is approximately the average for the years 1930 to 1935.

Much more fruit is being eaten. According to the Confédération nationale des industries d'alimentation, the consumption of fresh fruit in France has increased by more than a third, as compared with the period before the war. As regards Mediterranean and colonial citrous fruits, consumption has more than doubled, while there has been an enormous increase in the case of bananas and other exotic fruits. The consumption of fruit per head of population was estimated at 31.5 kilogrammes for 1933, and 38.3 kilogrammes for 1934, whereas the pre-war average was only 20 to 25 kilogrammes. Thus, the French figures now almost approximate to the English figures, which were 40 kilogrammes for 1933, and 43 kilogrammes for 1934.

The quantities of fruit and vegetables received at the Paris *halles*, which in 1913 amounted to 303 million kilogrammes, are now double that amount—630 millions in 1929 and 677 millions in 1930.

The increase in the consumption of fruit is unquestionably due to new food habits encouraged by the medical profession, but it is also to be attributed to the importation of constantly increasing quantities of colonial fruits, and more particularly citrous fruits. The quantities of fresh fruit imported into France rose from 2 million quintals in 1913 to 6 million in 1935, of which citrous fruits accounted for 1,228,000 and 3 million quintals respectively. In general, the statistical material points to the conclusion that the consumption of fresh table fruit has increased two and a half times in the last twenty years.

As regards the consumption of fresh green *vegetables*, early vegetables and potatoes, reliable data is not available. Consumption would appear to have remained at its former level. Greater quantities of French beans appear to be eaten ; above all, there has been a very great increase in the variety of vegetables consumed. In most parts of the country, tomatoes used only to be cultivated by professional gardeners ; the

peasant was content with potatoes, cabbages, carrots and lettuce. France now imports 40 million francs' worth of endives from Belgium, and there has been a phenomenal extension in the cultivation of this vegetable in the north of France. The varieties of canned vegetables are now much more numerous.

Since 1804, when Nicolas Appert, a humble cook in the Rue des Lombards in Paris, introduced a new process of preserving food by heat, the *preserving* industry has made enormous strides in France. At the present day, approximately 30,000 million cans of preserved foodstuffs are consumed annually in all parts of the world.

To give an idea of the quantities of tomatoes preserved, it is enough to say that, in France alone, approximately 100 million kilogrammes are canned each year. A single automatic canning-machine seals from two to three thousand cans per hour. There are days when some factories handle 200,000 kilogrammes of fresh tomatoes.

As regards green peas, a single machine is capable of shelling as much as 5,000 kilogrammes per hour without crushing or damaging the peas.

Preserved fruits also play a highly important part in nutrition.

Variety and Improvement : Changing Habits.

From the foregoing facts, it may be concluded that, in the space of little more than a generation, appreciable changes have taken place in the diet of a large part of the population of France. The changes which we have noted point to better and more rational nutrition.

It cannot be denied that the dietary of the masses of the people is much more varied than before the war. There is abundant proof of this. In 1913, the catalogues of the railway stores departments consisted of one page ; they now consist of twenty-five pages and include articles the prices of which customers formerly thought prohibitive. Perusal of the books of these departments before the war and to-day lead to the same general conclusions in regard to the food consumption of railway workers as those drawn from other available statistics and observations.

The Ministerial Decree of September 1st, 1853, regarding the feeding of secondary-school pupils, which is still in force, stipulated that " boiled beef shall not be served for lunch more than three times a week " ; if any head of a school to-day allowed boiled beef to be served three times a week it would be certain to give rise to criticism and unpleasantness. *Pot-au-feu* (roughly, hot-pot) has completely fallen from favour, as has *ragoût* (stew) ; according to the administrative rules issued in 1934, the latter are to be " exceptional " in *lycées*.

Foreign women settling in Paris are struck by the important part played by beefsteak or chops in the diet of workers and their families. They express surprise at the speed with which Parisian women get their cooking done. This is a very far-reaching social change. More particularly the woman, whether she is engaged outside the home in

remunerative employment—which is frequently the case—or whether she prefers to devote herself to other occupations, spends as little time as possible in the kitchen. Slow cooking has given way to quick, " accelerated " cooking, consisting of hastily prepared roasts or grills. There has been lively controversy in the last few years regarding the " inferior cuts ", the discarding of which raises the price of meat.

It is a fact that it is the better and dearer cuts of meat which are sought after. People prefer eating less provided that the quality is better. The preparation of a *pot-au-feu*, a *ragoût*, a *blanquette*, or a dish with an elaborate sauce, takes hours and requires supervision, seasoning and the addition of vegetables requiring long preparation. Current preference cannot, however, change the fact that a carcass provides—in addition to meat for roasting—a high proportion of inferior cuts for which there is no demand, and which have therefore to be sold at insufficiently remunerative prices. The loss is made up by the higher price of steak : " beefsteak has to be sold at a higher price to bring in the money the butcher has lost through the failure of the demand for stewing-meat ".

Senator Beaumont, President of the Senate Committee on Stock-Breeding, lays great stress on this " stupidity " of the consumer ; out of 200 kilogrammes of beef, there are approximately 3 kilogrammes of fillet steak. Everyone wishes to buy fillet at 30 francs a kilogramme, whereas stewing meat costs only 1 franc : " in this way, large quantities of excellent meat become unsaleable ".

The National Meat Committee notes that " tons of good meat from the inferior cuts are sold off at low prices to canning firms ". The lard has to be disposed of for industrial use.

In the same connection, the *Bulletin de la Confédération nationale des commerces et des industries de l'alimentation* (September 1935) draws attention (on page 18) to the changing tastes of customers in the matter of porkbutchers' wares. There is an increasing demand for pork from which the fat has been removed and for lean ham. Yet, whether wanted or not, there will always be a great deal of fat in pork. Since the purchaser will no longer take the fat cuts, the price of the latter falls, and the price of those cuts which are in demand shows a corresponding rise. As a result, ham, which can be consumed without further preparation, is relatively dear.

Similarly, cod is despised, its place being taken by haddock. Canned lobster, which was formerly a great luxury, is becoming more and more popular.

There is a growing desire for *hors-d'œuvre* and dessert, a taste which has become much more widespread through the growth of the restaurant habit. At school, children no longer eat a piece of bread with a stick of chocolate to help it down ; as a rule, they bring bread and butter with jam. There has been an upward trend in all respects. This is a matter of imitation, a social development which has been made possible by the extension and improvement of means of transport.

That which is true of nutrition is also true of clothing. The corduroy trousers which used to be the rule among railway workers have now almost entirely disappeared. The vogue of silk stockings is well known.

The same tendency is even more apparent in the matter of housing, which is of capital importance to nutrition. There is an all-too-sweeping generalisation : " The workman either eats or drinks ". If he does not drink too much, he eats more and is more exacting in regard to his food. Now there is less drinking than before the war ; on this, employers and employees are all in absolute agreement. People are drinking less, and therefore eating better food—much better than before the war.

Ordinary wine is drunk to a less extent ; similarly, less beer is being drunk. The consumption of beer in France has shown a marked falling off. From 18,300,000 hectolitres in 1930, it fell to 16,700,000 hectolitres in 1934, and to approximately 15,500,000 hectolitres in 1935. [1] The miners of the north have forsaken the enormous flagons of beer which they were in the habit of drinking on leaving the mine. Less beer is being drunk ; above all, fewer *apéritifs* and alcoholic drinks.

The cause of this general decline is in the main to be found in the fact that less time is spent in public-houses ; the working-classes visit these establishments less frequently, and, above all, do not remain there as long.

This is a result of the spread of the cinema, where drinking is not allowed ; and also of the development of open-air sports and games. Another cause is the development of the wireless, which hire-purchase systems make particularly attractive and which keeps the worker at home. At the same time, homes have become more comfortable and less gloomy. Certain workmen's suburbs, which used to look like barracks (or even prisons), look to-day, more particularly in the north of France, like small holiday resorts, with neat cottages standing in their own gardens.

From the point of view of the nutrition of the working-classes, the importance of environment cannot be exaggerated. The proper environment is a separate family home, a cheerful dwelling, where the woman can attend to her housekeeping, with gas in the kitchen and washing facilities, where the man can read, amuse himself and while away his time, and where the children can do their homework. The only alternative is the public-house, with porkbutchers' wares for food, which, though very dear, are very convenient.

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[1] In France, the consumption of wine in 1934 was 68 million hectolitres ; the consumption of cider, 7 millions.

In 1934, the consumption of beer in the following countries was :

	Millions of hectolitres
United States	50.0
Germany	36.8
England	25.4
France	16.7
Belgium	13.8
World total	185.0

Thirty years ago, there were many railway labourers at St. Denis who drew a daily wage of 5 francs ; they paid 50 centimes for a bed, and in winter, when it was dark at 5 o'clock, they used to drink absinthe until dinner and bedtime ; their normal allowance would be six absinthes at 30 centimes each. The lodging-house keeper used to contrive to put off supper as long as possible, by which time they had scarcely any further interest in it.

Lodging-houses of the very worst type abounded—always with a bar, through which it was necessary to pass. Nowadays, they are not so numerous. Even the *bistro* (cheap café or public-house) has changed. The days of the " Assommoir " are over. In place of the ill-lighted zinc counter, which was until recently the rule, the *bistro* is always introducing new attractions and appearances of luxury ; well lit, well heated, smart, with imitation mahogany everywhere, his premises now cost him from 60,000 to 100,000 francs.

Our remarks have in the main been confined to conditions in Paris. It would appear, however, that, in general, they would also apply to the rest of the country, rural districts as well as towns, though allowance will have to be made for very great differences as between the various districts.

A detailed enquiry would make it possible to be more specific.

In Bresse, for example, the peasants lived fifty years ago on a kind of maize porridge and milk products ; meat was eaten only once a week. In other parts of the country, however, a great deal of meat was being eaten even before the war, as pork formed the basis of the family diet. Nowadays, in Bresse, people consume much less maize and milk products and much more meat.

The depression has even had the effect of increasing the consumption of meat among the peasants, who are unwilling to sell their stock at very low prices. Everywhere there has sprung up a highly developed system of exchange. Milk is converted into butter and cheese, which are sold. Furthermore, transport facilities make it possible to market large quantities of milk in the great centres, to which it could not formerly have been brought. Before the war, the Paris milk supplies were all obtained within a radius of 120 kilometres. To-day, milk is also obtained as far afield as Charente, Burgundy and, since the return of the Saar to Germany, Moselle. The daily consumption of the Paris market is estimated at 1,200,000 litres of milk, which is obtained from about twenty French departments.

Hungary.

The Hungarian Institute of Public Health made an investigation in 1933 covering the whole country, in order to estimate the effect of the economic crisis upon public health. The institute reached the conclusion in December 1934 that the crisis had caused a reduction in the standard of life for all, without distinction of class. Except in the

case of the unemployed, however, public health had not, in general, been markedly impaired, although certain specialised studies on the weight of new-born infants, on the growth of schoolchildren from poorer families, and on the spread of dental caries, seemed to point to a measure of decadence in the physical condition of the people.

Italy.

Improvement in Nutrition.

According to the data published by the Central Statistical Institute on the calorie supplies represented by Italy's food products. the daily amount available for an average man was 2,985 calories during the pre-war period 1910 to 1914. There has been a material improvement in the last few years (in spite of the depression), the figure reached being 3,291 calories, which, again, is slightly lower than that of the four years preceding the present depression (3,350 calories per day per average man during the period 1926 to 1930).

Since the pre-war period, the weight of the products of animal origin has increased to such an extent that the increase in the available supplies for the latter period as compared with the pre-war period consists almost entirely of calories of animal origin, which have risen from 120,000 per average man per annum to 160,000. A similar improvement has taken place in the supplies of proteins, fats and carbohydrates.

Taking as basis the physiological composition of the " proper ration " determined by Bottazzi (100 grammes of proteins, 75 grammes of fatty substances, and 540 grammes of carbohydrates), the average ration at present available in Italy (108 grammes of proteins, 71 grammes of fatty minerals and 537 grammes of carbohydrates) shows only a negligible shortage of fats, which, owing to the special conditions of the climate, does not give any ground for alarm.

To conclude this first broad survey reference may be made to a few main indices showing the quantitative variations which have occurred in the last few years in the supplies of certain food products. It has been found that the supplies of wheat flour per head in 1929 to 1933 (taking 1910-1914 = 100) were 114.91 ; the corresponding figure for rye flour was 104.65, and those for maize flour and rice were 93.72 and 92.20 respectively. This decline is explained by the reduction in consumption of maize and rice in the agricultural districts (Piedmont, Lombardy, Venetia and Emilia), where the rural classes have changed over from a monotonous to a more varied diet with greater physiological value.

The increase in foods of animal origin observed above is confirmed by the following indices, which, compared with a basic figure of 100 for the period 1910 to 1914, show still more clearly the evolution which has taken place in Italy as regards the consumption of meat. The index for beef was 146.93, for mutton and goat's meat 127, for pork 170, and

for horsemeat 245. On the other hand, there were declines for salted and prepared meats (61.48) and for game and poultry (77.02). But these two figures, which seem to indicate a general reduction, are in reality due to the fact that the statistics of these products have declined on account of the growing tendency of the rural classes to consume these products themselves, whereas previously they had considered them as luxuries which they sold in the markets in order to obtain money to buy other goods and meet more urgent requirements (clothes, medicines, doctors' fees, etc.).

The same improvement in the standard of living of the rural classes accounts for the decline in the statistics for marketed eggs (84.30).

The same series of indices reveals the increase which has occurred in the last few years in the supplies of fresh fruit (110.53), citrous fruits (143.77) and bananas (300).

The increase in the food supplies of animal origin has been greatly assisted by the development of the fishing industry in Italy, as a result of which the index for fresh and frozen fish is 354.55. There has also been a considerable increase in the consumption of milk (112.52) and natural butter (194.92), which has been subsituted on a constantly increasing scale for other fats previously in general use.

Another point to be noticed is the reduction in alcoholic beverages (index, 78.20 for wine, 85.78 for beer and 78.38 for alcohol), showing the good effects of the " Dopolavoro " organisation, which, by encouraging workers to spend their hours of leisure in sports grounds and places of instructive and educational recreation, has largely contributed to a reduction in the consumption of these beverages in public premises, while developing their consumption in the family, which in the past had been too often disturbed and poisoned by the alcoholism of one of its members.

After this general survey, let us see the results of this evolution of food conditions in Italy, as revealed by certain indirect indications.

The death rate clearly shows the contribution made by improved nutrition to the gradual and considerable decline in deaths which has occurred in the last few yars. As compared with an average of 19 deaths per 1,000 inhabitants during the five years 1910 to 1914. the figures for the Fascist era are as follows : 1922, 18 ; 1923, 17 ; 1924, 17.1 ; 1925, 17.1 ; 1926, 17.2 ; 1927, 16 ; 1928, 16 ; 1929, 16.5 ; 1930, 14.1 ; 1931, 14.7 ; 1932, 14.7 ; 1933, 13.6 ; 1934, 10.1.

These beneficial results shown by the figures for the last few years are confirmed by the progressive reduction in infant mortality during the first year of life, which is often due to a defect in the mother's nutrition. In 1927, deaths during the first year of life were 120 per 1,000 live births ; in 1928, 120 ; in 1929, 125 ; in 1930, 106 ; in 1931, 113 ; in 1932, 110 ; in 1933, 100 ; and, in 1934, 95.

These results of the better conditions of living in general and of better nutrition in particular will be appreciated at their true value when it is considered that the increase in food supplies available for the national

community is largely due to agricultural labour and technique, which, with unshakable faith and determination, have obtained and will increasingly obtain from the soil of Italy all the vital energy which it can supply to feed its numerous and laborious population. This is not mere rhetoric, as is shown by the following series of indices regarding the total agricultural production of Italy. Taking the production of 1922 as 100, that of 1929 was 139.3 ; that of 1930, 129.8 ; that of 1931, 123.4 ; that of 1932, 162.5 ; that of 1933, 147.9; and that of 1934, 153.

Measures to promote Independence of Outside Supplies.

The fundamental problem of national independence of outside supplies has been faced and completely solved in the case of bread, a staple foodstuff for which Italy was previously dependent on other countries. The " Wheat Battle " which was inaugurated in 1925 has enabled the Italian people to face without anxiety the contingency of all foreign wheat supplies being cut off. The wheat harvest in Italy has increased as follows since 1920 (in thousands of quintals) :

1920	38,466	1929	70,795
1924	46,306	1931	66,520
1926	65,548	1933	81,252
1927	53,291	1935	74,500

Similar action is being taken successfully—particularly in connection with the present situation—to make the country independent of foreign supplies of other foodstuffs. There is, for example, the campaign to encourage the consumption of rice, the production of which has very considerably increased in Italy, part of the crop being exported. Similarly, efforts are being made to induce the public to consume more home-grown fruit and vegetables instead of meat, which has hitherto had to be imported from abroad. The very satisfactory results obtained show the effectiveness of the methods adopted.

By-products and Substitutes.

Special attention has recently been paid to the utilisation of by-products and food substitutes, the idea being to make full use of the food value of agricultural produce and to supply the poor with cheap, wholesome food.

Thus, steps have been taken, or are shortly to be taken, for the utilisation of animal fat as seasoning, of oil from the residue of olives, of cheese mixed with animal fat and of butter from skimmed milk, etc.

The measures taken have in no case led to the disappearance or to a scarcity of the genuine or choice articles, but have merely added new products to those already in the market.

Measures to encourage the Consumption of Certain Products.

Even before the application of sanctions had forced Italy to encourage or discourage the consumption of certain products, efforts had been made to guide and concentrate consumption on the food products which afford Italians greater economical or biological advantages. We would mention, for instance, the campaigns to increase the consumption of fruit, vegetables, grapes, milk, dairy products, etc. Highly satisfactory results have thus been obtained through propaganda and special legislative measures (relative to transport, the operation of markets, etc.).

According to the Central Statistical Institute, the consumption of vegetables per head has risen from 32.13 to 39.21 kg. between the five years prior to the war and the five years 1928-1932—an increase of more than one-fifth ; the consumption of fresh fruit (except oranges and lemons) has risen from about 4 million to 12 million quintals ; the consumption of fresh grapes has, in five years, risen from 2 ½ to 5 million quintals.

It is therefore certain that the dietary of Italians has changed in the direction of a larger consumption of vegetables and fruit, a change which is approved by hygienists, particularly when climatic conditions are taken into consideration. This general change of habits has proved particularly valuable from the point of view of food supplies in the period of sanctions, as it has enabled the consumption of meat to be limited and a large debit item in the balance of trade to be cancelled out without any inconvenience for the Italian population.

An Emergency Dietary.

This whole movement was developing in a spirit of co-operation and national confidence when the day came for Italy to organise her resistance to the front of sanctionist nations. In this emergency, Italy was anxious to replace or restrict the consumption of imported goods while at the same time providing the population with an appropriate and adequate diet.

During this emergency regime, progress in the direction of a steady improvement in nutrition has, of course, been checked ; nevertheless, the organisation was ready to meet the difficult requirements of the situation without its being necessary to requisition foodstuffs or to introduce ration-cards. The Secretary of the Party, through his " Order Sheet ", which reaches the smallest villages, having regard to the nutritional difficulties created by the sanctions, laid down the following guiding principles for a national diet dictated by circumstances :

A Standard Mixed Diet.

1. Only a mixed and varied diet provides the human organism with all the body-building and energy-giving elements which it requires. Consequently, the principal meal of the day should consist

of varied foods of vegetable origin in such quantities as can be wholly supplied by national production.

2. Carbon is needed in the daily diet, which should therefore contain mineral salts and vitamins ; these elements are essential to meet the requirements of the adult organism and the organism during the period of growth.

3. Cereals (wheat, rice, maize, barley, rye) constitute the staple elements of Italian diet ; they are consumed in the form of alimentary pastes, soups, "polenta", etc. They need to be supplemented, however, by other elements containing the nutritive principles which cereals lack or contain only in small quantities. The daily diet should therefore include at least one of the following elements : milk, dairy produce, eggs, meat, fish, vegetables, fruit.

The Feeding of Children.

4. Children should be given each day : (*a*) fresh milk (which has first been boiled—in places where there is no "milk centre") or preserved milk ; (*b*) orange, lemon or tomato juice, in addition to the ordinary elements specially suitable to their age.

5. The diet of persons engaged in manual work should be more plentiful and contain a larger quantity of carbohydrates (bread, alimentary pastes, rice, vegetables, etc.) than that of persons leading a sedentary life.

6. In allocating each week the sum to be spent on food for the household, the following rules should be followed : cereals and vegetables, not more than 30 to 35% ; foodstuffs of animal origin (meat, fish, milk, dairy produce, eggs), at least 25 to 35% ; fats (bacon fat, butter, lard, margarine, oil), at least 7 to 10% ; vegetables and potatoes, not more than 10 to 20% ; fruit, from 14 to 16%.

7. The adoption of the continuous working time-table has made it necessary for families to change their dietary habits ; if they have larger breakfast, the cold meal at midday can be smaller. The chief meal can be taken in the early hours of the evening.

Rules for a Rational Diet.

8. The following rule might be adopted for feeding a family ; at each meal, milk for the children and bread for everyone ; each day, cereals for all (alimentary pastes, rice, etc.), potatoes, tomatoes or oranges and lemons ; one or two dishes of green or other vegetables, fruit, butter, bacon fat, lard, oil, margarine, sugar. From twice to four times a week, vegetable or tomato salad for all, dried vegetables, eggs (especially for children), meat, fish, cheese. The Commission for the Study of Nutritional Problems has prepared a few specimens of cheap bills of fare on these lines, which will shortly be distributed with the pamphlet containing the general rules for rational and economical nutrition, using home-produced foodstuffs.

These orders have been made widely known. The subject is dealt with by wireless in the form mentioned above whenever an opportunity arises. There is a special section for rural propaganda, the " Ente Radio Rurale " (Rural Radio Institution). The heads of the Syndical Organisation give wireless talks on these subjects to their comrades. The " Luce ", a cinematograph organisation, informs and instructs the people on these matters and thus helps to achieve the common object.

Latvia.

PRODUCTION OF FOODSTUFFS.

Remarkable changes have taken place in the production of foodstuffs during the period 1930-1935. Until then, a large part of the foodstuffs consumed in Latvia was imported from abroad—for example, breadstuffs (rye and wheat), nearly the whole of the sugar consumed, and large quantities of eggs and salted herrings. During the years of world economic depression, the Latvian Government, chiefly owing to its desire to help the farmers, who were suffering severely from the crisis, and partly also in order to improve the balance of foreign trade, enacted a number of laws for the purpose of encouraging home production of foodstuffs and restricting the importation of these commodities. The measures taken by the Government have had the following results :

Bread-making Cereals.

Although Latvia is an agricultural country, the home-grown crops of breadstuffs did not suffice up to 1930 to cover the needs of home consumption. For many years in succession, large quantities of rye and wheat had to be imported to feed the towns (and to some extent also the country districts of Latgale). Thus, in the five harvest years from 1923-24 to 1927-28, imports of breadstuffs remained comparatively stable, varying only slightly on either side of 100,000 tons per annum, rather more than half of which was rye and the remainder wheat. During these years, foreign breadstuffs accounted for about 30% of Latvia's total cereal consumption. In 1928, the excessive humidity and the floods caused a very bad harvest in Latvia, which led to an increase in imports to 217,000 tons for the 1928-29 harvest year (the harvest year being reckoned from August 1st to July 31st following) and to 166,000 tons for 1929-30.

Beginning with the 1930-31 harvest year, the situation was completely transformed. In 1930, the harvest was a very good one. Already during the previous years, the Latvian farmers had found considerable difficulty in disposing of their crops, for which they obtained only very low prices, since the import of rye was free and the Customs duties on foreign wheat extremely low. The position of the farmers became particularly critical in 1930. Owing to the fall of prices on the world market, the price of cereals imported into Latvia also underwent a remarkable decline during that period.

In order to enable farmers to sell their cereals and obtain a satisfactory price, the Government enacted, in August 1930, "Measures for the control of the market in breadstuffs". The Government bought rye and wheat from the farmers at prices fixed by it in advance and resold the grain to the flour-mills. The same procedure was adopted during succeeding years. The result was not only an increase in the area sown (particularly with wheat), but also an improvement in the yield per hectare. The total harvest reached a volume which made importation of foreign cereals superfluous. In 1930-31, 54,000 tons were still imported, and 30,000 tons in 1931-32 ; but, in 1932-33, all imports of bread-making cereals ceased. For the last four years, therefore, Latvia has been self-supporting in breadstuffs.

That production has increased to such an extent that home-grown cereals not only suffice for the needs of home consumption and industry, but leave a considerable surplus for export. In the period 1923-1927, the total consumption of breadstuffs in Latvia for feeding the population, and also to some extent for sowing, fodder and industrial requirements, has reached an average of 400,000 tons per annum (rye and wheat). But the 1932 harvest produced 440,000 tons ; that of 1933, 540,000 tons ; that of 1934, 630,000 tons ; that of 1935, 540,000 tons (364,000 tons of rye and 177,000 tons of wheat). There was, therefore, a large surplus for exportation. In 1934, Latvia exported 46,834 tons of rye and 2,379 tons of wheat, and, in 1935, 88,425 tons of rye and 65,749 tons of wheat. In a space of a few years, Latvia has been converted from an importer to an exporter of breadstuffs.

An interesting point in connection with the production of breadstuffs is the great increase in the production and consumption of wheat. Owing to an increase in the area sown and the yield per hectare, the total wheat harvest rose from 60,000 tons in 1925 to 183,000 tons in 1933, 219,000 tons in 1934 and 177,000 tons in 1935, and has therefore trebled in less than ten years. The consumption of wheat (particularly white wheat bread) has increased in relation to the total consumption of breadstuffs both in the towns and in the countryside.

The last few years have witnessed a large production of breadstuffs in Latvia. And yet the consumption of bread in the towns has not only not increased, but has even declined, while the consumption of animal products—meat and, to some extent, also dairy products—has considerably increased.

Meat.

The number of farm animals has continually increased, even during the years of depression, as is shown by the following table.

Agricultural censuses were held in Latvia in 1929 and 1935, so that the data for these years are more accurate than for the others, for which estimates have been made.

	Cattle	Milch cows (included in previous column)	Pigs	Sheep
1928.	960,600	—	535,000	1,090,400
1929.	978,400	721,200	382,200	905,500
1930.	1,026,300	728,400	522,700	872,900
1931.	1,116,900	745,200	712,100	923,100
1932.	1,153,100	784,300	581,600	984,000
1933.	1,155,800	802,900	585,900	1,114,300
1934.	1,157,600	807,100	686,400	1,208,900
1935.	1,272,200	874,600	801,800	1,345,000

The number of farm animals is now greater than before the depression. The same remark applies to sheep, the number of which was declining before the depression but which greatly increased during the years of crisis. The production of fodder has consequently been expanded. This has had the result of increasing the production of meat. The number of animals sold by farmers to feed the population of the towns and the average weight of these animals have risen, as is shown by the following figures :

Number of Animals slaughtered in the Towns, and of Animals slaughtered in the Country and sold in the Towns.

	1927-1930 Annual average	1931-1934 Annual average	1934	1935
Cattle	121,000	133,000	152,000	151,000
Calves	286,000	271,000	291,000	288,000
Pigs	188,000	287,000	315,000	345,000
Sheep	200,000	158,000	202,000	225,000

A particularly large increase is to be observed as regards pigs sold by farmers. Nearly all these pigs are consumed in the Latvian towns, for only 36,000 were exported in 1935 (barely 2,000 tons of bacon to the United Kingdom, and various small quantities elsewhere).

Latterly, animals have also been better fattened. The weight of the animals slaughtered at the municipal slaughter-houses of the city of Riga has been as follows :

	1927-1930		1931-1933		1935	
	Live weight average Kg.	Dressed carcass average Kg.	Live weight average Kg.	Dressed carcass average Kg.	Live weight average Kg.	Dressed carcass average Kg.
Cattle . .	324	162	372	186	394	197
Calves . .	53	32	61	37	65	39
Pigs . .	119	95	133	106	139	111
Sheep . .	40	20	40	20	39	20

The average weight of animals slaughtered has greatly increased in the last few years.

The increase in the number of animals sold by farmers and in the average weight of the meat of these animals has been followed by an increase in the quantity of meat sold by farmers.

Meat sold by Farmers and consumed in the Towns.

	1927-1930 Annual average Tons	1931-1934 Annual average Tons	1934 Tons	1935 Tons
Beef	19,600	24,700	27,300	29,700
Veal	9,200	10,000	11,000	11,200
Pork	17,900	30,400	32,500	38,300
Mutton . . .	4,000	3,200	3,900	4,500
Total . .	50,700	68,300	74,700	83,700

Nearly all the meat sold by the farmers has been consumed in Latvian towns. Latvia has only exported about 2,000 tons of bacon per annum during the periods in question.

As compared with the pre-depression years, the consumption of meat has increased in the towns by 50 to 60%. This is due to the extraordinary fall in meat prices.

It should also be observed that the town population has hardly increased at all in Latvia in the last few years. At the time of the 1930 general census, there were 693,000 inhabitants in the towns, and, in 1935, the figure was 710,000, making an increase of about 2%. Thus, the extraordinary increase in meat consumption in the towns in the period 1931-1935 applies, not only to the total quantity of meat consumed, but also to the quantity of meat consumed per head of the population in the towns.

During the same period, the consumption of meat also increased in the country districts. This general increase in meat consumption in the towns and country also shows that meat production has considerably grown in Latvia in the last five or six years.

Dairy Products.

In 1929-30, milk production in Latvia amounted to 1,304,000 tons (these data refer to the period May 1st-April 30th). During the next six years, the number of milch cows increased, the figure rising from 721,000 at the 1929 agricultural census to 874,000 at the 1935 census (an increase of 21%). The average yield of milk per milch-cow has also risen. Thus, while in 1929-30 the average yield of milch-cows inspected by the live-stock control companies was 2,461 litres of milk (with a fat content of 3.86%, making 94 kg. of milk fat or 108 kg. of butter), in 1933-34 the yield was 2,567 litres of milk with a fat content of 3.89% making 100 kg. of milk fat or 115 kg. of butter. Thus, the average yield of milk per cow increased by 4%, and the quantity of fat or butter contained in the milk by 6.4%.

Owing to the increase in the number of milch-cows and in the average yield per cow, it may be calculated that the quantity of milk produced in 1935 amounted to about 1,640,000 tons, with a slightly greater fat content.

In 1929, exports of Latvian butter amounted to slightly less than 15,000 tons, and, in 1935, to slightly less than 17,000 tons. In 1929, 360,000 tons of milk were used, and 410,000 tons in 1935, for the production of exported butter. The consumption of unskimmed milk in Latvia (in the form of milk, butter, cream, cheese, curds and other milk products) may therefore be estimated at about 940,000 tons in 1929, and at about 1,230,000 tons in 1935. Thus, the consumption of milk and dairy products in Latvia increased by 30% during the period 1930-1935. At the same time, the average consumption of milk and dairy products per head of the population followed the same upward curve ; for, from 1930 to 1935, according to the general census, the population of the country only increased by 2.6%—from 1,900,000 to 1,950,000.

Eggs and Poultry.

According to the data of the agricultural census of 1929, the number of poultry in Latvia was as follows :

Fowls	1,853,653
Geese	59,700
Ducks	84,142
Turkeys	18,516
Total	2,016,011

Subsequently, a census of farmyard poultry was taken only in the 100 most representative communes (there are 517 communes altogether in Latvia). In these 100 communes, the figures obtained in 1934 were greater than those of 1929 by 63% in the case of fowls, 104% for geese, 138% for ducks and 275% for turkeys. On the assumption that the number of head of poultry followed the same course in the other communes during the years 1929-1934, the approximate number of poultry in Latvia in 1934 may be estimated as follows :

Fowls	3,000,000
Geese	120,000
Ducks	200,000
Turkeys	70,000
Total (in round figures) .	3,400,000

The production of eggs, on the basis of the figures of the 1929-30 agricultural census, amounted during this period to 134,000,000 per annum; 131,000,000 were used to feed the population of towns and country (the remaining 3 millions being utilised for hatching). On the assumption, again, that the production of eggs increased in the same

proportion as the number of poultry, it must have been about two-thirds greater in 1934 than in 1929—*i.e.*, about 218 millions per annum. The consumption of eggs increased in Latvia to almost the same extent—*i.e.*, by 67%—for the importation of eggs, which has now ceased but which amounted in 1929-30 to 8,586 cases, or 12.4 million eggs per annum, hardly affects the figure. There have been no imports in recent years, and Latvia is now self-supporting in this respect. The export of eggs is trifling : 1,038 cases in 1933, 464 in 1934 and 1,778 in 1935.

In the years 1929-1934, the consumption of poultry increased in about the same proportion as the number of fowls and the production of eggs—*i.e.*, by about 67%. Compared with the consumption of beef, veal, pork and mutton, that of poultry is trifling. Thus, while the quantity of meat derived from domestic animals sold by farmers and consumed by the population of the towns amounts to over 80,000 tons per annum, that of poultry thus consumed does not exceed 1,000 to 1,500 tons. The farmers sell and the town population consumes about 700,000 fowls (including pullets and cockerels), 40,000 ducks, 40,000 geese and 15,000 turkeys per annum.

Fish.

Before the depression, the first place in Latvia's fish consumption was occupied by herrings. From 1925 to 1927, 16,000 tons were imported per annum. In 1930, herring imports amounted to 19,000 tons ; but, in 1934, it amounted to 9,000 tons and, in 1935, to 10,000. In the last few years, the consumption of herrings has seriously declined, owing to restrictions on imports and to the fact that the price of herrings has fallen much less than that of meat, thus making them relatively dearer for the great mass of consumers.

The production of the Latvian maritime fisheries in the last few years has been as follows :

	Tons
1924-1930 (average)	10,461
1931.	9,284
1932.	10,024
1933.	13,892
1934.	11,496

In the years 1933 and 1934, the production of sea fisheries greatly increased as compared with that of the years 1931-1932 and 1924-1930. The chief fish caught was the small Baltic herring, of which the catch was 7,236 tons in 1934 ; next come flounders and turbot (1,904 tons in 1934), cod (806 tons), etc.

The quantity of fresh-water fish caught is estimated at 3,500 tons per annum.

Nearly all the product of the fisheries is consumed within the country. Latvia exports only small quantities of fish and tinned fish. In 1934,

for example, she exported 311 tons of fish and 635 tons of tinned fish, the figures for 1935 being 118 tons and 926 tons respectively.

In the last few years, the consumption of fish has slightly declined in Latvia, a fact due to the decrease in the consumption of herrings caused, in its turn, by the increase in the consumption of meat.

Sugar.

Before the world depression, the consumption of sugar in Latvia steadily increased, reaching an average of about 50,000 tons per annum in the years 1929 and 1930. This consumption declined during the years of depression, for, the price not having fallen, sugar had become comparatively a more expensive foodstuff. In 1934, the Sugar Monopoly sold 42,314 tons, but, in 1935, only 41,382 tons, these being the amounts of sugar consumed in Latvia.

Even in 1929-30, nearly all the sugar consumed in Latvia was imported from abroad. In the last few years, thanks to Government support, the cultivation of the sugar-beet and the sugar industry have developed to such an extent that all the sugar necessary for national consumption is produced within the country from Latvian beet. In 1935, sugar ceased to be imported ; the same will be the case during the current year and in the future.

The area under sugar-beet was 14,398 hectares in 1934, and the crop was 336,000 tons of beetroot.

Fruits and Vegetables.

In 1930, the apple crop amounted to about 121,000 tons, that of pears to 5,500 tons, and that of plums to 3,500 tons. Statistical data are not available for cultivated berries (cherries, gooseberries, red currants, strawberries and raspberries) and wild berries (bilberries and cranberries). Crops of fruits and berries, moreover, vary greatly from one year to another. In 1930, for example, the crop was quite a good one. The number of fruit trees is continually increasing, which also leads to an increase in the fruit crop.

The export of fruit is trifling. The importation of fresh and dried fruits (oranges, lemons, grapes, etc.) averaged 7,000 tons in 1929-30 (in the previous years, it was much smaller owing to the higher Customs duties). In 1934, imports of fruits and berries barely exceeded 1,000 tons.

The cultivation of various vegetables is constantly increasing in Latvia. This applies chiefly to the cultivation of vegetables in greenhouses in the neighbourhood of Riga (green salad, cucumbers, lettuces, tomatoes, radishes).

The production of honey averaged 1,090 tons per annum in the period 1925-1934 and amounted to 1,416 tons in 1933 and 1,134 in 1934.

The fixed prices guaranteed to farmers for their products in proportion to the cost of production, and the stable market on which they can rely, constitute an important factor which has largely contributed to the development of the production of the principal foodstuffs in Latvia. The efforts of the farmers to recoup themselves for the losses suffered as a result of the decline in the prices of some of their products (meat, for example) have also exercised a certain influence.

Consumption of Foodstuffs.

Nutrition of the Town Population.

In 1930, the towns of Latvia had 693,000 inhabitants and the country districts 1,207,000 ; while, in 1935, the town population amounted to 710,000 inhabitants and that of the country districts to 1,240,000.

The consumption of foodstuffs by the town population is estimated on the basis of statistical data regarding family budgets collected by the Government Statistical Office for the year 1926-27 (April to April), more recent data being lacking. The data thus collected relate to families living a steady life—*i.e.*, endeavouring to live rationally within their income. In view of the complexity of the nutrition question, the Government Statistical Office only drew up figures for the four months of January, April, July and October, which are typical of the four seasons they represent. The figure for the average monthly consumption throughout the year was obtained by taking the arithmetical mean of consumption during the four months mentioned above.

In compiling data on family budgets, public officials, school-teachers, employees of sickness insurance funds, etc., were classed as intellectual workers, while the different kinds of artisans, workers and labourers formed the group of manual workers. The manual workers whose expenditure on food was noted chiefly belonged to the category of skilled workers.

Further, the family budgets were divided into other groups—namely, city of Riga and provincial towns. The city of Riga had 377,000 inhabitants in 1930, or more than half the total number of town-dwellers in Latvia.

The families whose expenditure was noted had the following average income per unit of consumption : [1]

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[1] The needs of an adult man are taken as the unit of consumption ; the units are reckoned proportionately as follows :

Age	Male Sex	Female Sex
Up to 2 years	0.3	0.3
2 to 6 years	0.4	0.4
6 to 10 years	0.5	0.5
10 to 12 years	0.6	0.6
12 to 13 years	0.7	0.6
13 to 15 years	0.8	0.7
15 to 17 years	0.9	0.8
Over 17 years	1.0	0.8

	In Riga Lats	In other towns Lats
Intellectual workers . .	132.17	110.10
Manual workers . . .	77.84	69.19

An average household has 2 ½ units of consumption.

Out of the total expenditure of a family, food accounts for the following proportions :

	In Riga %	In other towns %
Intellectual workers . .	32.3	35.6
Manual workers . . .	48.2	43.3

At Riga, the expenses of the intellectual worker, who chooses the more costly foodstuffs, exceed those of a manual worker by 16% per calorie on an average, while in the other towns this percentage even reaches 28%. Compared with manual workers, intellectual workers consume less cereal products and more meat, fish and other produce.

In the towns, the consumption of certain foodstuffs has greatly increased in the last five years. This applies particularly to meat and dairy products, with the consequence that there has been a decline in the consumption of bread.

Nutrition in Rural Districts.

The data on this subject are less detailed than those which have been collected with regard to the nutrition of town-dwellers. In any case, the dietary of the rural population is more frugal than that of the town-dwellers. All the data regarding the dietary of the rural population have been taken from the material possessed by the rural accountancy service of the Government Statistical Office. In the rural households which keep accounts, the principal foodstuffs consumed on an average per adult [1] during one year were as follows (these data refer to the economic year beginning on May 1st) :

Products	1929-30 Kg.	1930-31 Kg.	1931-32 Kg.	1932-33 Kg.	1933-34 Kg.	1927-1932 average Kg.
Rye	153.1	146.9	129.3	122.7	142.9	149.8
Wheat	72.3	86.3	89.7	87.6	94.2	79.1
Barley	58.0	63.7	70.8	78.2	69.0	56.3
Peas, beans, etc..	7.0	11.6	9.9	10.5	10.0	8.6
Potatoes	263.2	274.4	303.5	294.2	279.1	259.8
Full milk . . .	218.1	306.9	305.0	339.3	380.5	302.9
Skimmed milk .	417.7	363.0	324.9	391.9	316.9	343.7
Butter	9.6	11.1	11.0	11.5	9.8	9.6
Pork.	48.2	57.4	71.0	62.0	59.9	55.1

[1] Children below 5 years of age are counted as 0.3 of an adult, from 5 to 10 years as 0.5, from 10 to 15, 0.8, and over 15, 1.

Products	1929-30	1930-31	1931-32	1932-33	1933-34	1927-1932 average
	Kg.	Kg.	Kg.	Kg.	Kg.	Kg.
Mutton	6.2	4.8	5.1	6.3	6.7	7.2
Beef and veal . .	8.0	8.8	12.9	18.4	16.4	11.4
Eggs (number) .	77	75	81	94	96	69
Honey	1.4	2.0	2.1	2.0	2.2	1.5
Sugar	—	36.0	31.1	20.6	26.9	28.0
Salt	—	22.0	19.5	15.9	18.6	19.1
Herrings	—	12.4	6.6	2.5	5.9	12.6

In recent years, the consumption of wheat has considerably increased in the rural districts, owing to the extension of the cultivation of that cereal. An increase is also to be noted in the consumption of full milk and of beef and pork. The same applies to the consumption of eggs and honey in the country districts. On the other hand, a decline is to be observed in the consumption of sugar and herrings. Not being able to obtain these products, the farmer restricted his consumption of them during a time when his income and purchasing power were reduced.

Increase in the Consumption of Foodstuffs, 1931-1935.

Dr. K. Ulmanis, head of the Latvian Government, has, for a long time past, been untiring in his efforts to provide a stable market for Latvian agricultural products, while also guaranteeing adequate prices corresponding to the cost of production. These ideas are described in Dr. K. Ulmanis' work entitled " How to reconstruct our Agriculture and make it more productive ", which appeared as early as 1929—*i.e*, on the eve of the world economic crisis. This work contains a carefully defined programme of agrarian policy. Subsequently, and particularly in the last two years—*i.e.*, since the National Government has been in power—this programme has been fully applied. The importation of agricultural products which can be cultivated at home completely ceased during the period 1930-1935. The Government has guaranteed fixed prices and a sure market for the following products : wheat, milk delivered at the dairies (*métairies*), bacon, linseed, sugar-beet. The Government itself buys large quantities of wheat and also the whole flax and sugar-beet crops.

As we have seen above, this activity on the part of the Government has resulted in an extraordinary increase in agricultural production.

Course of Retail Prices.

The big fall in prices during the years 1931, 1932 and 1933 proved a powerful stimulus to increased production of foodstuffs.

Average Retail Prices in Latvian Towns (in lats per kg.)

	1928	1929	1930	1931	1932	1933	1934	1935 (December)
Rye bread	0.34	0.32	0.25	0.28	0.28	0.25	0.21	0.20
White bread	0.73	0.69	0.66	0.64	0.61	0.58	0.52	0.49
Barley meal	0.53	0.49	0.39	0.36	0.33	0.31	0.29	0.26
Dried peas	0.48	0.61	0.50	0.36	0.32	0.30	0.28	0.26
Potatoes	0.14	0.15	0.08	0.07	0.05	0.05	0.04	0.04
Pork	1.75	2.21	1.89	1.10	0.79	0.96	0.93	0.80
Smoked pork	2.20	2.73	2.41	1.56	1.13	1.25	1.22	1.06
Mutton	0.95	1.25	1.31	0.94	0.61	0.61	0.61	0.54
Beef with bones (for soup)	0.95	1.19	1.23	0.91	0.50	0.48	0.50	0.48
Veal	0.79	1.01	1.01	0.68	0.46	0.46	0.48	0.49
Lard	2.57	2.87	2.49	1.85	1.52	1.60	1.57	1.34
Dead fowls (each)	2.40	3.22	3.25	2.78	1.90	1.76	1.76	1.81
Full milk (per litre)	0.21	0.22	0.20	0.17	0.13	0.12	0.11	0.12
Curds	0.51	0.53	0.48	0.39	0.30	0.27	0.28	0.29
Sour cream	1.93	1.82	1.65	1.21	0.94	0.89	0.88	0.91
Dutch cheese	2.56	2.66	2.44	2.06	1.63	1.46	1.50	1.44
Unsalted butter	3.49	3.53	2.94	2.31	1.78	1.77	1.74	1.91
Eggs (each)	0.13	0.14	0.12	0.10	0.08	0.08	0.08	
Rye in grains (100 kg.)	29.95	25.47	17.20	20.85	22.20	20.09	15.87	13.29
Wheat in grains (100 kg.)	35.91	31.54	27.07	24.59	25.51	25.72	20.95	16.85

In the last four years, the foodstuff prices, as far as agricultural products are concerned, have for the most part fallen by 50% and even more as compared with the prices prevailing during the last years before the depression. The extraordinary fall in the prices of agricultural products led farmers to develop production, in order to recoup themselves by an increase in the quantities of products for sale. This extension of production led to a large increase in the consumption of animal products (meat) and dairy products, particularly in towns, but also in the countryside. As compared with the years 1927-1930, the consumption of meat by town-dwellers in 1934-35 showed an increase of 50 to 60% (per head). In the towns, the increase in the consumption of meat and dairy products has been encouraged by the extraordinary fall in the prices of these products, which has greatly exceeded the fall in income and wages of inhabitants in the towns. In particular, the production and supply of meat in the towns during the years of depression were so great that prices had to fall enormously to adjust themselves to the purchasing power of the town population, whose income had declined.

Course of Wages.

In the Riga industrial undertakings, the average remuneration [1] of workers in all branches was as follows :

	1930	1933	1934	1935 (December)
Skilled workers :				
Men	100	77.4	75.0	78.6
Women	100	86.4	86.4	88.6
Unskilled workers :				
Men	100	79.7	79.7	84.7
Women	100	90.9	90.9	93.9

As compared with the year 1930, the average wages [2] of industrial workers at Riga have declined by 6, 11, 15 and 21%, whereas the index of the cost of foodstuffs consumed by Riga workers has been as follows :

1930	100	1934	69
1931	89	1935 (December) .	62
1932	75	1936 (January) . .	56
1933	74		

A worker's family which spent 10 lats, for example, in 1930 on a certain quantity of various products could have bought the same quantity in 1934 for 6.90 lats—*i.e.*, a reduction of 31%. In December 1935, the same quantity of products cost only 6.20 lats, or 38% less, while, in January 1936, it could be obtained for 5.60 lats, or a difference of 44% compared with 1930. Thus, in the case of foodstuffs, the cost-of-living index shows a much more rapid decline than wages. Hence, workers, like the other inhabitants of the towns, have been able to buy and consume a much greater quantity of foodstuffs than previously.

The general index of the cost of living for Riga workers (which, apart from food, includes rent, heating, lighting, clothing, etc.) has also fallen much more than their wages.

General Index of Cost of Living for Riga Workers.

1930	100	1934	72
1931	91	1935(December) . .	69
1932	79	1936 (January) . .	66
1933	76		

Compared with the index of the cost of food, the general index of the cost of living has declined less rapidly, and the prices of clothes, rent, etc., have fallen less than those of foodstuffs.

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[1] Net average wages per hour (including overtime pay and piece-work, but excluding payments to sickness and unemployment insurance funds).

[2] About two-thirds of the total number of Latvian industrial workers are employed in industria undertakings at Riga.

Interdependence of Exports of Foodstuffs and Other Branches of Latvian Economic Life.

In 1935, Latvia exported butter to the value of 18½ million lats; breadstuffs (wheat and rye), about 9 million lats ; bacon, 2 million lats ; other meat, half a million lats ; pork, 3½ million lats ; making a total of 33 million lats, representing one-third of the total Latvian exports (98.7 million lats). In addition, canned fish and confectionery are also exported.

Since 1930-31, exports of agricultural produce, formerly free, have been considerably hampered by various import restrictions introduced by certain manufacturing (and other) countries in Europe. For instance, exports of butter to Germany, which had gradually risen from nil in the first years of Latvia's independence to 15,000 tons in 1930 (worth 47 million lats), fell rapidly from 1931 onwards. The reason was the increased Customs duties on imports of butter into Germany and an even stricter system of quotas on exports of this article. In this way, exports of Latvian butter to Germany fell to 10,000 tons in 1932, 6,000 tons in 1933 and 1934, and even below 5,000 tons in 1935, or to one-third of the former level of exports. Latvia's economic situation was further greatly affected by the extraordinary fall in butter prices. In 1929, Latvian butter commanded 4 lats per kg. in Germany ; in 1934, only 1.20 lat ; and, in 1935, 1.36 lat. Latterly, exports of Latvian butter tend to find their way to the United Kingdom, notwithstanding the extremely low prices paid there (70 centimes per kg. in 1934 and 1 lat in 1935). Since 1932, the United Kingdom has also introduced import duties on Latvian butter, so that the free import of butter to that market has been substantially hampered. A smaller quota has also been imposed in the United Kingdom on imports of Latvian bacon, which reacts unfavourably on the development of pig-breeding in Latvia. That is why exports of bacon to the United Kingdom are limited to 2,000 tons per annum.

These import restrictions on the chief Latvian exports have done serious damage to Latvian agriculture. The extraordinary fall in the prices of agricultural produce for the export market has entailed a price reduction of 50% and even more on the home market. Thus, in 1931, farmers sold their produce for 70 million lats less than in 1930, the difference being equal to almost one-third of the total income of Latvian agriculture before the depression. The fall in the purchasing power of Latvian farmers has greatly affected national industry, and trade and transport have also suffered. As a result, in 1930 and 1931, about 40,000 wage-earners, or more than 20% of all the persons earning wages before the depression, lost their employment in industry, trade and transport, while wages were simultaneously greatly reduced. The fall in taxpayers' incomes was also felt by the revenue. Farmers have fallen into debt, their total obligations amounting to 300 million lats. The prices of many agricultural products having fallen to an

extraordinarily low level, while debts and interest rates remained stationary, it became extremely difficult, not to say impossible, to settle the amounts owed.

To remedy these various difficulties, the Government has adopted the following means : export bounties on agricultural produce, facilities for farmers as regards the repayment of their debts, opening of the home market to agricultural and industrial products, and, lastly, restrictions on imports of industrial and agricultural articles.

The heaviest export bounties were paid on butter. Up to September 1st, 1935, they cost the Government about 65 million lats. Bacon exports have also been stimulated by bounties. The purchase in 1934 and 1935, at fixed prices, of the heavy crop of bread stuffs (rye and wheat) and their subsequent export at much lower prices must have entailed very heavy losses for the Government.

The Government has given farmers various facilities for payment of debts, reducing the interest rates on State loans, extending for several years the time-limits for paying the claims of the State Agricultural Bank and cancelling altogether certain classes or parts of loans given by the State. Forced sales of the property of farmers have been suspended. At the same time, a minimum quota of inalienable agricultural property has been established, so that cases of farms being sold by auction have become very rare. Furthermore, many short-term loans have been extended at a cost to the Government of 20 million lats.

Since the end of 1931, imports of industrial and agricultural products have been cut down more and more so as to enable Latvian farmers to increase their income. Of recent years, Latvia has been unable to buy abroad the same amount of industrial articles as before the depression, and has therefore had to limit imports by putting quotas on the goods in question. These import restrictions have also been necessary in order to give employment to unemployed factory workers. As a result of the fall in foreign imports and the exhaustion of stocks of foreign manufactured articles, national industry has, in fact, been able to extend its output considerably.

Much of Latvia's output of foodstuffs being exported abroad, her prosperity and the state of her finances, agriculture, industry and commerce largely depend on the volume of these exports and the prices secured. Accordingly, the level of prosperity of Latvia's population and, *eo ipso*, the improvement of her nutrition, are closely bound up with the extent of the market provided for Latvian exports in manufacturing countries and the prices paid there for her products.

Netherlands.

The consumption of fats has fallen off by 8% since 1932. Numerous families receive margarine coupons, and the use of this is widespread.

Canned and minced meat is provided for unemployed persons, and those who need it. It is, however, comparatively little used. The consumption of meat has fallen off by 50%. On the other hand, vegetables are very cheap, and the consumption is very large. The price of fish has fallen considerably, and the population has the benefit of the reduction.

Bread is still the principal foodstuff in the case of indigent persons.

Enquiries made at The Hague and Utrecht have yielded the following results : Bread which is not sold at once but is still fresh is sold at half the price for ordinary bread, with the result that it is preferred by certain sections of the public. Some 70% of the bread consumed is without milk content. The quantity of albumen is from 300 to 1,000 grammes per head per day. The larger the family, the greater the quantity of bread consumed.

The decline in the use of milk is regarded as regrettable, as diminishing the quantity of animal albumen and vitamins consumed.

Generally speaking, it may be said that nutrition has suffered to a certain extent, and that the value in calories of the food consumed has fallen off by some 4% in a number of families. But the figures are still well above the minimum level, which may be put at 2,500 calories. It may therefore be said that nutrition has not as yet suffered from this very slight falling-off. The physical condition of the population has not yet been affected, and public health does not, in general, leave anything to be desired. Contagious diseases are extremely rare, and even endemic diseases, such as scarlet fever and diphtheria, do not give ground for anxiety. The death rate from tuberculosis—though that does not constitute a reliable criterion—continues to decline. From 6.8 per 10,000 inhabitants in 1932, it fell to 6 in 1933 and to 5.4 in 1934. The total mortality of the population in recent years has fluctuated between 9 and 8.4 per 1,000.

Netherlands East Indies.

The medical officers attached to the large agricultural and other undertakings see that the diet of the workers is sufficient to keep them in physical condition. To this end, these medical officers frequently consult the Public Health Service and study the findings of scientists who have carried out researches in this field.

The Government medical service supervises the nutrition of the employees of the large and small undertakings who are supplied with food by the employers. As soon as cases of diseases such as beriberi or scurvy occur, steps are taken to improve the diet. The Government services do not merely ascertain whether the population is under-nourished, but endeavour to prevent famine by giving the people advice in regard to agriculture, stock-raising, fishing.

Curaçao.

Although the nutrition of Curaçao has never been specially studied, it may be said that the diet is for the most part irrational and inadequate. Its main defetcs are : (*a*) the insufficient use of fats ; (*b*) the use of bad kinds of fats ; (*c*) the lack of vitamins due to the inadequate consumption of fresh meat and fresh vegetables.

Generally speaking, the population dislikes vegetables, apart from certain kinds which are only available for a short season. Moreover, it is sometimes difficult to obtain fresh vegetables and fruit.

As the rainfall in the Leeward Islands is very low, the population, which is unable to obtain fruit and vegetables regularly, has become accustomed to foodstuffs which are easily procurable and can be preserved. The people therefore feed on maize flour (foencki) and salt meat or fish, and eat very little fresh meat, fresh fish or fat.

The Government is endeavouring to improve nutrition by encouraging the growing of such vegetables as the population will eat, by reducing as far as possible the price of fresh meat, milk and butter, facilitating the distribution of wholesome foodstuffs, and stimulating propaganda on behalf of rational nutrition.

The Government's efforts have already brought about an improvement.

Siam.

PREVAILING LEVEL OF NUTRITION.

The Kingdom of Siam, with a population of approximately 12,000,000, has different dietetic customs according to localities and cultures. The people that have had a higher education possess dietetic customs different from the others. The population of Northern and Eastern Siam consume foods, including rice, which are totally different from those of the people of Central and Southern Siam. Also, people living in the city or town area eat foods which are different from those consumed by the rural population.

In 1930-31, Professor Carl C. Zimmerman, Ph.D., of Harvard University, conducted a survey of the prevailing standard of nutrition of the Siamese people. This survey has shown that the rural inhabitants of Eastern and Northern Siam consumed mainly glutinous rice, while the Central and Southern peoples eat chiefly non-glutinous rice. The people consuming glutinous rice receive energy value of about 2,500 calories per day, while those whose main diet consist of non-glutinous rice receive about 2,000 calories per day. It is of interest to note, also, that people consuming non-glutinous milled white rice usually live near rivers, canals and the sea-coast and enjoy the beneficial effects from the consumption of fish and sea food.

Besides rice, which is the main food of the country, the rural population also consumes daily varying quantities of other foods, but in rather somewhat small quantities. Hardly any milk or other dairy produce

is utilised at all. The old tradition of teaching people, and particularly the young, to eat plenty of rice ond only a very small quantity of protein food has played great havoc among the rural population. Although in the case of the city and town population this old tradition is slowly losing ground, protein deficiency is an urgent national problem in Siam.

Of all the vitamin deficiency diseases, beriberi causes the greatest number of deaths, and in 1935 claimed a mortaility of 1,857.

Another problem arises from the fact that the city and town population consumes an over-abundance of fat in both animal and vegetable forms, while the rural population does not partake of a sufficient amount of fat. Along with the campaign to combat protein deficiency, the department will also carry out systematic propaganda to increase the consumption of fat among the rural population.

Switzerland.

The following particulars are taken from agricultural statistics and estimates published by the Swiss Peasant's Secretariat at Brugg.

CONSUMPTION OF FOODSTUFFS IN SWITZERLAND.

Annual Consumption per Head of Population.

		1911	1934
Bread cereals	kg.	134	149
Potatoes	kg.	127	98
Wine	litres	56	48
Meat	kg.	56	54.8
Eggs	number	100	158
Honey	kg.	0.6	0.8
Household milk	kg.	280	251
Cheese	kg.	11.1	8.5
Butter	kg.	5.1	7.1
Sugar	kg.	23.7	44.3
Coffee	kg.	2.8	3.4
Citrous fruits	kg.	3.4	11.0

Swiss Fat Supplies: Total Consumption (in thousands of quintals).

	1923	1931	1933	1934
Animal fats and oils [1]	347	378	388	413
Vegetable fats and oils	121	234	261	281
Total	468	612	649	694

[1] Not including the production or consumption by peasants producing their own requirements.

Total Consumption of Vegetables in 1931 (*in thousands of quintals*).

French beans	350	Salsify	30
Green peas	170	Common beetroot	60
Cabbage	770	Onions	215
Spinach and seakale beet	160	Rape-cole	80
Lettuce	385	Cucumbers	60
Carrots	100	Tomatoes	110
Radishes	55	Other vegetables	215
Celery	65	Total consumption	2,895
Leeks	70		

Turkey.

Turkey is primarily an agricultural country, the peasants (*i.e.*, the agriculturists) representing, according to the 1935 census, as much as 83% of the total population. The great majority of the population is therefore self-supporting in the matter of food, with the result that the food supply of the Turkish peasant may be said to be unaffected by the world crisis of over-production. The food problem in Turkey is not a consequence of over-production, but, on the contrary, is due to shortage of products.

In certain districts in Turkey, where the climatic conditions are unfavourable, production is curtailed or, on occasion, completely prevented by drought, the result of which is temporary hardship for the districts concerned.

Otherwise, the Turkish peasant has never been the victim of under-nutrition as a result of the world economic crisis ; but the fall of prices as a result of over-production throughout the world has naturally had its effect on the Turkish market. The peasant has not always been able to market his produce at a satisfactory price, and this has prevented him from acquiring a number of articles on which he normally expends what money he has. The peasant's purchasing power, that is to say, has been curtailed, and the urban districts have felt the effect of this curtailment. The urban population (consisting mainly of traders, industrial workers and, above all, home workers) is comparatively hard hit, in spite of the fall in prices as a result of over-production, and is compelled, in consequence, to restrict its food and other requirements.

It cannot, however, be said that there is any food problem in Turkish cities and small towns of the kind which is found in other countries. The food problem with which the present enquiry is concerned is a consequence, generally speaking, of unemployment. The large number of unemployed and the marked reduction of their purchasing power lead, as the studies of the League of Nations Committee concerned show, to some irregularity in regard to nutrition and critical conditions

in connection with the marketing of produce. In Turkey, on the other hand, there is no question of unemployment, particularly in recent times.

Yugoslavia.

General Remarks.

Yugoslavia is an agricultural country where industry is only just beginning to develop. Having no important industrial centres or large numbers of factory workers, she has been spared the major shocks which the depression caused in most industrial countries by forcing States to assist millions of the unemployed in order to preserve social peace. On the other hand, the difficulties experienced by the rural population of Yugoslavia are due to the low prices of agricultural produce, excessive taxation and debt. These burdens, however, do not affect the actual food of the population, except in the poorer areas : Montenegro, Herzegovina, Dalmatia, part of Bosnia and, to some extent, Croatia and Slovenia. Less importance is therefore attached to the question of popular nutrition in Yugoslavia, a mainly agricultural country, than would be attached to it in manufacturing countries. Where an acute need was felt, the question was usually solved by local action. As this work is not done systematically and is not centralised, it is, of course, difficult to gather the information relating to the subject.

The Nutrition Problem in Districts which are not Agriculturally Self-supporting.

According to the statistics for 1932, out of 343 districts in Yugoslavia with 14,049,738 inhabitants, there are 129 districts with 4,566,985 inhabitants in which more than 50% of peasant families have not sufficient food to await the next harvest and in which, therefore, nutrition is very inadequate. It is true that, in 1932, the wheat crop showed a heavy deficit on account of blight, a disease which is very widespread, especially in the producing districts. It cannot be said, however, that the above facts indicate an exceptional or temporary position, and it should be borne in mind that, in Yugoslavia, if the wheat harvest is inadequate, or if it fetches a high price, wheat is replaced by maize as the food of the population. Thus, while there was a shortage of wheat in the year to which these particulars relate, it was compensated by an abundant maize crop. As against a reduction in the wheat crop of 7,057,583 quintals in 1932, as compared with the average for 1930-1934, the maize crop showed a surplus of 7,556,100 quintals as compared with the average for the same period. These particulars may be taken as an approximate index of the standard of living of a considerable part of the Yugoslav peasants.

For the purpose of comparing the above particulars with the general agricultural statistics, we might divide the territory of these 129 districts

into two separate groups. In one group, comprising 46 districts with 2,042,705 inhabitants, the land would, in view of the extent and fertility of the cultivated area, suffice to feed the entire population living in them. But, on account of the impoverishment of a great part of the population and the existence of a well-to-do class in these districts, most of the inhabitants have too little land or no land at all. On the other hand, the well-to-do possess more land than they require for their vital needs. The other group comprises the districts which are not agriculturally self-supporting—that is to say, those in which the cultivable land is over-populated or too poor to feed the population living upon it. This second group consists of 83 districts with 2,524,280 inhabitants. In a country like Yugoslavia where the agricultural depression has greatly reduced the purchasing power of the rural population and thus considerably restricted its possibility of satisfying its needs on the market, the arable land is one of the principal sources of food supply. Wherever this source is inadequate, the population is necessarily placed in a very difficult position. This is the case in the districts which are not agriculturally self-supporting.

More detailed examination shows that, except for the banovine of Vardar, in which the density of the population is uniform, the districts which are not self-supporting in all the other banovines [1] are less densly peopled than the others. But, if we compare the area of the cultivated land with the total area, the position is quite different, as will be seen from the following data :

Banovine	Area				Percentage of arable land in relation to the total area		Percentage arable land per 100 inhabitants	
	Total Hectares		Arable land Hectares					
	Of the districts which are not self-supporting	Of the entire banovine	Of the districts which are not self-supporting	Of the entire banovine	Of the districts which are not self-supporting	Of the entire banovine	Of the districts which are not self-supporting	Of the entire banovine
Drave	575,700	1,622,900	62,926	306,625	10.93	18.89	25.26	26.83
Save	885,300	3,916,000	120,827	1,218,859	13.64	31.13	32.55	44.40
Verbas	542,900	2,080,100	116,521	630,168	21.46	30.30	62.96	61.36
Primorje	1,161,500	2,005,100	135,342	249,047	11.65	12.42	27.12	27 20
Drina	869,000	2,779,100	139,716	788,883	16.07	28.39	40.77	49.50
Zeta	1,988,800	3,057,100	124,327	287,069	6.25	9.39	23.98	31.70
Morava	337,400	2,573,100	65,358	717,313	19.37	27.88	40.29	49.50
Vardar	474,100	3,738,900	94,334	858,289	19.89	22.96	47.62	53.84

It is therefore only in the non-self-supporting districts of the banovine of Verbas that the percentage of arable land per 100 inhabitants is greater than the average for the whole banovine ; on the other hand, the yield

[1] The banovine in Yugoslavia is the largest administrative unit.

is smaller. Otherwise, there is less arable land in all the districts which are not self-supporting, as compared both with the area as a whole and with the population. On comparing these districts with the banovine of the Danube, which is known as the granary of Yugoslavia and in which 66.43% of the total area is arable (in the districts which are not self-supporting, the minimum is 6.25% and the maximum 21.46%) and which contains 86.6 hectares of arable land per 100 inhabitants (in the districts which are not self-supporting, the minimum is 23.98 hectares and the maximum 62.96 hectares), it will be seen how great is the shortage of arable land in these districts.

In the districts which are not agriculturally self-supporting, the arable land is not only limited in quantity in relation to the population, but is also inadequate in quality ; it is generally classified as poorer and as less fertile than in the other districts of the same banovines. Thus, the banovines of Vardar, Drave, Zeta and Primorje, taken as a whole, provide much less wheat and maize per head of the population than would be required for their food even if the entire maize crop was used for feeding the population. But, as other articles are produced to a larger extent in these banovines, with the exception of the districts which are not self-supporting, the population procures the indispensable foodstuffs by selling these articles.

In the districts which are not self-supporting, the yield of all the cereals produced is not even one kilogramme per inhabitant per day. The figures include, however, even barley and oats, which are not used for human food in the richer districts of Yugoslavia. The production of cereals in these districts, therefore, is far from sufficient for the needs of the population.

Apart from bread, there are two vegetable products which play a very important part in the food of the rural population, especially in the poorer districts of the country—*i.e.*, the potato and the cabbage.

Cabbage production is only sufficient in the districts which are not self-supporting in the banovines of Drave and Save. There is also an abundant production of potatoes in these districts as compared with the districts which are not self-supporting in the other banovines, and especially in those of Morava and Vardar, where it is definitely inadequate. On comparing the above figures with the yield of wheat and maize in the districts which are not self-supporting in the banovines of Drave and Save, it will be observed that the lack of bread is to some extent made up by potatoes.

In the banovines where the grain production is insufficient, cattle and industrial plants are of great importance ; after them come wine and fruit. By selling these products, the rural population in question is enabled to purchase consumption products which its own land does not produce in sufficient quantity.

These forms of production are more developed in the richer districts than in the districts which are not self-supporting. The latter

take a greater share in the production of the following commodities : in the banovine of Verbas, plums ; in the banovine of Primorje, feverfew, wine, olives and Mediterranean fruits ; in the banovine of Drave, apples and nuts ; in the banovine of Zeta, feverfew and figs ; in the banovine of Morava, wine. But, if these figures are compared with the production of wheat, maize and potatoes in these poorer districts, it will be seen that the somewhat larger production of these articles is far from making good the low yield of substantial food products. This is strikingly evident in the districts which are not self-supporting in the banovine of Vardar, in which the production of tobacco is only one-tenth of that of the other districts, while no opium or cotton is produced. These articles, however, are of great importance for the banovine of Vardar, especially tobacco and opium.

The figures for cattle-breeding—which show that the number of almost all kinds of live-stock (except pigs) is greater in the districts which are not self-supporting than in the other districts—might lead to wrong conclusions unless we also consider the production of fodder.

It is noteworthy that, in all cases, except in the banovines of Drave and Save, the cultivation of fodder is of small importance. Without such cultivation, however, there can be no question of raising a good breed of live-stock. With the exception of the banovine of Drave and a part of the banovine of Save, in which live-stock is predominantly raised in stalls and stables, the other banovines have only mountain cattle of a poor breed, fed solely in the fields and on hay.

In poor years, both cattle and human beings suffer in these districts. A worse effect is that cattle of such poor race and so badly fed give very little milk, while their value as meat is very low on account of the distance from the consumption centres.

In considering the above facts, it must be borne in mind that, in the districts which are not self-supporting, for instance, an ox does not weigh more than 150 to 200 kg. live weight, while it reaches 450 to 600 kg. in the self-supporting districts.

The exact position with regard to the nutrition of the inhabitants in these poorer districts of Yugoslavia, or rather their under-nourishment, can only be ascertained by exact methods—that is to say, by investigating life in the families. Such investigations have, however, only been made for a very small number of families, and cannot be regarded as applicable to regions as large as the districts which are not self-supporting. There are, however, indications of other kinds. The results of recruiting, for example, which grow constantly worse in these districts, show that the nutrition is inadequate. In this connection, we may also mention the low sanitary standard of the people in these districts, in which tuberculosis is particularly widespread.

These facts are sufficient to show the gravity of the problem in these districts. The inhabitants, who usually live isolated in the mountains at a distance from the main roads and railways, suffer in two ways ; first, from the penury of nature in their districts, and, secondly, from

the necessity of making good the shortage of certain foodstuffs by the sale of those of which they have less need. This state of affairs is aggravated by the fact that most of the inhabitants are on such a low level of civilisation that they have scarcely begun to think of co-operative societies, by means of which they could sell their products to better advantage and improve their position. The products which they sell and buy have to bear heavy transport costs and middlemen's profits. As an illustration, we may state that, in the remote districts of the banovine of Zeta (Montenegro), a lamb costs only 3 to 5 dinars, as against 40 to 50 dinars at Belgrade, while the price of maize is 100% higher, and that of wheat 75% higher, than in the producing districts. A year ago, sixty to eighty eggs were sold for 10 dinars in the villages, while only twenty were obtainable for 10 dinars at Belgrade.

Before the depression, various families in the districts which are not self-supporting made up for the shortage of their foodstuffs by money received from members of the family who had emigrated or who worked in the country itself, either in the forests or in industry, or who were employed in the large towns. The depression, however, has greatly reduced these sources of income and rendered them inadequate. The sums received from Yugoslav emigrants, for instance, amounted until 1929 to about 1,200,000,000 dinars a year, while they are now only 120,000,000. The forestry industry in Yugoslavia, which is also suffering from the depression, is in a state of stagnation ; this affects, in particular, the districts which are not self-supporting, since the large forests are situated in these districts—namely, in the banovines of Drave, Save, Verbas and Drina. The resulting poverty is of two kinds : a reduction in the possibility of employment and a decrease in wages. From 1930 to 1935, the average wages of forest workmen were :

Year	Dinars per month
1930	688.00
1931	651.60
1932	558.88
1933	527.11
1934	500.22
1935	491.75

It will be seen that, in 1935, a forest workman earned scarcely more than 16 dinars per day. The table of earnings of a sawmill worker during the same period shows that the wages were barely sufficient to maintain life :

Year	Dinars per month
1930	990.00
1931	918.00
1932	801.88
1933	602.17
1934	481.83
1935	479.39

In 1930, therefore, the daily earnings of a sawmill worker were much higher than those of a forest worker, while in 1935 they were lower. The only explanation of this fact is that the earnings of a forest worker cannot be lowered under the present level, since his work is harder than that of a sawmill worker. The gradual reduction in the earnings of the forest worker as opposed to the sudden reduction in the earnings of the sawmill worker shows that this assumption is well founded. In order to estimate the above particulars at their true value, it should be remembered that the timber industry was already in a state of depression in 1930, and that the difference between the earnings before the depression and at the present time is greater than appears from the above table. Naturally, the workers in the districts which are not self-supporting who work as employees only during the season, principally in agriculture, have difficulty in effecting any savings and in sending a little money to their struggling families.

The problem of the districts that are not self-supporting is one of a large number of highly complicated problems with which Yugoslavia is faced. It is difficult to foresee the outcome. One thing is, however, certain : agriculture cannot serve as a basis for any radical change. Capital is not available to exploit the mineral wealth and the waterfalls. The only means of rescuing the inhabitants of these districts from famine would be to employ them in industry and its auxiliary branches.

A SURVEY OF THE MEASURES TAKEN IN CERTAIN COUNTRIES BY GOVERNMENTS, PUBLIC AUTHORITIES AND NATIONAL ORGANISATIONS TO BRING ABOUT AN IMPROVEMENT IN THE NUTRITION IN VARIOUS SECTIONS OF THE POPULATION.

CHAPTER I.

MEASURES TAKEN ON BEHALF OF MOTHERS AND INFANTS.

All civilised nations regard social hygiene as founded upon the welfare of mothers and children, and that, in turn, as based on rational feeding. The principle is universally recognised ; the means of putting it into effect (clinics, milk dispensaries, etc.) vary from country to country.

Union of South Africa.

(*a*) The larger local authorities in the Union of South Africa (Johannesburg, Cape Town, Pretoria, etc.) have for many years been conducting maternity and child welfare clinics for necessitous persons. At these, instruction is given by health visitors and medical officers in food values and feeding methods ; at most of them, food is issued in the form of fresh and dried milk, cod-liver oil and malt and, in some instances, meals are provided free to nursing mothers.

(*b*) In many of the smaller towns where local authorities are not strong enough financially to conduct welfare clinics, national women's organisations run maternity and child welfare centres on similar lines to those of the larger local authorities. Such organisations are the National Council of Women (which operates throughout the whole Union), Afrikaanse Christelike Vroue Vereniging (Cape Province), Suid-Afrikaanse Vroue Federasie (Transvaal), Oranje Vroue Vereniging (Orange Free State) and the Natalse Christelike Vroue Vereniging (Natal).

Argentine Republic.

In June 1935, the Municipal Institute of Nutrition set up a social service for supervising and protecting healthy individuals (see Chapter VII). This service has a canteen which supplies food to pregnant women and nursing mothers whose means are too slender to provide them with an adequate diet. This is not regarded as charity but as social assistance. Assistance may be either partial or extend to the whole family, food being supplied to one or more of the other members of the family, as may be necessary to provide them with a rational diet

in accordance with the advice given by the Institute. This service is attached to the Consultation Service for the Nutrition of Healthy Persons.

Australia.

Federal Capital Territory.

Mothercraft Centres.

Advice on dietetics is the principal function of a fully trained nurse at the mothercraft centres. The total attendances have reached about 4,000 per annum. Further, clinic emulsion of cod-liver oil is given to the necessitous, and, where these have an inadequate milk supply, a free issue of milk is arranged. Ante-natal dietetic advice is given to mothers, and the centres are generally a source for the dissemination of information on " protective foods ". Children over one year of age are utilising the service provided by the mothercraft centres to an increasing extent. For the year 1934-35, 1,000 such visits were made. A second nurse is being appointed to supervise the health of the pre-school child by visiting all homes, district by district, throughout the year. Dietetic inadequacies will be corrected and the Department of Health has available funds for the provision of extra milk for children when required.

Weight charts are kept of all infants attending the mothercraft centres. In the examination of schoolchildren, particulars of general nutrition, weights and heights are taken, together with a full examination, inclusive of noting the signs of any deficiency diseases. On the whole, the children are overweight as compared with the table prepared for children of New South Wales over a wide experience.

The State of New South Wales.

Food Distribution to Children of Unemployed.

In order to supplement the diet of individuals who are dependent upon unemployment relief work or gratuitous food or clothing relief, and who, for any special reason, require extra nourishment, certain provision is made to meet such requirements.

Expectant and nursing mothers, infants requiring special foods, children showing evidence of under-nourishment or convalescing from illness may, on presentation of satisfactory medical certificates, obtain extra foods, such as milk, eggs, green vegetables, cod-liver oil, etc. The cost to the Government of such additional foods approximates £80,000 annually at the present time.

The State of Victoria.

Baby Centres.

In Victoria, there are 150 baby health centres which are subsidised by the State Health Department and local authorities, at which expectant mothers and mothers with infants can obtain advice without charge.

The centres are under medical control and their advice is largely on the matter of diet and nutrition, the babies being weighed on each attendance and the weights being recorded on a card. Local authorities, by special grant, empower the nurse-in-charge to issue to mothers or children orders for dried milk powder or cow's milk in cases of under-nutrition.

No Government or municipal provision is made for medical supervision of children between 2 to 5 years. A voluntary organisation known as the Kindergarten Union has established crèches and kindergartens in all poorer-class districts in the metropolis. These institutions have a medical staff and undernourished children receive special attention. All children attending kindergartens have meals provided, which always include a ration of milk.

The State of Tasmania.

CHILD WELFARE ASSOCIATIONS.

In Tasmania, the Child Welfare Associations at Hobart and Launceston, supported by Government aid, take practical measures to provide milk to mothers and infants in necessitous circumstances, and arrangements are being made to supply under-nourished schoolchildren throughout the State with milk daily.

The State of Western Australia.

In the case of persons in Western Australia in receipt of State relief, special additional relief for the purpose of providing extra milk to pregnant women and nursing mothers is given.

Territory of Papua.

In Papua, assistance to mothers, infants and schoolchildren remains mostly in the hands of the various missions, which are subsidised by the Government for this and other purposes.

Mandated Territory of New Guinea.

In New Guinea, attempts are being made by the missions (assisted by the Administration) to encourage expectant mothers and mothers of new-born children to attend clinics for treatment and advice, but progress is slow owing to native suspicion of interference with any variation of their own methods of dealing with (*i*) midwifery, by other than their own village midwives ; (*ii*) supplementary diet of infants, other than that of the universal custom of use of foster-mothers, and carbohydrate foods masticated by the mothers or foster-mothers before being given to the infants.

Attempts are also being made, but with little success, to change the practice of mothers of newly born infants returning to work in the gardens a day or two after delivery and working all through the lactation period.

Austria.

In Vienna, expectant mothers, if they or their families are on the welfare register, receive coupons for cheap milk (half a litre at 10 groschen instead of the usual 23 groschen), from the seventh month of pregnancy onwards. There are at present 600 women in receipt of such coupons.

(Certain additional particulars will be found in Chapter III below, page 107.)

Belgium.

In Belgium, the Law of September 5th, 1919, instituting the " Oeuvre nationale de l'enfance " (National Child Welfare Organisation), made provision for the feeding of very young children (milk dispensaries), and also for the establishment of canteens for mothers, at which a rational and substantial meal was supplied to nursing and expectant mothers in indigent circumstances. These nutritional institutions were a continuation of the organisations set up during the war period, when nutrition in general was conspicuously defective. Their fortunes fluctuated as the attendance at these institutions gradually dwindled and in many places finally disappeared altogether. The canteens for mothers were wound up in 1927.

The only organisations which continued to operate were a certain number of milk dispensaries ; but these, too, lost much of their value. At present, they still continue in certain places, but in a slightly different form. Milk is no longer distributed there, its place being taken by " special diets " prepared in accordance with the prescriptions of the medical officers in charge of infant clinics.

In recent years, great efforts have been made, with satisfactory results, to enable the population, and the mothers on the registers of the infant clinics in particular, to procure properly treated and supervised milk.

The supervision is exercised by the State services and those of the larger communes, and applies first to producers and secondly to retailers. Laboratory analyses make it possible to supply pure milk to institutions and individuals, either through the milk retailers or through the numerous dairies, the installation of which is constantly improving.

As a special contribution towards the welfare of children suffering as a result of the economic crisis, the " Oeuvre nationale de l'enfance " has authorised the infant clinics to give such clients as have the best claims gifts of foodstuffs during the winter months, of which condensed milk is one of the chief.

United Kingdom.

(*a*) In England and Wales, the local maternity and child welfare authorities (which comprise the councils of all administrative counties and county boroughs and of certain non-county boroughs, urban districts and rural districts) have power, by virtue of the Maternity and Child Welfare Act, 1918, to make arrangements, with the sanction of the Minister of Health, for providing extra nourishment for expectant

and nursing mothers, and for children under the age of 5 years who are not being educated in schools recognised by the Board of Education. Such arrangements, which apply where extra nourishment is required on grounds of health, are encouraged as a desirable ancillary provision of the maternity and child welfare service. In April 1930, local authorities who had undertaken this service with the Minister's approval were given a free hand to extend this form of provision to such an extent and in such manner as they might think desirable.

Since 1929-30, there has been a large expansion of attendances at centres and ante-natal clinics. The attendances of children under 5 at centres increased, in England and Wales, from 7,173,782 in 1931 to 8,049,900 in 1934 ; the attendances of women at ante-natal clinics from 728,897 to 971,343, and the number of women attending them from 204,472 to 253,108. In October 1934, local authorities were reminded of the powers which they possess to assist expectant and nursing mothers by the supply of milk, and were recommended to make full use of those powers. Milk may be supplied free or at less than cost price, according to the means of the applicant determined by a scale of income suitable to the circumstances of the locality ; and it may be supplied in the form of liquid or dried milk, the latter usually being supplied at infant welfare centres.

At the end of 1934, out of 422 maternity and child welfare authorities in England and Wales, 393 were supplying milk free or at less than cost price to expectant mothers, 397 to nursing mothers and 398 to children under 5. A large proportion also supply foods other than milk, and some make arrangements for the supply of meals to expectant mothers and young children. Health visitors are also available to give advice to mothers on the feeding of children, and instruction is also given at maternity and child welfare clinics individually and collectively.

Arrangements for the supply of milk and other foods are also made by charitable organisations, but the number of such organisations cannot be stated.

(*b*) Local authorities in Scotland have all framed schemes of arrangements for maternity and child welfare. These schemes are financed partially from local rates and partially by means of a Government grant paid as part of a general Exchequer grant. The schemes of arrangements have all received the sanction of the central Department of Health. These schemes include provision for :

(*i*) Health visitors who give instruction in suitable dietaries in the homes ;

(*ii*) Maternity and child welfare clinics, where, by talks, practical demonstrations and the distribution of leaflets, advice in proper nutrition is given ;

(*iii*) Food and milk to be given in necessitous cases under medical advice. Special attention is given to cases of malnutrition, rickets, etc. Cod-liver oil, malt and ultra-violet ray treatment may also be provided in suitable instances.

Bulgaria.

The health centres attached to almost all the urban or rural health services in Bulgaria give advice and consultations free of charge on the care of children and their food in particular. The charitable organisations attached to the stations, and also the municipal authorities, assist poor mothers and children by distributing milk and foodstuffs.

Estonia.

Under the Social Assistance Law now in force in Estonia, the local communal administration undertakes to supply poor mothers with food during the ninth month of pregnancy and the six months of lactation following childbirth. Food is distributed to poor mothers and infants through the maternity consultation centres, of which there are now twenty-five.

Finland.

In Finland, the consultation centre in connection with the Government Clinic for Women gives instruction in matters relating to the dietary of mothers. The Exhibition of Workers' Welfare and Assistance, which is permanently open at Helsinki and has a travelling section in the industrial areas, has a special branch for nutrition questions, where the proper feeding of infants is explained orally and graphically. The Government allots grants to private societies working in the field of child welfare, and also for the improvement of the dietary of mothers and infants.

In each of about 300 communes there is a nurse, who, when visiting families and consultation centres dealing with the care of infants, gives instruction to mothers in the care of children and also in dietary questions. In connection with these consultation centres, several communes have organised maternity departments for the benefit of expectant mothers, and these also give advice as to the proper feeding of mothers. Some communes and industrial establishments have vocational schools where girls are taught, in addition to the ordinary curriculum, the theory and practice of cookery and the care of small children. Future mothers and nursemaids are thus able to obtain an elementary knowledge of the subject.

Some private societies and some industrial establishments maintain, like the communes, infants' consultation centres, to which a nurse and doctor are attached. The chief of these are two societies covering the whole country—the General Mannerheim League for Child Welfare and the People's Health Foundation—which maintain a large number of consultation centres and nurses' homes at their local sections throughout the country.

The societies have also arranged courses for mothers in the care of children and diet. Pamphlets dealing with these questions have been

distributed in the people's homes by midwives and nurses. A committee appointed by the General Mannerheim League to frame a special diet for pregnant women is now engaged in composing a pamphlet on the question.

The milk-distribution societies maintain centres at which, as in the centres already mentioned, advice is given to mothers; milk mixtures ready for use are also distributed to poor mothers. There are also children's homes for mothers and children leaving maternity hospitals, where the mother and her child may remain as long as a fortnight, the mother being allowed to go out to work. The homes teach the mothers the proper way to prepare food.

France.

In a number of towns in France, milk dispensaries have been organised under medical supervision. Trained nurses prepare perfectly sterilised milk diluted according to the ages of the infants. The milk is subjected to regular bacteriological examination, and is sold to the parents at the lowest possible prices, often at prices below cost price, or even given gratuitously. Advice in the feeding of infants is given free. These milk dispensaries are dependent on donations, subsidies and the service of voluntary workers.

Milk dispensaries of this kind are very numerous in the coal-mining districts of Northern France, where thousands of children benefit by them. Dairies are attached to them in which the milk is handled under the most hygienic conditions for feeding to new-born infants and older children. Various companies (*e.g.*, the mines in Lens and Béthune) run farms with a view to securing pure milk.

The expansion of social institutions like the milk dispensaries has been checked by the operation of social insurance, which provides allowances for mothers and children. Many employers have been compelled, in practice, to cease to contribute to work of this kind, since the Health Insurance Funds, to which they contribute, give their members an allowance for milk.

Indigent children are received in day nurseries, where they are given food, under medical supervision, suitable to their state of health.

Iraq.

In Iraq, infant and child welfare clinics are established in the larger centres of population and are gradually being extended. Instruction in the feeding of infants and children is an important feature of these clinics. It is recognised that such work should be extended throughout the country and should penetrate, not only into the smallest villages, but also into the tribes. Trained women personnel for such work is a matter of slow growth in this country, but the necessity for this work is recognised.

Italy.

In Italy, the National Maternity and Child Welfare Organisation has devoted attention to the problem of the nutrition of mothers and children, both as a collective problem and in its individual application.

As regards individual assistance, that organisation entrusts to the medical officers in charge of its pediatric and obstetric centres, established in thousands of communes, the task of giving, where necessary, useful advice in the matter of nutrition, even prescribing in certain cases special foodstuffs, which are distributed free by the welfare committees in each commune, to supplement the ordinary dietary of assisted persons. This includes the distribution of food tickets, cows' milk obtained according to specific regulations, powdered milk of national manufacture, breadcrumbs, alimentary pastes, semolina of rice or wheat (instead of flour), beet sugar, fruit juice (orange, lemon, grape, peach, pear, etc.), tomatoes, olive oil, malt, for the preparation, with sugar, of cows' milk.

Milk, fresh or in powdered form, put up in bottles by the milk dispensaries, is of special importance. It supplements breast-feeding when necessary or, when absolutely necessary, replaces it.

For collective purposes, the organisation has decided to adopt four types of dietaries for children and adolescents from 3 to 15 years receiving assistance in special institutions. This decision is the result of exhaustive studies by highly competent physiologists.

The organisation has arranged for different types of meals which are provided in its kitchens for mothers and for pregnant or nursing women. These meals represent about 1,500 to 2,000 calories and correspond to the requirements of persons who can already obtain a certain dietary, simple though it be, in their own families.

Similarly, much care has been devoted to the nutrition of children after weaning, in the day nurseries, with the object of supplementing the dietary which they obtain in their family. For infants, the calorie requirements in the form of foodstuffs must be calculated in proportion to the weight of the body in each particular case.

The National Maternity and Child Welfare Organisation also concerns itself with the distribution of meals (soup and bread) for children of pre-school age attending infant schools ; it contributes directly towards the expenditure, which is on a vast scale.

Netherlands.

There are almost everywhere in the Netherlands dispensaries for pregnant women, infants at the breast and other young infants. Private societies distribute milk and eggs to indigent women in childbirth.

Poland.

There are 225 health centres in Poland under the Ministry of Public Assistance which include sections for maternity and infant welfare ; other welfare centres have been set up independently.

Milk dispensaries, of which there are 396, represent one of the most important forms of welfare activity. They prepare, on the instructions of the doctor, food mixtures (milk mixed with water and sugar) or medicinal mixtures (Moro, Klein-Schmidt, albumenised milk, etc.), and issue milk at the rate of half a litre per day per head. Some sections also supply such foods as fat, coffee, sugar, etc.

The centres are attended by 121,500 children and 16,500 mothers, and, during 1934, 3,403,000 litres of milk were distributed to mothers and infants.

There are also in Warsaw many small local organisations, such as the Association for Infant Welfare, which feeds about 330 children in four sections, and also organises crèches in factories.

Very good work has also been done by institutions in the nature of mutual provident organisations. The " Railwayman's Family " is one of the most active. During the year 1934-35, this organisation fed 900 children in the eight principal railway centres, by giving 166,336 free meals, apart from money grants to very poor widows.

Under an Order of the Ministry of Social Assistance, all undertakings employing one hundred women or more are obliged to maintain crèches. During the day (from 9 a.m. to 4 p.m.), the children are fed either in the crèche or by their mothers, who visit them for the purpose. In 1935, there were thirty-seven crèches in State factories and forty-four crèches in private factories. The number of women employed was 28,968 and the number of children in the crèches 610.

Roumania.

The nutrition of mothers and young children is watched over by child doctors at consultation centres established by dispensaries and hospitals, which are visited by healthy as well as by sick children. Home visits are paid by nurses, who give advice on feeding. Similar consultations are held at schools of child welfare in maternity homes and obstetrical wards. There are special child dispensaries in the towns of Bucharest, Cluj, Iassi and Timishoara.

The number of children whose nutritional condition is thus supervised is very small by comparison with the numbers throughout the country which escape control. The district doctor, in whose charge these children come, has to look after a population varying from 10,000 to 37,000 persons, and the result is that health control is inadequate or non-existent for the great majority of Roumanian children, especially in the country.

The care of abandoned children is a matter for the State which has seven centres for child protection and is about to establish four new ones. Each centre has an institute and a home colony in which the children can be placed. More than 3,000 children are maintained in these centres and colonies.

The Child Welfare Institute at Bucharest established by Royal Decree is charged with the responsibility for co-ordinating the activities of the State and private organisations, which operate on lines parallel to the State undertakings. Among these the Principele Mircea Society and the Association for Housewives carry on important work for child protection, as well as a whole series of other bodies.

For working mothers, crèches are established in certain places near factories.

Switzerland.

The number of philanthropic associations for mothers and infants at the breast is very large.

In almost all cities there are (in addition to dispensaries and maternity hospitals) nurseries which receive and rear infants, infant homes and crèches, to which working mothers can entrust their children during the day, together with milk distribution centres, which prepare food for infants with careful attention to quantities, and which give free advice, etc.

All these organisations are under medical supervision. They are financed by donations and grants and frequently by modest contributions from the parents of the children concerned, while they command the services of volunteer workers.

United States of America.

In the United States, assistance to mothers and infants has been developed for a number of years through the activity of the Federal Children's Bureau working in the States through the child hygiene divisions and in local areas through infant welfare agencies. This work will be further expanded under the Social Security Act.

Certain relief agencies, both public and private, have at times distributed a part of their relief in kind. This has been especially true of milk and milk products, and local welfare agencies have frequently had funds for distribution of milk to children and nursing mothers. Studies show the improvement in the nutritive value of diets as well as an increase in the total amount of food consumed with such food distribution (see also Chapter VII, page 257).

Yugoslavia.

HOMES FOR INFANTS AND YOUNG CHILDREN.

Six of these homes were opened before the war by the Government and by private persons ; three were opened during the war and twenty-one after the war.

The modern homes for infants and mothers are the following :

Home for Infants and Mothers of Her Majesty Queen Marie, at Ljubljana, with 30 cots for infants ; it is subsidised by the Government and by private associations.

Home of the Mothers' Union at Belgrade, with 90 cots for infants and young children ; it is maintained at the expense of the Government and of private associations.

Municipal Home for Mothers and Children at Zagreb, connected with the Municipal Dispensary for Children and Children's Colonies ; it has 37 cots for infants ;

Government Home for Mothers and Infants at Novi Sad, with 16 cots for infants.

Section of the Working Women's Refuge at Belgrade for mothers and infants, with 12 cots for the latter.

In addition, there is a consulting clinic at Belgrade belonging to the Russian Red Cross, for children up to the age of 14 years.

The National Women's Association at Split has a milk kitchen and a consulting clinic for mothers.

The " Crust of Bread " at Novi Sad has a dispensary, a kitchen and a day-nursery for children.

The Home for Railway Employees at Zagreb contains twenty-five cots for children up to the age of 2 years ; it is maintained by private persons.

The Home for Foundlings at Split, with 12 cots, belongs to the Government Hospital.

The Home of the Mother's Union at Sarajevo is subsidised by the municipality. It also receives unmarried mothers in an advanced state of pregnancy.

Homes for Young Children.

The Orphanage of Jelacić, with 120 cots, has a section for children from 5 to 7 years. It is maintained at the cost of the Banat.

Similarly, the Banat Home for Children at Ljubljana has two sections, one for children from 1 to 3 years and the other for children from 3 to 7 years, with 20 cots.

The Children's Home, " Srpska Majka " at Belgrade receives children from 3 to 7 years. It contains 40 cots and is maintained at the cost of the " Srpska Majka " (Serbian mother) Association and the town council. This association has, in addition, three consulting clinics in the villages.

There are seventeen other children's homes which admit young children and children of school age.

The former Foundlings Home, with 45 cots, principally admits illegitimate children.

There are also 102 orphanages for children of school age, 84 of which are private and 18 governmental, housing 4,800 children from 6 to 16 years.

The *milk kitchens* are mostly connected with consulting clinics for mothers and with polyclinics. There are eleven in Yugoslavia.

The Milk Distributing Centre was founded by French soldiers from the Salonika front. It is subsidised by the French and Yugoslav Governments.

There are also many day nurseries for infants and young children, especially at Belgrade, Zagreb and other large towns. Similar institutions are beginning to be established in the villages.

CHAPTER II.

MEASURES TAKEN ON BEHALF OF CHILDREN OF SCHOOL AGE AND YOUNG PEOPLE.

In a number of countries, children attending school can obtain food from school canteens, school kitchens or school soup kitchens. These are usually provided or subsidised by the municipal authorities for the benefit of children of parents in indigent circumstances, or parents who are prevented by their work from giving proper midday meals to their children.

Milk distribution, which was originally the simplest form of school meals, is tending to become the most usual form for the supply of additional food, since milk has been recognised to possess exceptional qualities as a protective food. Milk distribution has shown the effects of a rational diet on the physical and mental development of the child.

Union of South Africa.

A governmental scheme for supplying poor children with free milk was inaugurated in November 1935. About 12,000 children in the peninsula (boys and girls, European and coloured) each received half a pint of milk a day

The scheme will gradually be extended to all the schools in the peninsula. By the time the whole scheme is in operation throughout South Africa next year, it is estimated that 425,000 children will participate in the distribution of the milk. This means that the consumption of milk by these children will total more than 5,000,000 gallons a year.[1]

Argentine Republic.

Action by Central Authority.

The National Council for Education has, for a long time past, organised free canteens, at which lunches are served to poor children. Institutions for supplying them with milk, bread and hot drinks have been in existence for more than thirty-five years.

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[1] See below, Chapter V, page 147.

Dr. Ramon J. Carcano, who was at that time Director of the National Council for Education, undertook the systematic organisation of these activities and gave a great impetus to the movement ; the Municipal Institute of Nutrition drew up a nutrition manual for schools, and enlisted the co-operation of the military garrisons in the Argentine. This was in 1932 ; on August 4th of that year, Law No. 11597 was promulgated, which provided funds by means of a tax on the prizes won at horse-races at the national race-course, the yield from which is over one million pesos. In 1932, these funds were sufficient to feed 6,800 schoolchildren ; last year, more than 10,000 children were fed in twenty school canteens and two canteens for mothers. According to the data for last year, meals were given to 3,936 children in the barracks in various parts of the Republic.

In the schools run by the State, there are co-operative societies supported by the local inhabitants, which organise the distribution of milk, etc. ; according to the 1932 figures, the services of these co-operative societies were utilised by 93,899 children in the Federal capital alone.

The Central Authority provides holiday colonies for weakly children, of whom over 30,000 are sent to the sea or the mountains each year, where they are given board and lodging during the summer months. Similar holiday colonies are run by the Central Authority for the children of army officers.

Action by Local Authorities.

The municipality of the city of Buenos Aires also runs nine holiday colonies for weakly children, which are open during the three summer months. They have accommodation for 12,000 children, which enables more than 30,000 to benefit each year. The children remain in the colonies during the day and receive three meals—breakfast, lunch and dinner—free of charge.

The municipality also runs three children's canteens, open all the year round, each of which can accommodate 150 children, and day nurseries with accommodation for 200, where mothers can leave their children for the whole day.

Decree No. 7279, promulgated on December 31st, 1935, provided for the establishment of a canteen with accommodation for 500 children in each of the nine municipal holiday colonies. These canteens are reserved for primary schoolchildren of both sexes ; in accordance with the decree, the first three canteens must be opened within ninety days in the poorest parts of the town.

The Public Assistance Department of Buenos Aires possesses a seaside colony at Necochea, which admitted about 3,500 children this season.

The Government of the province of Buenos Aires has established at La Plata a holiday colony with accommodation for 250 children, and another at Tandil, with accommodation for 150 children. The local municipality and the co-operative associations have jointly organised

the following holiday colonies : at Avellenada, with accommodation for 800 children ; at Quilmes, for 200 ; at Sierra de la Ventana, for 120 (this is a residential colony) ; at Lomas de Zamora, for 200, and at San Isidro, for 105 children.

The school boards of certain provinces run public canteens at which lunches are served free of charge to poor schoolchildren. The largest one is that organised by the school board of the province of Buenos Aires.

Australia.

The State of New South Wales.

Child Endowment.

Within the Commonwealth industrial jurisdiction and that of all States except New South Wales, the living wage is based on the requirements of man, wife and two or three children. But the industrial law of New South Wales prescribes man, wife and one child as the family unit on whose requirements the living wage shall be determined. And the State, in recognition of the limitation thus implied, pays child allowances without distinction of occupational grade. When such payments are made, the income limits are strict. The total income, including the child allowances paid by the State, may not exceed the living wage plus 5*s*. for each dependent child in excess of one.

Ascertainment of Malnutrition.

For many years, the state of nutrition of schoolchildren has been closely investigated by the medical staff of the Education Departement. In the course of a routine medical examination of 80,000 children in the metropolitan district of Sydney by the school medical officers, the incidence of notifiable malnutrition was 1%. In a recent intensive survey of 2,658 children, the incidence in two schools was found to be 2.3% and 1.2% respectively. Such instances of malnutrition are, of course, not necessarily due to lack of food, but may be due to the interaction of a number of factors, such as ignorance of parents, unsatisfactory selection of foodstuffs, neglect of hygienic requirements, constitutional or other defects, causing inability to assimilate food, or even the presence of some disease.

The State of Victoria.

Care of Schoolchildren.

All children attending Government and State schools are medically examined at regular intervals by Government school medical officers. Cases of anæmia and malnutrition are noted and reported to the teacher for special attention. The Government has for several years given a subsidy to provide for an issue of milk to schoolchildren during the winter

months. " Mothers' Clubs ", which are associations of the children's mothers, have collected funds and devoted them largely to supplementing this milk ration for children who showed signs of malnutrition.

The State of Western Australia.

The means by which the State authorities in Western Australia have been able to gain a general view of the presence or otherwise of malnutrition amongst children has been the medical examination of schoolchildren by departmental officers, and this has not brought to light undue prevalence of malnutrition amongst children. It is possible, however, that parents have frequently deprived themselves of proper food in order that the children shall not suffer. Any cases of malnutrition are notified to the parent by the medical officer, when discovered.

The principle of supplying free milk to children in schools has not yet been adopted, but approximately 4,000 eight-ounce bottles of milk are delivered at metropolitan schools daily at a cost of 5*d*. per week to each child.

Federal Capital Territory.

The regular medical inspection of schoolchildren is carried out by the medical officer of health, and all defects, including cases of children who are more than 10% under weight, are reported to their medical advisers or the hospital for treatment. In 1935, the figures for the two largest schools as compared with the New South Wales Education Department's height-weight table indicate that the " entrants " boys were slightly over ½ lb. over weight ; the " entrants " girls 1 lb. under weight ; the "leavers " boys 4 lb. over weight ; and the " leavers " girls 1 lb. over weight. Although no free issues of food are made, advice by pamphlet is available on nutrition, the " protective " foods being stressed.

The State of South Australia.

During recent years, when unemployment was heavier than usual, some philanthropic institutions provided a hot meal for needy schoolchildren, and, in connection with some of the State schools, parents who are able pay a small sum each week, which is supplemented by the " Mothers' Clubs ", to enable a supply of milk to be given to infant children each day.

Austria.

THE FEEDING OF CHILDREN.

Practical measures are taken by provincial and local authorities in Austria, and also by private organisations, in the endeavour to ensure the feeding of children.

In the Federal capital, Vienna, these activities take many forms :

Meals for Schoolchildren.

Every weekday, and even during the holidays, children of school age are given a hot ready-prepared midday meal of meat and vegetables and a sweet, or meat with bread and a sweet in sixty-two canteens situated on school premises. A few children who have left school also share these meals. Most of the children receive the food free of charge. The average number of participants is 8,200. Similarly, about 900 children are given a midday meal of the same type in three large municipal homes.

In addition, schoolchildren who attend homes conducted by associations are allowed by the Vienna municipality grants of money, graduated according to their parents' earnings, which are paid to the organisations conducting the home and from which these organisations supply the children with a hot midday or afternoon meal. On October 1st, 1935, about 5,300 children were receiving such relief.

Meals at Kindergarten Schools.

In ninety-two municipal kindergartens, about 4,000 children from 3 to 6 years of age receive every working-day a breakfast of cocoa and rolls and a two-course lunch of a size suited to their age. Most of the children are given the food free, or on payment of only a few groschen.

Milk Rations for Children of the Unemployed.

Children of the unemployed who are on the registers (Zuständig) of Vienna receive during their first year of life half a litre of milk free daily, if the wage-earner has been at least twenty weeks out of work. About 1,800 children are at present benefiting by such relief.

Food Packets.

As part of the current monthly poor relief given by the Vienna municipality to children at home, "food packets" are distributed containing : ½ kg. of flour, 1 kg. loaf sugar, ½ kg. lard, ½ kg. wheat-meal or 1 kg. first quality beans. A family receives up to seven food packets monthly, according to the number of children. On an average, 25,800 packets are issued per month. Large families receive, once a year, in addition to the above regular relief, a larger allowance, part of which is usually given in the form of food.

(Some particulars of assistance given in other parts of Austria will be found in the next chapter, pages 107 and 108).

MEANS OF ASCERTAINING THE STATE OF NUTRITION.

In the Federal capital, Vienna, statistics are available regarding the level of nutrition as ascertained on inspecting children in compulsory schools and municipal kindergartens. The condition is classified as " good ", " average " and " bad ". The following were the results of investigations recently made :

Year	Good %	Average %	Bad %
1925-26	23.6	50.5	25.9
1928-29	26.4	49	24.6
1930-31	30.8	45.6	23.6
1932-33	32.8	45	22.2
1934-35	31	46	23

Children up to 6 years of age belonging to the poorer population and the wards of the Youth Office have their state of health and nutrition regularly tested by doctors at the maternal welfare centres. Similarly, expectant mothers belonging to the poorer sections of the population are kept under supervision at the consultation centres for expectant mothers.

Older children (from 6 to 14 years of age) at child welfare institutions are given breakfast, midday meal and supper, and in the middle of the morning and afternoon they receive bread, the average daily ration of which is 250 grammes of black bread and 70 grammes of white. A special point is made of food that is rich in vitamins (extra fresh fruit). The daily supply of food, including bread, has, on an average, 2,000 to 2,300 calories of nutritional value. The diet of younger children is similar to that of the older children, 1,600 calories being the average nutritional value per head per day. In the case of this category, a special point is made of food that is as rich as possible in vitamins (green vegetables, fruit, etc.).

The provincial administration in Carinthia makes a special point of ascertaining the level of nutrition of children below school age and those of school age ; most of the former are dealt with at the maternal welfare centres and kindergartens, while all children of school age are inspected in the schools. In view of the conditions obtaining in the open country, it is extremely difficult to cover the rest of the population, and particularly to grade them by groups according to occupation and income.

Medical inspection of children is also carried out at public health centres and by school doctors in other provinces.

Belgium.

In Belgium, school meals were instituted on a general scale during the war in the communes of the occupied territory. All schoolchildren received a *couque* (sweet roll), which was greatly appreciated in the

prevailing bread shortage. Some communes went further and gave the children, in addition, a complete midday meal. The Law of September 5th, 1919, instituting the National Child Welfare Organisation (Œuvre nationale de l'enfance), retained the principle of school meals, and also made provision for canteens for delicate children.

As the economic situation changed and bread again became plentiful, the national *couque* lost its value and was gradually abolished in the majority of communes. In 1923, school meals were given only in certain places, and the Government accordingly struck out of the budget the grants made for the purpose, retaining only the grants for special food for delicate children. The grants for this latter purpose were abolished on financial grounds at the end of the school year 1930-31. There still, however, remain some thirty canteens for delicate children in large cities (Brussels, Charleroi, etc.). Their cost is met by the communes, with the aid, in many cases, of charitable organisations.

From replies received by the Belgian Government from twenty large communes, it appears that ten communes supply a complete meal; three, a milk ration; two, milk and soup; one, soup and bread; one, milk and a complete meal. As a rule, the meals are provided both for delicate and for necessitous children, in public and private schools alike. In certain communes, the delicate children receive more abundant meals than the necessitous children.

The distribution is frequently free in the case of necessitous children. In other cases, there is a special scale under which it is possible to determine the degree of indigence of the children. The children of unemployed workers come under the scheme of free distribution.

The position in regard to school meals in the commune of Ixelles, the school canteens of which are regarded as a model, may be taken as an example. The following are admitted to the school meals and to the canteens for delicate children : children from 3 to 14 years of age attending free schools, children of over 14 years of age who continue to attend a free primary school, young people under 18 years of age attending a free vocational school, and children from 3 to 14 years of age who are excused school attendance by a medical inspector.

Down to the end of December 1927, the local committee organising the food distribution never asked for any contribution on the part of the children attending the canteens; but since that date, a small charge has been made.

United Kingdom.

Medical Inspection.

The Education Act lays upon local education authorities the duty of medically inspecting all public elementary schoolchildren at least three times during their elementary education—on admission to school, on their attaining the age of 8 years, and on their attaining the age of

12 years. School medical officers supply the Board of Education with a return of all defects, including malnutrition, found at these inspections. The Board also recommends that school medical officers should supplement these inspections by periodical nutritional surveys of all children not receiving meals, and that those receiving meals should be kept under medical supervision.

In Scotland, there is a routine medical inspection of schoolchildren in three selected age groups—5 to 6, 9 to 10, and 13 years—while children attending beyond the age of 14 years receive examination. This medical examination includes the assessment of the state of nutrition of the individual. Heights and weights are recorded and an assessment of the nutritional standard is made.

School Meals (England and Wales).

Since 1906, local educational authorities have had the power to provide meals for children attending public elementary schools who are unable by reason of lack of food to take full advantage of the education provided for them. These powers are defined in Sections 82-85 of the Education Act, 1921. Meals are supplied free to children whose parents are necessitous ; but, if the parents can afford it, they are expected to pay the whole or part of the cost.

The method of selecting the children has varied in different areas from selection solely by the application of an income test to selection by the authority's medical officers. The Board has emphasised the view that selection by reference to an income test alone is not justifiable, and that regard should be had to the special circumstances of the child. The need of a child for feeding should not be considered only upon an application from the parent ; the authority should themselves take steps to ascertain what children are in need of feeding, by inviting reports from the members of the School Medical Service or the Public Health Service, from teachers, school nurses, school attendance officers and others in regular contact with the children from day to day. Provision may properly be made for any child who shows any symptoms, whether educational or physical, however slight. Whatever methods of selection may be adopted, all children selected should be seen by the school medical officer, who will recommend the nature and extent of the supplementary feeding required and any other appropriate treatment, and will keep under review the condition and progress of all children receiving meals. The Board further recommends that authorities should consider the advisability of holding periodical nutritional surveys at which all children not receiving meals would be passed under review.

The meals supplied by local education authorities vary from one area to another. The most usual provision is of a midday dinner, but some of the authorities provide breakfasts, dinners and teas. Elsewhere, supplementary nourishment is given in the form of milk or cod-liver oil and malt extract. The total number of children getting meals, of whatever kind, is about 400,000.

Milk in Schools.

Much evidence has been accumulated in recent years of the value of a supplementary ration of milk in addition to the ordinary diet, both for normal and malnourished children. For a number of years, most valuable work was done by the National Milk Publicity Council in encouraging the drinking of milk by schoolchildren. Under the auspices of this Council, arrangements were made directly between the teachers and the dairymen, the local education authority taking a benevolent interest but accepting no financial responsibility. This movement received a great impetus on the introduction, in October 1934, of the Milk in Schools Scheme, under the auspices of the Milk Marketing Board. It was decided as part of the Government's policy for the utilisation of surplus milk to place the sum of £500,000 at the disposal of the Milk Marketing Board in each of the years 1934 and 1935 to be employed mainly in a scheme for supplying schoolchildren with milk at a halfpenny instead of a penny for one-third of a pint. The scheme came into force on October 1st, 1934, and at once almost trebled the number of children receiving milk on payment in the schools by the extension of arrangements on a voluntary basis similar to those previously promoted by the National Milk Publicity Council. There was also at the same time a great expansion in the free provision of milk meals made by local education authorities under the Education Act, 1921. At the end of March 1935, some two and a half million scholars in elementary schools were paying for a daily ration of milk. To this should be added over 130,000 children or young persons paying for their ration in schools other than elementary, and some quarter of a million children receiving milk free—a total not far short of 3,000,000. It may be added that the scheme was also extended to junior instruction centres recognised by the Ministry of Labour, and a number of authorities have availed themselves of its benefits for the boys and girls attending these institutions.

Close attention is given to the character of the milk supplied, especially with regard to pasteurisation and the nutritive value of differing quantities. Investigations are now being carried out by a special body composed of representatives of the public departments and authorities concerned, including the Medical Research Council and the Rowett Research Institute, to study the effects of the feeding of different amounts of raw or pasteurised milk to children receiving : (*a*) no milk ; (*b*) one pint of pasteurised milk ; (*c*) two-thirds of a pint of pasteurised milk ; (*d*) two-thirds of a pint of raw milk. This investigation is being conducted by four full-time medical officers in elementary schools in about five selected areas.

School Meals in Scotland.

Under the Milk Act, 1934, Milk Marketing Boards in Scotland have framed schemes of arrangements which have been approved by the Secretary of State for Scotland for the supply of milk to schoolchildren

throughout the school year. Approximately 400,000 children out of a total number of 800,000 receive one-third of a pint of Grade A (Tuberculin Tested) milk each school day (200 days in a year) at a cost of a halfpenny where they are able to pay, and free in necessitous cases. At four juvenile instruction centres, milk is supplied under the same conditions to young persons attending the centres.

The Education (Scotland) Act, 1908, empowers education authorities to provide accommodation, apparatus, equipment and service for the preparation and supply of meals to pupils attending schools within their district. Section 6 of the Act places upon education authorities the duty of providing meals in cases where a child is unable to take full advantage of the education provided owing to lack of food, if the parent is unable by reason of poverty or ill-health to make sufficient provision and the authority is satisfied that such provision will not be made by voluntary agencies.

The provision which authorities are empowered to make is not limited to necessitous children, but may cover any or all of the children attending any school. Where the school attended is at a considerable distance from the pupils' homes, education authorities often find it advantageous to make arrangements for the provision and supply of meals and to charge pupils whose parents are not necessitous a sum sufficient to meet the cost of the food supplied to them, no account being taken of the cost of preparation and service.

The following statement gives the number of children provided for and the number of meals supplied for the year ended July 31st, 1935 :

	Number of children	Number of meals
(*a*) Meals primarily for children suffering from lack of food	25,100	5,895,500
(*b*) Meals primarily for other children as a matter of convenience	29,200	3,209,600

For the most part, the provision made consists of one meal at midday. In some areas, the meals under (*b*) above are supplied during the winter months only.

The nature of the midday meal varies from a simple meal of soup and bread to a well-balanced meal of two complete courses with a different menu for each day of the week.

In addition to the provision of meals indicated above, the education authorities are responsible for the provision of supplements to diet, such as cod-liver oil, extract of malt, etc., for debilitated children, as part of the medical services, and also for arrangements for a daily supply of milk to children in the schools.

There are about eighty residential schools for boys and girls in England and Wales which are under the control of the Home Office and are approved for the reception of children and young persons sent to them by courts under approved school orders. The schools are of three grades :

junior, 10-15 years; intermediate, 13-17 years; and senior, 15-19 years.

The average in these schools includes half a pint of whole milk per boy or girl per day. Some senior and intermediate country schools maintain a good standard of health with one-eighth of a pint or little over; but comparatively few stand as low as this, three-quarters to four-fifths of a pint is the usual allowance, whilst some of the junior schools use a full pint per head.

Bulgaria.

In Bulgaria, free dining-rooms for schoolchildren have been opened. The poorer children and, when possible, all the children attending the elementary schools take their meals there.

Czechoslovakia.

(For distribution of milk to the children of unemployed persons, see next chapter, page 110).

Denmark.

In Denmark, the communal authorities are entitled under social legislation to arrange for school meals during the winter months, and this is done to an increasing extent.

Estonia.

The dietary of children in Estonia is in the hands of local relief committees. Nutrition centres have been set up in which children can obtain one hot meal a day eaten on the spot. Food in the dry state is sent to children who cannot come to the centre themselves, owing to their being too young, on account of sickness, or for any other reason. As unemployment declined, exceptional relief measures were reduced.

The following numbers of children were fed in this way: 1931-32, 26,010; 1932-33, 28,694; 1933-34, 9,589; 1934-35, 6,074. The relief scheme for the period 1935-36 provides for the feeding of 4,580 children.

Schoolchildren can obtain a meal at school during the recreation interval. The children pay full price, or 50%, or the meal may be given free at the expense of the school, according to the parents' situation.

Among the private organisations participating in the provision of food to children may be mentioned, in particular, the child welfare societies, which provide daily, throughout the year, hot meals for some of the poorer children. The organisations for collective assistance are chiefly active in the matter of relief for adults; they distribute food to adults through their nutrition centres, or provide parcels of dry foods.

France.

In France, the distribution of milk is a matter for the municipalities, not the State. In the north of France, there has been milk distribution for two years past in many schools, 25 centilitres being given at the morning break and the same in the afternoon. In certain schools, this distribution has been in existence for two years past, the parents contributing in varying degrees. The cup of milk tends to take the place of sweets, which some of the children used to bring in their pockets for their " tea " (*i.e.*, in break).

Italy.

School assistance in the form of food naturally varies according to local requirements, the class of school, the season and the circumstances of the children.

It is provided by provincial committees of the National Balilla Association, through the School Welfare Committees.

To take an example, the Rome School Welfare Committee has arranged two types of school meal, one for open-air schools attended by children who need special care owing to tuberculous antecedents in the family (this scheme provides complete meals), and the other for elementary schools (only soup with rice or macaroni, etc., and bread). This latter meal is served free of charge to children in the first grade, while those in the second and third grades pay contributions of 0.30 and 0.50 lira respectively.

In the present case of schools under the Rome School Welfare Committee, the schemes have been drawn up with the approval of the Rome Health Bureau, and special agreements have been made. There are numerous agreements between the authorities of the National Balilla Association, the local School Welfare Committees, and the municipal authorities. The " Ente Opere Assistenziali " (Organisation of Assistance Associations) of the Fascist Party also concerns itself in this work, both directly and by contributing to this form of assistance in consideration of such special circumstances as unemployment or poverty due to other causes.

In some of the larger centres, the School Welfare Committee also arranges—chiefly in summer—camps in the mountains or by the seaside on the same lines as those organised by other Fascist bodies. These camps follow schemes of diet in which particular interest is taken because the public authorities attach the highest importance to the rational feeding of children.

Latvia.

Feeding of Pupils in Riga Schools.

The Riga municipality has arranged for hot meals to be distributed to pupils in all elementary schools. In 1935, the total number of elementary school children in Riga was 30,740, of whom 19,397 shared

these common meals. Of these 19,397 schoolchildren, 11,407 were fed free at the cost of the municipality. The total number of rations distributed in 1935 was 3,315,014, of which 1,902,192 were given free. The cost of a ration is about 15 centimes. The distribution of hot meals costs the Riga municipality about 300,000 lats a year. The School Board decides when meals are to be given free.

Netherlands.

Meals are given to schoolchildren in the autumn and winter where required. The number varies greatly. At The Hague at the present time, there are only some 160 children in receipt of free meals at the expense of the municipality. In other towns—for example, Amsterdam—the number of meals given to schoolchildren is very much larger.

Poland.

In Poland, the Ministry of Public Worship and Education is the central authority which co-ordinates assistance to schoolchildren through regional authorities (kuratorinnis) and heads of schools. Special parents' committees are set up for the purpose of organising additional meals in schools.

The necessity of giving more effective protection to the health of schoolchildren (particularly the problem of their dietary) is a pressing problem all over Poland.

Investigations made in schools have shown the necessity for feeding from 40% to 50% of the children.

The feeding of children is organised by school boards, parents' committees, local authorities, special committees and social organisations.

The distribution of additional food to schoolchildren is not organised on a uniform basis, as the extent of this form of assistance depends upon the funds appropriated and the initiative of school committees, parents and philanthropic societies. Feeding of schoolchildren is limited almost entirely to the towns and industrial centres, except in special circumstances as on the occasion of floods and bad harvests in certain areas. An important contribution to this form of activity is made by the social assistance authorities.

The necessary financial resources for this work are supplied by the Government authorities, more particularly by the district authorities, the Ministry of Social Welfare, the Labour Fund, local administrative grants, and by collections organised in secondary schools on behalf of elementary schools.

The feeding of elementary school children is designed mainly for the poorest children who suffer from anæmia (numbering 25%) and for children with a predisposition to tuberculosis (7%). Foods, sweet drinks, and especially milk, are distributed.

In urban schools, food is given systematically, chiefly during the winter. In country schools, the children are given soup (equivalent to 130 calories) and bread before harvest-time.

The following are a few figures :

(1) The Warsaw School Board spends 500,000 zloty in feeding from 25,000 to 30,000 children (25% of the total child population) annually.

(2) The Lodz Citizens' Committee feeds 25% of all children.

(3) The Crakow Voivodeship, 30,000 children.

(4) In Upper Silesia, 300,000 zloty are spent on 25,000 elementary and 4,000 secondary school children.

(5) In Poznan, 9,000 children are fed.

(6) In Polesia, there are 528 centres, where 9,400 children are fed ; similar work is done in other districts.

During the holiday months, the Summer Camp and Day Camp Organisations look after the feeding of poor children by supplying them with food daily, either free of charge or for a nominal payment.

The average nutrition standards required by the Ministry of Social Welfare in educational establishments are as follows :

Article of food	14-18 years (grammes)	7-14 years (grammes)	3-7 years (grammes)
Bread	500	400	300
Milk	200	400	400
Sugar	50	40	30
Meat	90	70	30
Eggs (number)	1/7	1/7	1/7
Bacon	25	20	15
Fat	20	10	5
Butter	15	4	4
Peas	60	40	22.5
Groats	150	125	80
Flour	15	10	7
Potatoes	500	400	200
Vegetables, fruit	150	120	70

Roumania.

In nearly all towns there are school centres maintained by the State, the commune or the department where midday and morning meals are provided. Thus, in Bucharest, there are eighteen canteens and child centres where more than 2,000 children are fed. Similarly, the Department of Ilfov maintains seven canteens. Owing to want of resources, the work of the canteens is restricted. In the city schools, only 10% of the children receive a hot meal, and in the country hardly any, though the need is great.

Periodical medical inspection of children is carried on by the district doctors. Investigations by Dr. Banu in 1930 on 2,149 children of school

age from both urban and rural districts showed that in 41% the state of nutrition was below the normal; the urban children showed the effects of under-nutrition more than the rural children.

Switzerland.

In Switzerland, the distribution of milk in schools at 10 a.m. has been organised on a large scale, supported by extensive propaganda.

In 156 places in Switzerland, schoolchildren receive pasteurised milk in bottles of 2 decilitres at 10 o'clock in the morning. The milk is sucked through a straw. The experiment, which is carried on under the auspices of the Swiss Milk Commission, is carefully followed by the doctors. It would seem to have given good results in practically every instance.

The milk supplied to the schools by the local milk organisations is sold to the children at 10 centimes the bottle; but many pay less, or are given the milk free.

The difference is refunded to the milk organisations by the local authorities. In the city of Basle, for instance, in 1934, 7,232 schoolchildren regularly received milk (representing 45% of all Basle schoolchildren).

Of this number, 3,890 paid in full, 3,202 paid in part, and only 140 received the milk free.

In addition to the distribution at 10 o'clock, there is, in some towns at any rate, a free distribution of milk and bread at 4 p.m. to children who remain in the schools to prepare their lessons (day boarders)—that is to say, generally, children whose parents work at a distance from their homes.

There are also school kitchens or school soupcanteens in the majority of urban areas of any size. These are generally organised by philanthropic groups in the refectories of the school buildings, which are handed over or fitted up for the purpose by the municipalities. The children receive a full midday meal free of charge or for a small payment (not exceeding 50 centimes a day).

Holiday settlements are organised on the same principle. They generally command the use of dwellings which are well fitted up in pleasant surroundings, mostly in the mountains.

Further, orphans throughout Switzerland receive the necessary care and attention to enable them to complete their apprenticeship to trades under suitable moral and physical conditions.

Turkey.

There has been a comparatively large extension of the efforts to provide poor schoolchildren in cities and small towns with a midday meal. Midday meals were served regularly to 5,223 children in different urban centres in 1935. A great part of these meals were provided by the Red Crescent Society, and others by the Child Welfare Society. In the

dispensaries established by the State or by the Society for the Campaign against Tuberculosis, foodstuffs are distributed free of charge. In 1935, the Child Protection Society arranged for the distribution of 64,751 litres of milk in different towns.

In 1934, some investigations were made in the elementary schools into the nutrition of children from 7 to 12 years of age. The method consisted in weighing the children. According to the results obtained, the level of nutrition was found to be very satisfactory. In some villages, the index number sometimes exceeded 100. No other method has hitherto been applied.

Rations in secondary boarding-schools and vocational schools are the following :

	Grammes
Bread	600
Meat	350
Fish	200
Rice	80
Butter	70
Sugar	110
Potatoes	225
Dried vegetables	120
Salt	20
Cheese	45
Milk	150
Green vegetables	250-300
Fruit	200

United States of America.

In the United States, the improvement of the dietary of schoolchildren has been developed through the schools. As a part of the relief activity in the States, school lunches have been supplied to children from families on relief or to definitely under-nourished children who could be certified as in need of the extra food supplied (see also Chapter VII, pages 254-256).

Uruguay.

The Uruguayan Child Welfare Association runs at its own expense eleven refectories, where children of school and pre-school age are given a rational and properly balanced dietary.

Yugoslavia.

In Yugoslavia, the school authorities are responsible for the running of school kitchens organised in the primary schools. School kitchens in which indigent pupils can get breakfast and lunch are organised in the principal cities with the help of private enterprise. In the villages and smaller towns, they are less frequent owing to the absence of material resources or philanthropic institutions of any importance.

Nutrition of Elementary Schoolchildren.

The Primary Schools Law of December 9th, 1929, makes the School Committees responsible for organising school kitchens and child welfare work, and the Law of September 12th, 1930, dealing with the health of schoolchildren, enacts that " in any school, whenever it is found that the children are badly fed, there shall . . . be opened a school kitchen for feeding the pupils." Under the regulations, the policlinics supervise the school kitchens, while the school medical officers select the pupils who need to be fed in the school kitchens and also control the kitchens from the medical point of view. These efforts are supplemented, on an even wider scale, by private initiative. Thus, 532 school kitchens have been opened (year 1932-33), feeding 30,540 children daily.

In addition to these school kitchens, Queen Marie has opened eleven canteens for feeding schoolchildren. These canteens have been set up in the biggest educational centres at Belgrade, Zagreb, Skoplje, Ljubljana Sarajevo, Split, Cetinje, Celje, Maribor, Plevlje, Krizevci; 2,000 children are fed daily in these canteens. In 1934, for instance, 477,852 meals were served.

The Red Cross, with the Junior Red Cross, has also set up school kitchens for feeding schoolchildren. The data for 1934-35 show that the Red Cross possessed 637 kitchens, at which 34,615 schoolchildren were fed daily.

In all, 67,155 children are supplied with meals through these agencies, the total number of elementary school pupils being 1,300,000.

Children's Hostels.

There are in Yugoslavia 102 children's hostels, 84 of which are maintained by private organisations and 18 by the State. These hostels together contain 4,800 children between the ages of 6 and 16. Of these hostels, 50 were founded by religious (mainly Catholic) bodies, which provide for their needs.

Secondary Schools and Colleges.

The Ministry of Public Instruction has opened a number of State hostels with the object of supplying food to indigent secondary-school pupils. Education and board are free in all these hostels. The banovines also organise hostels on lines similar to those of the State hostels. The budgets of the State and of the banovines further provide appropriations in each year for the maintenance and education of indigent secondary-school pupils. Private initiative is also active in this direction : and in this connection reference must be made in the first place to the support of the Royal House. The King Alexander Home for secondary-school

pupils, for example, educates and maintains a large number of indigent pupils free of charge. Hostels and school kitchens are also provided for indigent secondary-school pupils by parents' associations and school associations and a variety of cultural and humanitarian organisations such as the Red Cross, the " Education Society ", the women's leagues and religious associations.

There are many needy students in the Yugoslav universities. Most of the students come from poor districts, and their impecunious families can give them very little help ; a large number of students are entirely dependent on outside aid. This aid mostly takes the form of meals in canteens, either free of charge or at a very low cost. The canteens are supported mainly by public donations.

For indigent students' there is the King Alexander I Students' Home in Belgrade, which provides for the entire maintenance of some 500 students on payment of a small fee. The buildings of the home were erected by King Alexander I. The Ministry of Public Instruction provides an annual grant of 800,000 dinars for the cost of maintenance of the home, and the home is also in receipt of a monthly grant of 50,000 dinars for bursaries for poor students to pay for their maintenance.

At Belgrade, there are four students' canteens, at which 600 students are fed daily. At Zagreb, there are two canteens, at which 430 students are fed. At Ljubljana, the Students' Aid Society pays, in various kitchens, for the feeding of thirty-six students, while the banovine provides for twenty-five more. At Skoplje, the Students' Mess Society, aided by the professors and the inhabitants of the town, provides meals for needy students.

Protection and Nutrition of Apprentices and Young Workers.

Of the various private, official and semi-official associations concerned with the protection of young workers, the " Privrednik " societies of Belgrade and the " Hrvatski Radisa " society of Zagreb deal particularly with the improvement of nutrition.

The " Hrvatski Radisa " society has existed since 1903 and the " Privrednik " society since 1897. The latter has a home which can accommodate ninety to ninety-six apprentices, for whom their employers pay 300 dinars a month. Up to the present, 29,300 apprentices have received the hospitality of the " Privrednik ". At the present time, 4,000 apprentices are placed under the supervision of the society and have obtained work through its good offices.

Various proposals are being studied in order to ensure effective protection for apprentices, especially in their relations with their employers as regard food and clothing.

CHAPTER III.

MEASURES TAKEN ON BEHALF OF ADULTS, UNEMPLOYED, ETC.

The State usually recognises the obligation to provide for the physical subsistence for indigent persons and for sections of the population in temporary need of assistance. This work takes many forms, but the assistance given to necessitous families in the matter of food supply is of capital importance.

The growth of unemployment has in many countries led to the organisation of elaborate and costly measures for the relief and maintenance of families thus deprived of their normal means of livelihood. This relief often takes the form of distribution of food in addition to grants of money.

Argentine Republic

Canteens.

Certain institutions under the Central Authority run cheap canteens for workers ; there are nine of these canteens, and they are able to serve approximately 2,000 meals per day.

The canteens run by the Public Welfare Society are financed indirectly by the grants made by the Welfare Society to various institutions.

The canteens run by private organisations are of two kinds : those which supply food free of charge to persons who apply for it and those which supply it at a low price.

In Buenos Aires, there are twenty-six institutions which together distribute each day 1,736 free meals and 2,446 half-price meals, making a total of 4,182 meals per day.

Many large industrial establishments supply lunches (and, in a few cases, dinners) at cost price in the canteens attached to the workshops. As a rule, the cost of running these canteens is borne by the works. There are two types of canteens : canteens with fixed bills of fare and automatic bars ; among the latter, special mention should be made of the bar attached to the Anglo Cold Storage Establishments. As a general rule, the meals supplied by these employers' organisations are of excellent quality and the price charged is much less than their real value. It usually represents the cost of the raw materials and part of the cost of preparing and serving the meals.

There are, in the capital, sixteen organisations which together distribute each day 5,202 half-price meals and 395 meals which are fully paid for, making a total of 5,597 meals per day.

Unemployed.

There is a National Committee for Combating Unemployment (Law 11896) under the Ministry of the Interior; since 1930, this Committee has given board and lodging at Puerto Nuevo to the unemployed who come there. It is at present assisting 2,500 persons in winter and 1,500 in summer.

Australia.

The State of New South Wales.

The Living or Basic Wage.

The essential pivot of the social machinery for ensuring satisfactory nutrition of the Australian population is the living or basic wage. The laws of the Commonwealth and of the separate States provide systems of industrial regulation of working-hours, conditions and wages, which cover employees working for daily and weekly wages, and also those employed at quite high rates of salary—for example, as high as £750 per annum in the State of New South Wales.

The wage rates of the industrial awards determined by the tribunals, and of the agreements made under their imprimatur, conform to the principle that the worker for wages shall not normally receive less than a living wage as calculated in terms of the Australian standard of living, account being taken of the sex and average family responsibilities of the worker. For example, wage rates in New South Wales for the building trades include an addition to, or a loading of, the living wage for unfavourable weather in the case of open-air workers, together with additions or " margins " for average skill according to the craft of the worker.

The Level of Nutrition.

The food or nutrition allowance is a primary element of the fundamental living or basic wage rates, below which no worker may be employed (except in rare cases under special permit issued on account of proved physical disability), the other primary elements of the living wage being shelter, clothing, fuel and light and miscellaneous requirements.

Examination of the cost of adequate nutrition of wage-earners has been conducted at frequent intervals since 1919 by the New South Wales industrial authority, which was the Board of Trade till 1926, and since that date the Industrial Commission. A parallel examination was made in 1920 by a Federal Commission of Enquiry, afterwards called the Basic Wage Commission.

The composition and energy value of the weekly dietary scales used to exemplify adequate nutrition for a family consisting of man, wife and three average children by the New South Wales Board of Trade in 1919 and by the Basic Wage Commission in 1920 are shown in Tables I and II.

On the basis of very lean meat (giving one calorie per gramme), the Board of Trade scale provides 3,600 calories a day for the man, 2,900 for the wife and 1,700 for the average child under 14 years of age, if the total consumption is shared according to Atwater's coefficients of the relative energy requirements of men, women and children ; or 3,100, 2,600 and 2,000 calories a day for the man, wife and average child respectively, if the shares be allotted according to Lusk's coefficients, which are more generous for the children. Consumption of the same allowance by weight of lean or medium fat meat, instead of very lean

meat, gives 6% to 12% more calories, while reducing the protein allowances by 3% to 5%. Even so, the lowest daily protein allowance (derived by consumption of medium fat meat) is 115 grammes for the man, and the table shows that 45% of this is first-class protein.

The figures in Table I refer to foods as purchased by the consumer ; all refuse, such as bone, skin and parings, is allowed for in the computation of amounts of nutrients and energy value.

Table I. — New South Wales Board of Trade, 1919.

Composition and Energy Value of Weekly Dietary Scale for Man, Wife and Three Children.

	Quantity lb.	Amount of nutrients: Protein lb.	Fat lb.	Carbohydrate lb.	Energy value Calories
Bread	20	1.600	0.200	10.000	22,440
Meat :					
(1) Very lean [1]	16	2.720	0.432	—	6,880
or (2) Lean [2]	16	2.480	1.696	—	11,760
or (3) Medium fat [3]	16	2.368	2.896	—	16,640
Butter	1½	0.015	1.275	—	5,405
Oatmeal	3	0.483	0.216	2.025	5,580
Milk	18 [4]	0.594	0.720	0.900	5,850
Sugar	4	—	—	4.000	7,440
Jam	1	0.010	—	0.500	945
Treacle	2	0.048	—	1.386	2,580
Rice	2	0.160	0.006	1.580	3,260
Peas	2 [5]	0.492	0.020	1.240	3,310
Potatoes	14 [6]	0.252	0.014	2.058	4,340
Raisins	1	0.023	0.030	0.685	1,445
Tea	½	—	—	—	—
Suet	1	0.047	0.818	—	3,540
Flour	4	0.532	0.060	2.908	6,660
Condiments	— [7]	—	—	—	—
Fruit and vegetables	9 [8]	0.117	0.036	0.972	2,160
Total in lb. (1) [1]	—	7.093	3.827	28.254	81,735
(2) [2]	—	6.853	5.091	28.254	86,615
(3) [3]	—	6.741	6.291	28.234	91,495

[1] On the basis of Atwater's analysis for very lean beef. As 1 kilogramme = 2.205 lb., approximately, the energy value of such meat is less than 1 calorie per gramme. This does not refer to item 2.

[2] On the basis of Atwater's analysis for lean beef. Energy value, 1.6 calories per gramme.

[3] On the basis of Atwater's analysis for medium fat beef. Energy value, 2.8 calories per gramme.

[4] Seven quarts is the quantity stated in the dietary scale. See *Bulletin of Living Wage (Adult Males)*, 1918, page 31, and Board's Declaration of October 8th, 1919.

[5] Taken as dried peas.

[6] 20% allowed for parings. If the potato is cooked in its skin, the energy value of 14 lb. is 5,600 calories.

[7] Three pennyworth allowed in the dietary scale ; of little or no energy value.

[8] Represents the sum of *2s. 6d.*, converted at about *3d.* per lb. The analysis is for parsnips ; grapes, plums, beans, etc., have high energy values ; cabbage has a low energy ; the energy value of parsnips seems to be a rough mean for average fruit and vegetables.

Table II. — Federal Basic Wage Commission, 1920.

Composition and Energy Value of Weekly Dietary Scale for Man, Wife and Three Children.

Items	Quantity	Protein Grammes	Fat Grammes	Carbohydrates Grammes	Calories
Bread	20 lb.	726	108	4,762	23,520
Flour	3 ,,	157	14	1,020	4,953
Oatmeal	1½ lb.	110	49	460	2,787
Rice	½ ,,	18	1	179	816
Sage and cornflour	½ ,,	18	1	179	826
Eggs	1 dozen	81	65	—	922
Milk	7 quarts	270	317	397	5,688
Sugar	5½ lb.	—	—	2,444	10,230
Jam	2 ,,	5	1	452	1,890
Treacle	½ ,,	5	—	143	608
Butter	2 ,,	9	769	—	7,208
Beef [1]	8 ,,	550	521	—	7,100
Mutton	4 ,,	236	434	—	5,000
Fish	2 ,,	167	39	—	1,052
Bacon	½ ,,	22	136	—	1,173
Fruit (fresh)	8 ,,	18	7	435	1,928
Raisins	¼ ,,	3	3	90	407
Currants	¼ ,,	2	2	71	320
Potatoes	11 ,,	90	5	734	3,421
Onions	1½ ,,	3	1	37	174
Vegetables	8 ,,	33	8	147	800
Tea	½ ,,	—	—	—	—
Coffee	¼ ,,	—	—	—	—
Total per week	—	2,523	2,481	11,550	80,823
Per man per day	—	109	107	500	3,499

The New South Wales Industrial authority found that, in practice, the costs of the foregoing two dietary scales, although of slightly different composition, are usually and in the long run about equal. Hence they have been used indifferently as the basis of the nutrition allowances in the living wages determined by the New South Wales tribunal for males and females, adaptation to families with less than three children being made by means of coefficients of relative energy requirements of men, women and childern.

Employees and Workmen of Public Authorities.

Public authorities, central and local, in employing labour, are subject to the same industrial laws as private employers. For example, in the Arbitration Act of New South Wales it is specifically provided that wage-

[1] Mean of lean and moderately fat beef.

rates, hours, conditions of employment by the Crown and by such authorities as the Commissioner for Railways, the Water, Sewerage and Drainage Boards, whose powers are derived from the Crown, must not be less favourable to the employee than under the awards and agreements operative in private employment.

As these awards and agreements, being based on the living and basic wages, already secure adequate nutrition, it would be a work of supererogation for the public authorities, in their capacity of employers, to concern themselves directly with the nutrition of their employees.

Unemployed Persons in receipt of Relief.

The Emergency Relief Work Scheme at present in operation in New South Wales provides for a scale of relief work for the benefit of unemployed persons, payments varying according to the " permissible income " from all other sources. The rates of payment for relief work have been based throughout the period of its operation upon the living wage for the time being operating in New South Wales, the current rates being referable to the present State living wage of £3 8*s*. 6*d*. The rates are as follows :

Classification	Fortnightly permissible income £ *s*. *d*.	Fortnightly relief work earnings £ *s*. *d*.	Total possible fortnightly earnings £ *s*. *d*.
Adult male (without dependents)	1 5 0	1 3 11	2 8 11
Man and wife	2 0 0	2 1 0	4 1 0
Man, wife and 1 child . . .	2 10 0	2 11 3	5 1 3
Man, wife and 2 children .	3 0 0	2 14 8	5 14 8
Man, wife and 3 children .	3 5 0	3 1 6	6 6 6

It is clear that the fortnightly scale of relief earnings provides full nutrition according to the Industrial Commission's standard. Those who are unable to get any employment otherwise than on the relief works will probably suffer shortage of such requirements as clothing and miscellaneous items of normal expenditure, though this is, to some small extent, mitigated by periodic distribution of clothing and footwear by the Department of Government Relief.

Outdoor Relief (Food, Clothing, etc.).

Persons in necessitous circumstances who are not provided for by any unemployment relief scheme above mentioned are granted food relief. The cost of this service to the New South Wales Government, at the present time, approximates £1,000,000 per annum. Generally speaking, any unemployed person who is registered for employment at a Government Labour Exchange may make application for food relief. It is not essential for applicants or their families to be absolutely

without income to become eligible for this form of assistance. Incomes varying with the family group are allowed, the present permissible amounts being as follows :

	Per fortnight £	s.
Single person	1	5
Married couple	2	0
Married couple with 1 child	2	10
Married couple with 2 children	3	0
Married couple with 3 children	3	5

with an increase of 5*s*. per fortnight for each subsequent child.

A scale of relief appropriate to his family group is allotted to the applicant, and he is then required to indicate the names and addresses of his tradesmen—grocer, butcher, baker and milkman—and the various amounts he wishes to spend with each. Orders on the tradesmen to the extent indicated by the recipient are then posted to the tradesmen concerned, who subsequently present the orders to the Government for payment.

The value of the food relief provided varies with the size of the family. The appropriate scales and their values are as set out below :

	Per week s.	d.
Single person	6	6
Married couple	10	9
Married couple with 1 child	16	9
Married couple with 2 children	19	9
Married couple with 3 children	22	9

plus 3*s*. for each additional child.

In order that the unemployed may receive full value for their food orders, a Departmental Committee periodically fixes the maximum prices which may be charged by tradesmen for the various foodstuffs. The food orders, in numerous instances, form a major part of tradesmen's businesses. They are eagerly sought, as, with the Government backing, there is no prospect of bad debts arising, and the orders can be turned into cash without delay. The orders may also be assigned to wholesalers and others, and, in practice, are very extensively so assigned.

Periodical distributions of boots and clothing are made to recipients of food relief and emergency relief workers.

Relief Work of Private Organisations.

In view of the centrally operated living and basic wage systems plus child endowment, there is normally little room left for private charitable activities. Co-operative societies in Australia have no special association with nutrition. The friendly societies disburse sick pay, funeral expenses, etc., and a few trade unions pay unemployment

allowances for a limited period. But the activities of the Central Governments, State and Federal, outlined above, retard and make almost unnecessary the development of provision of " benefits " by such private associations. Indeed, the searching investigations made when determining the degree of eligibility of an applicant for employment or assistance under the Government relief work scheme tends to discourage decentralised mutual-aid associations.

Employers' associations, as such, are not concerned with the nutrition of employees. There is little room (certainly none in New South Wales) for family or child endowment schemes organised by employers such as are found in certain other countries. In New South Wales, the State system has covered this field since 1927.

The State of Victoria.

Industrial Workers and Agricultural Labourers.

No provision is made for an improved dietary for these classes of workers. Industrial workers are protected against under-nutrition by the legal provision of a minimum wage, and this wage is calculated to provide a reasonable standard of living for a man, wife and three children.

Agricultural labourers in the great majority of cases have their meals with their employer and his family and partake of the same food, so that the problem of under-nutrition scarcely arises.

Unemployed Persons.

Unemployed persons in Victoria are not issued food rations, but an allowance in money which enables them to purchase food according to their individual taste. The payments are on a definite scale—the minimum allowance is for single men, married men receiving an extra grant for their wife and each child. In cases of hardship through special family circumstances, sickness, etc., religious and philanthropic societies supplement the official grant with orders for milk, groceries, etc.

The Federal Capital Territory.

The population of the Federal Capital Territory in 1933 was 8,947. The administration of the territory is under the jurisdiction of the Minister of the Interior, assisted by a partly elected and partly nominated Advisory Council, the Department of the Interior employing most workers who are not permanent public servants. This department works in unison with the Canberra Relief Society, the expenditure of which is subsidised by the Government to the extent of two-thirds (over the past five years).

Industrial Workers.

Award rates are payable to industrial workers in the territory, these being more than sufficient for an adequate diet, when permanent work is available, except in certain instances. Where the employee has a very large family and is unable to provide sufficient food of the right

type, assistance is granted by the Canberra Relief Society. When permanent work is unavailable, these employees come under the heading of intermittent relief workers.

Unemployed Persons in receipt of Relief.

The Department of the Interior provides work for the unemployed to the extent of at least one week in three for married men, and one week in five for single men. At Christmas and midwinter, about a month's regular work is provided. For those unable to work, ration orders are given for an adequate, well-balanced diet for non-workers. Butter and, except in the case of single men, milk orders are given in all cases. Recipients may substitute certain foods at their discretion, and vegetable seeds may be purchased.

If for any reason a person's income for the previous four weeks is below a certain fixed amount, which varies with the size of the family, then extra work is granted to the value of the appropriate ration scale, and payment is made in cash. These amounts are as follows :

Married couples :	£	s.	d.
With or without one child	4	0	0
With 2 or 3 children	5	4	0
With 4 children	6	6	0
With 5 children	7	9	0
With 6 children	8	10	10
With 7 children	9	15	0

The State of Western Australia.

There is evidence that, in Western Australia, single men on sustenance show a fair proportion of individuals who have suffered and are suffering from malnutrition, probably because in many cases they have had to prepare their own meals and provide for themselves, with the result that meals have been prepared in a haphazard way without due regard to a proper choice of diet and with a view to the saving of trouble in preparation. This has resulted in an undue number of cases which have become more or less unemployable by reason of chronic gastric trouble, duodenal ulcer, and other evidences of malnutrition.

Luncheon-rooms are provided for employees at a certain number of large emporiums and Commonwealth Departments, probably with distinct advantage.

The State of South Australia.

The Central Board of Health reports that it has no evidence to indicate that certain parts of the population are under-nourished. The scale of rations issued to unemployed and their families is regarded as a high one and under such conditions there should be no likelihood of under-nutrition occurring. Further, statistics do not indicate any mortality or morbidity arising as a definite result of under-nutrition.

The following is the scale of rations issued to unemployed :

Relief for one week for an adult :

Groceries	2/5.
Bread	3 loaves.
Meat	3 ½ lb.
Vegetables	6*d*.

Relief for one week for a married couple :

Groceries	4/10.
Bread	6 loaves.
Meat	7 lb.
Vegetables	1/-.

Relief for one week for children :

All invididuals over their thirteenth birthday: Full adult ration.

Children over 9 years and up to 13 yers of age :

Meat	2 ½ lb.
Bread	3 loaves.
Milk	3 ½ pints.
Vegetables	3*d*.
Groceries	2/1.

Children over 6 years and up to 9 years of age :

Meat	2 lb.
Bread	2 ½ loaves.
Milk	3 ½ pints.
Vegetables	3*d*.
Groceries	1/9.

Children over 3 years and up to 6 years of age :

Meat	1 lb.
Bread	2 loaves.
Milk	7 pints.
Vegetables	3*d*.
Groceries	1/5.

Children from first birthday up to three years to age :

Meat	½ lb.
Bread	1 loaf.
Milk	7 pints.
Vegetables	3*d*.
Groceries	1/3.

Nursing mother to receive 1 ½ pints of milk per day in addition to her usual ration, until the baby is weaned.

Babies artificially fed up to the age of 6 months to receive 25 ounces of milk per day, 1 $^{1}/_{4}$ ounces of sugar, and orange juice to the value of

½*d.* per day. From 6 months to 12 months, 1 ½ pints of milk per day and 1*d.* per day for fruit and vegetables, ½ lb. sugar and ½ lb. some cereal per week.

At the end of February 1936, there were 10,000 males, 5,000 females and 9,000 children being issued with rations.

Austria.

The " Winter Aid " Fund for the Relief of Necessitous Families.

The large-scale campaign which the Federal Government has been conducting for several years with a view to assisting the needy sections of the population during the winter (" Winterhilfe der Bundesregierung ") is closely associated with the problem of nutrition.

Thus, in the Federal capital, Vienna, needy persons whose hardships are accentuated by the winter are supplied by this means with food and means of protection against the cold. Distribution during the season 1934-35 was as follows :

Supply of Foodstuffs. — The expenditure was 2,067,244.20 schillings. The quantities of food supplied were :

1,043.300 tons of flour ;
521.650 tons of sugar ;
260.825 tons of vegetable fat ;
521.650 tons of beans.

Orders for Meals. — 136,027 books of food coupons for 1,654,822 meals were issued. On an average, 14,800 persons were fed daily.

Breakfasts. — Meals were supplied for children consisting of a quarter of a litre of cocoa and milk and 15 decagrammes of rye bread ; 200,104 quarter-litres of cocoa and milk and 66,517 loaves of bread were issued. By this means, 13,400 children on an average were given a hot breakfast daily. In 1936, the number of schoolchildren rose to 22,000.

Tinned Food. — In 1934-35, 127,400 tins of *gulyás* were issued under the auspices of the Vienna " Winter Aid " Fund.

Free Milk Distribution. — Parents with one child, mothers who were the sole support of one or two children, aged persons, invalids, expectant mothers and convalescents, if suffering special hardship, receive from the Welfare Office milk coupons (half a litre per head). Altogether, 50,000 coupons are issued monthly.

Among the large-scale activities carried on in Vienna by private organisations all the year round may be mentioned :

The foodstuffs, midday meals, and " convent soup " distributed by the " Caritas " Institute of the Archbishopric of Vienna and its affiliated convents, associations and organisations.

The " Josefstische ", which supply needy adults with hot meals to be taken home and which are shared by the children also. About 24,000 persons are served daily by this agency.

The " Elisabethtische ". This organisation supplies hot meals, particularly to the destitute middle-class. According to the 1934-35 report, the beneficiaries number 5,960.

In addition, some 700 organisations, societies and authorities make large-scale distributions at Christmas.

Similar practical efforts are made in Upper Austria, partly through the " Winter Aid " Fund in the case of persons receiving relief, and partly through school milk schemes in the case of schoolchildren. Most of the school centres in the province have soup-kitchens, which furnish a nourishing hot meal to schoolchildren having a long journey to school and therefore being unable to return home at midday for a meal.

The " Winter Aid " Fund in Upper Austria supplied large quantities of foodstuffs free of charge or at reduced prices to persons in receipt of relief, while the value of the foodstuffs distributed by various agencies in the province amounted to 140,000 schillings. In principle, relief was given in the form of local produce bought out of the money received. First place was taken by periodical issues of food parcels or daily supplies of food.

The City of Linz Welfare Office distributes additional food weekly in the city itself to persons in receipt of relief, and during the winter months about 1,200 children are fed four times a week at ten municipal soup-kitchens. They receive cocoa, vegetables or thick soup. There is, in addition, a scheme for the supply of free milk to various schools which distributes daily, free of charge, a quarter of a litre of hot milk as a morning meal to 2,000 schoolchildren.

In the Province of Salzburg, arrangements exist for supplying infants and schoolchildren with pure milk. For the mothers themselves, however, only limited provision is made to the extent of the help afforded by maternal welfare centres. The working population is, by means of the " Winter Aid " schemes, given fairly generous help, particularly in Salzburg ; unmarried and childless couples receive a copious midday and evening meal, while married persons with children are issued food parcels.

In Styria, the Maternal Welfare Department of the Fatherland Front now arranges for better food for mothers by the issue of food allowances to needy women one month before and one month after childbirth. The allowances consist of parcels of flour, fat, rice, groats and sugar, and also of tinned foods and free milk cards.

In general, efforts have for years past been made to improve the food of infants and children by supplying helpful advice through the Public Health Centres. In Styria, this action is conducted on uniform lines and at the present time embraces about 80% of the total population. Parallel action is taken in the provinces of Tyrol and Vorarlberg.

United Kingdom.

The allowances made by the Unemployment Assistance Board to unemployed persons within the scope of the Unemployment Assistance Act are normally made in the form of cash, and recipients are generally free to spend their allowances as they think fit. Allowances may be increased where the need for extra nutrition is proved. In cases of difficulty where the allowances granted are being misapplied, the Board exercises its powers to pay the allowance partly in kind, so as to ensure that a due proportion is devoted to food.

The Board is represented on the Advisory Committee for Nutrition and is also in touch with other departments on matters which arise from time to time—*e.g.*, in connection with the disposal of surplus foodstuffs to the lower-paid and unemployed industrial classes.

In England and Wales, outdoor relief is afforded by local authorities in accordance with the provisions of the Poor Law Act, 1930, and the Relief Regulation Order, 1930. This relief is given either in the form of cash payments, enabling the persons applying to provide a sufficient amount of suitable food for themselves and their dependents or in the form of orders on tradespeople.

It may be said generally that, in dealing with applications for outdoor relief, the authorities pay particular regard to the need for extra nourishment in special cases.

In Scotland, with regard to persons, including able-bodied unemployed persons, who apply for poor relief, the statutory duty of the local authority is to provide needful sustentation. Needful sustentation is not defined by statute and, in practice, the interpretation of these words has varied from time to time in the past with changing standards of living among the population as a whole. Local authorities, in affording needful sustentation by way of outdoor relief (*i.e.*, relief in cash or, rarely, in kind), aim at giving sufficient to enable the applicant and his dependants to maintain health and enjoy reasonable comfort. In granting outdoor relief, however, no conditions are laid down as to the methods of its disbursement. The local authorities have special regard to cases where there is exceptional need, and allowance would always be made in respect of extra or special nourishment certified by the authority's medical officer to be necessary.

Czechoslovakia.

Relief of Unemployment.

Unemployment in Czechoslovakia is still at the same level as in 1933. At the end of 1935, there were 700,000 unemployed, but any tendency to increase has been checked by capital expenditure and productive relief measures for the benefit of the unemployed. These measures can be divided into three main groups :

(1) General productive measures for the benefit of the unemployed, consisting of State subsidies to public building contractors ;

(2) " Territorial " action, consisting of loans or subsidies for large-scale works which are already being subsidised out of other public funds ;

(3) Subsidies granted to public utility institutions for works involving capital expenditure.

The total amount granted for productive relief work for the benefit of the unemployed is 126 million crowns. This has enabled autonomous administrations, public utility institutions and State undertakings to carry out work costing over 1 milliard crowns, and to give employment to nearly 200,000 persons.

The execution of public works has an indirect influence on the nutrition of the unemployed, who once again become producers and consequently consumers, since they are in receipt of a regular income. A similar result is obtained by subsidies for housing. To enable the largest possible number of unemployed workmen to be engaged, fiscal facilities are granted for the repair or rebuilding of old houses and State subsidies for the construction of new ones.

Direct measures to improve the nutrition of the unemployed may be divided into nine groups :

1. State measures for feeding the unemployed come first. Unemployed persons not entitled to unemployment benefits under the Ghent system, towards which the State grants a subsidy, receive a weekly allowance of 20 crowns if they are fathers of a family and 10 crowns if they are unmarried. Although this allowance is not large, it has placed an enormous burden on the State. In 1933, 237,905,300 crowns were expended ; in 1934, 212,587,150 ; and, in 1935, 284,431,420.

2. The distribution of milk to children of the unemployed and fathers of families in part-time employment; in so far as funds permit, every child receives half a litre of milk per day. This quantity is distributed to all children whose fathers are unemployed, even if the latter are in receipt of some other unemployment benefit. The milk is bought in various districts at different prices. For the last three years, 1933-1935, the average purchase price was 1.40 crown. In 1933, the expenditure involved was 22,200,000 crowns, and 15,860,000 litres of milk were purchased. In 1934, the outlay was 27,500,000 crowns, and approximately 19,643,000 litres of milk were purchased. In 1935, the expenditure was 29,622,000 crowns, and approximately 21,158,700 litres of milk were purchased.

3. These State measures for feeding the unemployed are supplemented by the distribution of bread, which is made in the districts where there is most unemployment. Unemployed persons

in these districts who are entitled to State relief obtain—if they have a family—two loaves a week, each weighing 1.5 kg. Unmarried persons obtain one loaf a week. In 1935, this distribution involved an expenditure of 6,512,465.05 crowns ; in 1934, 34,280,619.45 crowns ; and, in 1933, 58,725,896 crowns.

These three relief measures have been applied continuously since 1931. The beneficiaries obtained their rations in bulk at intervals of five weeks.

4. Each winter the unemployed receive a supply of coal which is either bought by the State or given to them by the colliery owners. During the winter 1935-36, 1,900 truck-loads of coal were distributed free of charge to the unemployed.

5. Funds are granted each year by the Government for " Christmas relief ", to which unemployed persons and part-time workers who are fathers of families are entitled. Before Christmas, these persons receive warrants for foodstuffs, which are distributed by the Unemployed Food Relief Service. Persons with one or two children receive warrants representing a value of 20 crowns ; persons with three children, 30 crowns ; and persons with four or more children, 40 crowns. In 1935, 6 million crowns were expended for this purpose.

6. Clothing is distributed in winter to the children of the unemployed and to partly employed persons who are fathers of a family. The expenditure amounts to 3 million crowns per year.

7. A sum of 2 million crowns, which was later increased to 3 millions, has been provided for feeding the children of the unemployed in winter. This service is run by the State and was inaugurated in 1935.

8. Since 1933, a sum of 5 million crowns a year has been allocated for the purpose of supplementing communal relief to the unemployed.

9. Winter relief for the unemployed was introduced during the winter 1935-36. A sum of 54 million crowns has been appropriated for this purpose. This exceptional relief takes the form of the distribution of foodstuffs in kind to the unemployed living in districts where there is most unemployment and who are entitled to relief out of the State Fund for Feeding the Unemployed. These include young persons over 16 if the breadwinner of the family is not in regular employment ; persons in receipt of unemployment benefit under the Ghent system, when the State allowance does not exceed the value of the foodstuffs granted by the State Fund for Feeding the Unemployed ; seasonal workers who were unemployed for half the season during the previous year or who have been out of work for three consecutive months. The foodstuffs distributed were : 16,518

quintals of fat, 41,409 quintals of flour, 13,586 quintals of sugar, 21,865 quintals of hulled barley and 8,236 quintals of barley coffee ; lastly, 3,175 truck-loads of potatoes were distributed to unemployed persons.

In the case of benefits granted to the unemployed under the Ghent system, the State subsidy amounts to nearly twice as much as the subsidy paid by the trade union. The following sums were paid to the unemployed under this system :

Year	Crowns
1931	201,850,912.75
1932	365,724,694.45
1933	535,098,746.00
1934	309,887,628.45
1935	300,557,170.00

Denmark.

Danish social legislation provides for financial assistance to all sections of the population that are in want on account of unemployment, illness, etc., and thus ensures that the population as a whole is at all times able to obtain the foodstuffs necessary for the maintenance of life.

Estonia.

In Estonia, assistance, in the form of food, for minors, unemployed persons incapable of heavy manual labour and indigent unemployed persons capable of work was carried out by nutrition centres serving one hot meal a day, or distributing foods in the dry state weekly. In 1931-32, relief in this form was given to 6,837 minors and unemployed persons incapable of heavy work, and to 9,747 unemployed persons capable of work. The corresponding figures for 1932-33 were 7,670 and 15,327 respectively.

As unemployment declined, the feeding of the indigent unemployed was suspended. Persons who had fallen into indigence as the result of unemployment were assisted through the sale of rye from the State granaries to the communal administrations at 50% below market prices. The communes were free to distribute this rye in the form of relief to assisted persons, or to sell it at low prices to the unemployed and to indigent persons unable to buy rye at market prices ; 3,257 tons of rye from the State granaries were sold in this way.

Finland.

In Finland, all the big employers now see to it that food is obtainable at reasonable prices, even in the remotest spots by men engaged in timber felling and floating. The law on the housing of lumbermen requires the employer to provide a cooking-stove in the huts. Two of

the largest companies in the timber industry have decided to help their employees by establishing eating-houses and providing a cook and the necessary equipment.

In recent years, the special inspector of the Ministry of Social Affairs has devoted great attention to the question of the provision of food for men working in the forests, and has compiled statistics of the prices of the foodstuffs most commonly used by timber-workers in different parts of the country.

The rules of the public assistance institutions, which have to be sanctioned by the prefects, prescribe that every institution must have a diet-sheet framed jointly by the management of the institution and the visiting doctor. The district public assistance inspectors, who are appointed by the Government, see that the institutions adhere to their diet-sheets and exercise general supervision over the dietary.

The out-relief provided by communal Public Assistance Boards is often given in kind, in the form of food ; otherwise in cash.

In all these activities, the communal Public Assistance Boards are required to observe the general rule laid down in Section 1 of the existing Public Assistance Act—namely, that the applicant must be given whatever maintenance and care he needs.

France.

The public authorities are fully empowered not merely to supervise, but to guide dietary practice in connection with certain very diverse and large categories of the population—soldiers and sailors, school-children and persons in receipt of relief in public institutions.

In these circumstances, the authorities concerned should not encounter any great difficulty in applying to these various categories of the population any more rational dietetic methods.

On the other hand, there are certain equally numerous categories whose diet is not yet governed by any special rules, in particular, persons benefiting under social insurance schemes and the unemployed.

It is proposed to consider what steps may be taken to improve the diet of these persons both in quantity and quality.

The Nutrition of Persons benefiting under Social Insurance Schemes.

The number of assured persons in France is at present 8,800,000. In view of its magnitude, the question has been raised whether it is possible under existing regulations to exercise a guiding influence on the diet of these persons.

Neither the Organic Law of April 5th, 1928, on Social Insurance nor the texts for the application of that law make any specific reference to the nutrition of insured persons. The fund has, however, very wide

powers of guardianship, in that insurance covers the risks of illness, invalidity, old age and death and takes into account family charges and maternity.

Very important benefits are accorded to mothers. One of these is in connection with the feeding of the child. Under Article 9, § 5, of the Decree-Law of October 30th, 1935 :

> " An insured woman who is duly certified by the medical officer to be incapable through physical incapacity or disease of feeding her child at the breast may, if the child is brought up by her in her own home, be granted, for the period and to the extent indicated by the doctor, coupons for milk the value of which shall not in any circumstances exceed 60% of the bonus for breast-feeding. "

These provisions show that the social insurance funds can take certain action in connection with the nutrition of their insured persons. Could not the following paragraph be interpreted in the same way ?

> " An insured person or person entitled to benefit whose state of health necessitates preventive care or who is suffering from a disease that does not incapacitate him for work shall be granted, if necessary, for a period not exceeding two years, special benefits, the maximum amount of these and the conditions under which they may be granted being defined by the internal regulations of the fund."

In whatever way these texts are interpreted, it is a recognised fact that the various funds must endeavour to prevent sickness amongst their insured persons. Should not an adequate and rational diet be regarded as one of the essential factors of such protection ?

The regional unions of the distributing funds are responsible for the organisation and prevention of sickness among their insured persons.

These unions are in process of formation (their creation was prescribed by Decree-Law of October 30th, 1935).

The Directorate-General of Social Insurance will draw the attention of these unions, as soon as they have been established, to the part played by nutrition in the prevention of disease.

Thus, methods by which the diet of persons benefiting under social insurance schemes may be improved both in quantity and quality will be carefully studied. These studies will probably lead to practical conclusions of the highest interest.

Nutrition of the Unemployed.

It is a known fact that unemployment has not been so serious in France as in certain other important countries. The number of unemployed is about 300,000. This figure is, however, high enough to have warranted the adoption of special measures to assist this part of the population.

In this connection, the State has only intervened indirectly. Unemployment funds have been established in the various departments

and communes, the State merely contributing, under conditions laid down in a Decree of December 28th, 1926, to the expenditure contracted by these communities. At law, the unemployed are entitled only to a relief grant. In principle, these grants are not necessarily made in the form of money ; they may be in kind—in the form of meals, for instance. But, in point of fact, the unemployment funds rarely avail themselves of this option.

Several funds adopted the system of distributing the total amount of the grant in the form of food coupons ; but this gave rise to various malpractices, such as the sale of the coupons by the unemployed, so that the Ministry of Labour does not encourage this form of relief.

The Central Administration does not advise the distribution of foodstuffs, on account of the difficulty of supervision and the possibility of fraud. Moreover, it is feared that such distribution might place unemployed persons in an excessively favourable position as compared with employed persons.

These few details show that the official unemployed relief organisations do not give thought to the nutrition of the unemployed. Certain communities, however, such as the city of Paris, in addition to numerous supplementary optional benefits, grant to their unemployed certain benefits in the matter of foodstuffs.

For instance, a decision of the municipal council of March 30th, 1931, lays down that the children of unemployed persons shall be admitted free of charge to elementary-school canteens. The city of Paris also allows unemployed persons to take their meals in the " people's soup-kitchens ".

On the other hand, most of the numerous private organisations engaged in assisting the unemployed distribute foodstuffs, raw or prepared food (meals or soup, to be eaten on the spot or taken away).

It would seem, therefore, that, as matters stand, action with a view to improving the nutrition of the unemployed in France must be taken through the intermediary of the private organisations, unless a more detailed study of the question reveals the necessity of inviting the public authorities to reconsider the desirability of distributing relief in kind to the unemployed.

Hungary.

In Hungary, in recent years, many factories have set up kitchens and canteens in order to improve the nutrition of the workers. At midday and in the evening, these canteens provide meals at cost, the price being roughly equivalent to an hour's wages.

Mine-workers are still more fortunate in that these enterprises have shops in which the workers can buy foodstuffs and clothing at reduced prices by means of vouchers. Further, the miners live for the most part in workers' colonies where they can raise cows, pigs and poultry.

Bo t the mines and the factories organise courses in domestic economy for the women workers.

Italy.

Assistance to the Unemployed and to Poor Families.

In Italy, apart from certain special institutions for the relief of particular classes of individuals (the aged, the sick, orphans, etc.), the public authorities have for some years now given assistance to certain classes of the unemployed or indigent families, *inter alia*, in the form of food.

The " Ente Opere Assistenziali " (Institution for Relief Organisations) of the Fascist Party, or, as the case may be, the insurance institutions, look after unemployed persons and all persons who for any reason find themselves in a situation which justifies the granting of relief. In winter-time, soup kitchens are set up in several towns, which give one meal a day to persons whose circumstances entitle them to receive it. The composition of these meals was investigated by the Committee for the Study of Problems of Nutrition of the National Research Council. They were found to be equivalent generally to about 1,300 calories. The Party thus supplied each unemployed person and each member of his family with about one-half of the amount of energy needed by them per day.

Assistance is given on the strength of the relief vouchers issued by the F.P.R.O.A. to the heads of indigent families, and is based on tested rules of hygiene and physiology, without at the same time overlooking the equally important factors of local custom and the most suitable dietary.

Statistics of Relief Work.

In 1933, the Relief Organisation, which co-ordinates the work of all the previous existing organisations by increasing their resources and developing their action, assisted on an average 2,328,924 persons daily. In the same year, it distributed 46,333,335 meals through soup kitchens and, in other forms, supplied 72,218,536 food rations in kind and 4,813,981 litres of milk. For 1934, when 2,884,000 persons on an average were assisted daily, the statistics are more complete :

Soup kitchens :

Bread and soup (rations distributed)	33,286,148
Meat and vegetables (rations distributed) . . .	1,322,122
Milk (cups)	1,790,417

Food distributed in kind :

	Rations distributed
Wheaten flour	12,556,674
Maize flour	10,564,213
Bread	29,204,425
Alimentary pastes	13,701,912
Vegetables	17,128,811
Rice	13,883,420

	Rations distributed
Bacon	7,781,171
Tomato sauce	2,950,452
Meat	890,186
Potatoes	4,087,610
Oil	4,168,696
Milk	5,263,598
Sugar	757,866
Eggs	217,508
Coffee	186,662
School meals (rations distributed)	9,347,473

Assistance given by Insurance Institutions.

The Social Welfare Institute, which administers all social insurance except accident insurance, has drawn up for the various classes of assisted persons charts laying down the food ration. Special charts have, similarly, been drawn up for the sanatoria managed by the Institute.

Workers' Canteens.

Another innovation is the workers' canteen, which enables workers to obtain an ample and well-prepared hot meal at a very low cost served during the midday interval in appropriate and comfortable premises. Workers are thus enabled to recover the calories necessary for further productive work.

These canteens are to be found in almost all large and medium-sized undertakings, some of which themselves issue hot soup at their own cost. Other canteens, on the other hand, are almost entirely managed by the local workers' union. Such, for example, is the case of the canteens of the General Electricity Company at Milan or the harbour workers at Genoa.

Hostels.

Other industrial undertakings—particularly textile firms—have introduced hostels for young workers of both sexes whose families have no relatives in the place where they work. At these hostels, they receive three meals a day, prepared in accordance with an appropriate dietary, the cost of board and lodging being very low.

On the advice of the factory doctor or social assistant, the managements of certain firms have rations of milk, eggs and chocolate distributed each day to working-girls and young women in delicate health and to mothers nursing their infants in the factory nursery.

Latvia.

Influence of Government Measures against Unemployment on the Consumption of Foodstuffs.

The decline in the prices of agricultural products, both on the world market and within the country, resulted in a material reduction in the income and purchasing power of the Latvian farmer in 1931 and 1932. As farmers and their familier form half the total population of Latvia, the decline in their purchasing power has had a considerable influence on industry, trade and the other branches of the economic life of the country. Hence, industrial, commercial and transport undertakings have been obliged to curtail their activities and to dismiss part of their employees. For this reason, the number of workers insured with the sickness insurance funds[1] declined from 180,000 in 1930 to 141,000 in 1932.

In order to relieve unemployment, the Government organised public work (preparation of timber in the State forests, levelling of the ground for road construction, work on the railways, etc.). The organisation of these public works entailed the following expenditure on the part of the State and municipalities : 9.8 million lats during the financial year 1932-33, 8.9 million lats in 1933-34, and 7.3 million lats in 1934-35. Grants were also made to unemployed women having small children and to other categories of unemployed.

Among the Government's various activities in the campaign against unemployment, special mention should be made of its efforts to employ the workers in industry and in certain other branches. It is thanks to Government intervention that industry was able to extend its activities and thus to increase the number of employed workers. This was achieved by the Government's agrarian policy, which guaranteed farmers fixed prices for their products and gave them a stable and a wider market. In this way, the income and purchasing power of the farmers increased, which had a favourable effect on industry, commerce and other branches of economic life. The Government's industrial policy also contributed to the development of industry. By the limitation of imports of industrial products (the quota system), local industry was enabled to produce a whole series of articles which before were wholly or for the most part imported from abroad.

The steps taken by the Government in the agricultural and industrial fields have led to the complete disappearance of unemployment in Latvia. Towards the end of 1935, the sickness insurance funds included 181,000 insured workers, or about the same number as before the economic depression, as compared with 145,000 at about the end of 1932—*i.e.*, three years ago. Hence, during this period, the number of wage-earners increased by 36,000. The income of these 36,000 newly

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[1] All wage-earners are insured with these funds, with the exception of farmers and public officials.

employed persons may be estimated at 35,000,000 lats (the average wage of industrial workers of either sex is approximately 1,000 lats per annum). With the members of their families, the newly employed persons total about 60,000, whose consuming power has considerably increased. This accounts for the increase in consumption of foodstuffs in the towns of Latvia.

Improvement in the Living Conditions of Agricultural Workers.

Thanks to Government action to increase agricultural production and protect agriculture, the situation of Latvian farmers has considerably improved in the last few years. The cultivation of cereals and of sugar-beet and flax having greatly increased, new opportunities of employment are being provided, leading to a rise in the wages of agricultural workers. At the same time, the farmers, whose income has increased thanks to the stabilisation of prices and the extension of marketing facilities, are well able to pay higher wages. Thus, the situation of the agricultural workers has greatly improved, and the same applies to their nutrition.

Improvement of Nutrition in Latgale.

The region of Latgale, which has about 500,000 inhabitants, possesses certain special economic features, since its historical past has not been the same as that of the other districts of Latvia. At the time of the formation of the Latvian State, the land was divided into numerous scattered lots, which enormously complicated its cultivation. Until recently, the number of illiterate persons was considerable (a large percentage of the population is of Russian and Polish nationality).

The rural population of Latgale is approximately twice as dense and the birth rate there is much greater than in the other regions of Latvia. Agricultural technique is much less developed there than elsewhere. Accordingly, agricultural production in Latgale was at a very low level, and the consumption of foodstuffs per head was materially less than in the other districts. This applies particularly to meat and dairy products. Nevertheless, the last five or six years have brought improvements to this part of Latvian territory also. The agrarian reform divided the village lands into individual holdings and established numerous new farms on ground previously belonging to large estates. In this way, the agrarian structure has become much more rational and the Latgalian farmer has had full scope to develop production and thus increase his income. The State has spent large sums on raising the level of education, and already the number of illiterate persons has materially decreased. Large sums have also been spent in the form of loans to farmers.

Thanks to all these measures, agricultural production has materially increased in Latgale. The total rye crop, as compared with that of the

pre-depression years, has increased by about 50%, while the percentage increase in the wheat crop has been still greater. The output of animal products—meat and milk—also shows a considerable increase. The consumption of foodstuffs in Latgale has accordingly improved considerably.

Poland.

In Poland, the fundamental law on public assistance of September 1923 makes the communes responsible for maintaining all necessitous persons unable to provide for their own needs. This obligation extends to all persons having resided not less than one year in the commune concerned. It is this fundamental law which is the basis of all measures of assistance adopted by the Ministry of Social Assistance and executed by the communes and local authorities subordinate to it.

Persons receiving assistance under this law are examined by the authorities from the social, economic and frequently medical points of view. Assisted persons are everywhere found to be in a state of under-nutrition. Their numbers are considerable. At Warsaw, in 1933, they numbered approximately 80,000 (20,000 families), or 7% of the population. The state of under-nutrition is detected either by the medical services (doctor, visiting nurse) or by the assistance service (social workers).

The nutrition measures which form part of social assistance are in the hands of the autonomous authorities, which keep in touch with the social organisations.

As an example may be mentioned the work of the autonomous administration of the city of Warsaw.

The centres issue cards entitling the holder to various benefits. The principal forms of assistance in the matter of nutrition are : (*a*) meals, (*b*) distribution of bread, (*c*) distribution of milk and cod-liver oil for children.

Apart from direct nutrition, families to be assisted receive money grants, the greater part of which is obviously spent on improving the dietary.

Meals consist of meat soup, with vegetables and bread. The price per meal is about 52 grosz for intellectual workers and about 23.5 grosz for physical workers. During the budgetary year 1934-35, 966,800 meals were provided for 21,522 persons. The bread is baked by the mechanical bakery of the town and is distributed to the persons indicated by the centres. There is no distribution of flour.

The Labour Fund Law of March 19th, 1933, enacts that " the purpose of the Labour Fund is to supply work or the means of livelihood to the unemployed who have no other way of earning a living, chiefly by the organisation of public works or works of public importance ".

The Labour Fund, which has a much larger budget than the institutions above mentioned, and at the same time has such permanent sources of income as the special taxes on salaries and wages, consumption,

etc., can conduct a much more methodical campaign against unemployment taken as a whole and for a protracted period.

Primarily in accordance with the stipulations of the law, the Labour Fund, in principle, regards it as necessary to provide for the unemployed by means of public works. But it could not disregard immediate assistance in the shape of food and fuel, as (1) such relief was less expensive ; (2) public works could only be conducted on a very limited scale in winter, owing to weather conditions, and winter is precisely the hardest time for the unemployed.

The Labour Fund spent the following amounts from 1933-34 to 1935-36 on organising work and relief :

	1933-34	1934-35	1935-36 (estimates)
		(In thousands of zloty)	
Public works	49,891	81,638	88,400
Immediate relief. . . .	32,088	19,664	17,500

The credits used by the Labour Fund were supplied to it either in cash or in the form of certain articles of food sold in bulk, for which central purchasing had to be resorted to. In this way, big reductions were obtained on the purchase prices. Coal and sugar were the chief of these articles.

The Labour Fund issued only general organising instructions ; the actual relief was given by the Labour Fund's local committees. Close collaboration with the local population enabled the voivodeship committees to secure, in addition to the budget appropriations, large sums by organising street collections and other public demonstrations. The actual funds thus collected by committees amounted, in 1934-35, to 11,720,000 zloty, which brought the cost of immediate relief in that year to the aggregate amount of 31,366,000 zloty. Collections made from the local, and particularly the agricultural, population brought in numerous gifts of food, such as potatoes, cereals, etc.

The immediate relief organised by voivodeship committees in 1934-35 was extended to a number of persons (unemployed and members of their families) varying between 445,000 in August 1934 and 828,000 in March 1935.

In addition to articles of food, the unemployed received, particularly in winter-time, certain amounts of coal and wood, and, in some isolated cases, clothing, underclothes, soap, medicine, etc. The relief given in the form of food, however, was more than 90% of the total immediate relief given.

The average expenditure monthly on immediate relief was 20 zloty per family. This is, of course, a small figure ; but, as large savings were made in purchasing the products and relief was limited almost entirely to the distribution of food, it was possible with this amount to give the unemployed sufficient supplies to tide over the most critical period of unemployment.

Sweden.

In Sweden, the official activity for rendering aid has mainly been so organised as to secure, by the organisation of public works, an income for the unemployed person large enough to procure for him a barely adequate living. In cases where aid cannot be arranged in this way, assistance is given in cash or in kind, or in both. Assistance in kind is sometimes given in the form of one or more meals per day. Nutritional control of these meals hardly ever takes place. In certain particularly stricken areas, the Government has also resorted to the distribution of food rations direct to necessitous persons. Unemployment having been considerably reduced during the last years, unemployment assistance is seldom now given in kind.

Meals to persons under the care of the public assistance authorities are supplied by the municipal authorities, which exercise such control as they deem necessary.

Extensive aid to necessitous persons is rendered, in the form of free meals, by private or semi-private institutions, such as the Salvation Army and other welfare institutions.

Switzerland.

In Switzerland, certain municipalities have set up kitchens for unemployed and indigent persons, in which necessitous families and individuals are given three free meals a day. The equipment and the food are supplied by the municipalities, which appoint the responsible staff. The kitchens of the city of Lausanne, for example, distributed 196,926 meals in November 1935.

In many Swiss towns, there is a private organisation, approved by the authorities, for temporary relief, which is known as the " Kilo Week " or " Le Kilo du Chômeur ". At certain times, groups of philanthropic workers make a general round of the population, collecting any gifts in cash or in kind which they can get. The gifts are sifted and inspected by the Public Health Service before being distributed, as and when required. This organisation has made it possible to make very considerable distributions of food, groceries, vegetables, potatoes, etc.

A whole group of philanthropic organisations is concerned with the distribution of food. The work varies in importance and character from one place to another. Frequently, it is not confined to the distribution of food ; but, under different forms and different names, the objects are the same.

In Switzerland, in the absence of any Federal system of old-age insurance (the principle of which has been accepted, though no steps have yet been taken to put it into force), there is an organisation for the relief of the aged which collects donations and gives assistance to old people. The city of Zurich has introduced a system of relief for the aged in the form of an annuity payable to all persons who have been resident

in the city for a certain number of years and, at the age of 65, are without means of subsistence.

The unemployed benefit by the particularly effective relief measures adopted by the authorities. As in other countries, the continuance of the economic depression has meant the exhaustion of unemployment insurance benefits in the case of a large number of workers who have been unemployed for too long a time. To prevent these workers and their families gradually becoming destitute, the authorities grant daily cash allowances adapted to local circumstances.

In several branches of national activity which are especially hard hit by the economic depression, such as the embroidery industry, the clock-making industry, the hotel industry and certain branches of agricultural production, the authorities have also given temporary financial relief to employers and entrepreneurs.

Turkey.

In Turkey, since the foundation of the Republic, the extensive public works, the varied building programmes and the policy of developing and expanding industrial enterprise have given rise to a labour shortage. At the sowing and harvesting seasons, when the majority of the population is working for its own account, public works and industrial enterprises sometimes suffer from a shortage of hands. On the other hand, the food problem, which is a result of the special climatic conditions in certain parts of Turkey, at times assumes such proportions that the authorities are compelled to take vigorous action to contend with it. Amongst the measures adopted and at present in operation may be mentioned the modernisation of agricultural methods, the extension of irrigation in districts affected by drought, the establishment of agricultural institutions, farm-schools and establishments for the improvement of seeds, the encouragement of new crops with due regard to conditions of soil and climate, the encouragement of stock-raising and the improvement of stock, and the reduction of taxation on live-stock.

The Government has also taken steps to facilitate the marketing of surplus production and in this connection particular interest attaches to the situation created by the operation of the Grain Protection Law, which makes provision for the purchase of grain by the State (at a reasonable price determined in advance) out of the proceeds of a tax on flour not required by the peasant for his own consumption, the object being to enable him to market his produce and to protect him from speculators. Thanks to the action taken by the Government in this direction, large stocks of grain have been accumulated in up-to-date grain elevators erected out of the proceeds of the flour tax.

Similarly, the Government programme of developing industry, and, in particular, the importance assigned to agriculture, has enabled the peasant to market his produce, and has led to a remarkable increase in

the output of a number of agricultural products—*e.g.*, sugar and textiles. The recently opened sugar and textile factories have revived beet-growing in the country and have greatly increased the cultivation of cotton. The results in the shape of improved nutrition of the population are obvious.

Among the efforts being made by the Government and by societies and committees under Government supervision with a view to improving the food conditions should be mentioned the large quantities of grain which have been distributed by the Government and the Agricultural Bank to necessitous cultivators, partly as a loan and partly as a free gift. In the year 1935, 31,070 tons of grain were distributed in different districts out of the stocks purchased at a fair price from peasants unable to sell their produce in the open market. The Red Crescent Society has further distributed 107 tons of foodstuffs.

The attempts made to provide the workers of the great industrial establishments with rational and healthy food have given substantial results. The draft Labour Law, which is at present being considered, contains special provisions for improving the canteens of factories in which healthy food will be supplied to the workmen.

Many of the factories working under State control supply food to the workmen and apprentices free of charge.

In the State educational establishments which receive boarders, the food satisfies all requirements.

Co-operative societies are being actively organised in order to improve food conditions for officials and workers in general.

United States of America.

The practical measures towards ensuring improved dietaries for various population groups in the United States have, in general, taken the form of education, supplemented in some cases by direct distribution of food either to the family or to individuals through school lunch or other feeding programmes. The largest direct distribution of food has been undertaken through the Federal Surplus Relief Corporation.

Relief clients have for the last several years received in many cases, in addition to cash stipends, surplus foods made available to State relief agencies by the Federal Surplus Relief Corporation, established by Federal law to take off the market certain foods declared to be surplus, and make them available for distribution in non-competitive channels.

The Federal Surplus Relief Corporation was created to help solve the paradox of hunger and destitution existing in a country with huge agricultural surpluses. Several years of agricultural surpluses in terms of effective demand had depressed prices to unprofitable levels and created a serious problem of agricultural destitution. At the same time, millions of people on relief stood in need of these products. Accordingly, the Federal Surplus Relief Corporation was created to serve as the instrument through which price-depressing surplus commodities might

be removed from the open market, processed and distributed to relief clients in such forms as foodstuffs and clothing.

Because the Federal Surplus Relief Corporation was set up to accomplish the dual purpose of agricultural and unemployment relief, it operated in close alliance with the Agricultural Adjustment Administration and the Federal Emergency Relief Administration.

The commodities which the Corporation distributes to State relief administrations are received from a number of separate sources.

1. The Agricultural Adjustment Administration has given to the Corporation large quantities of commodities purchased under its crop and price adjustment programme. The Agricultural Adjustment Administration has also donated to the Corporation large numbers of cattle, sheep and goats which it purchased as a part of the drought relief programme.

2. The Corporation, acting as agent for the States, has purchased surplus commodities for relief distribution. While these purchases are made by the Corporation through its division of procurement, they are paid for by funds granted to the States by the Federal Emergency Relief Administration, but transferred to the Corporation.

3. Local crop purchases constitute a third source of commodities distributed by the Corporation. These purchases are made directly by the State relief administrations situated in the crop-surplus areas. The purchases are closely supervised by the Corporation, however, and paid for by funds specifically granted to the States by the Federal Emergency Relief Administration for that purpose.

4. In addition to the commodities purchased, some surplus foodstuffs have been given to the Corporation by individual growers or groups of growers. This action was taken by the growers in preference to allowing the products to spoil. In these instances, the gathering of the surpluses is usually undertaken as a work-relief project.

In short, the Federal Surplus Relief Corporation itself purchases only a part of the goods which it distributes, the function of purchasing surpluses being divided among the Agricultural Adjustment Administration, the Federal Surplus Relief Corporation, and the local relief administrations.

The transportation and storage of all these commodities is primarily a problem of the Federal Surplus Relief Corporation alone. The processing of the commodities is sometimes done for the Corporation under contract and sometimes by the work divisions of the State Emergency Relief Administrations in collaboration with the Corporation. Distribution to State commodity distribution centres is a Federal Surplus Relief Corporation duty ; but, while the Corporation generally supervises and advises on the actual distribution to relief clients, the responsibility for successful distribution rests with State relief officials after the commodities have been delivered to them by the Corporation. Because no funds are appropriated directly to the Federal Surplus

Relief Corporation, all costs incurred by it for purchasing, processing or transporting commodities are paid by Federal Emergency Relief Administration allotments to the Corporation out of the funds granted to the States.

The following statement shows the quantities and costs of certain foodstuffs distributed by the Corporation. The table is in no sense a statement of all surplus-commodity expenditure to date, but it does include the full cost of certain surplus commodities turned over to the States by the Corporation for distribution.

Quantities and Estimated Value of Certain Commodities distributed to the States and Territories by the Federal Surplus Relief Corporation. [1]

(October 1933 to July 31st, 1935.)

Commodity		Quantity	Total expenditure Dollars
Apples (dried)	lb.	885,350	121,000
Apples (fresh)	,,	9,497,664	106,755
Beans	,,	6,871,380	265,975
Butter	,,	69,128,380	16,681,504
Beef (boned)	,,	19,889,824	177,767
Beef (canned)	,,	221,353,418	9,287,282
Beef (fresh)	,,	35,106,167	150,170
Beef (tongues)	,,	2,798,104	23,616
Cabbage	,,	36,476,639	91,476
Cereal foods	,,	20,296,440	1,179,227
Cheese	,,	17,998,827	3,090,247
Cocoa [2]	,,	128,000	10,829
Flour	,,	147,095,357	3,360,866
Fruit (citrous)	bags	194,935	59,301
Goat-meat (canned)	lb.	777,600	—
Lard	,,	23,874,398	1,161,848
Meal (corn) [2]	,,	790,000	20,140
Milk (condensed) [2]	,,	790,000	58,712
Milk (evaporated)	,,	37,595,200	1,961,632
Milk (dry skim)	,,	8,688,100	525,275
Mutton (canned)	,,	20,741,770	2,438,316
Pork products	,,	297,610,059	23,000,147
Potatoes (white)	,,	239,427,800	1,504,761
Potatoes (sweet)	bushels	111,871	69,418
Rice	lb.	50,372,880	2,147,396
Salmon (canned) [2]	,,	768,000	66,612
Sausage [2]	,,	384,000	46,946

[1] Includes commodities purchased by the Federal Surplus Relief Corporation and the Agricultural Adjustment Administration, local surpluses purchased by State Relief Administration under Federal Surplus Relief Corporation purchase authority and reshipments of commodities turned over to the Federal Surplus Relief Corporation by the State Emergency Relief Administration.

[2] Shipments to Porto Rico.

Commodity		Quantity	Total expenditure Dollars
Sugar	lb.	9,000,000	372,180
Syrup	gallons	1,143,295	570,853
Veal (boned)	lb.	113,587	5,418
Veal (canned)	,,	20,804,247	2,024,476
Veal (fresh)	,,	85,761,375	160,929
Veal (tongues)	,,	521,573	947

Out of 5,200,000 households (cases) receiving emergency relief under the general relief programme in February 1935, it is estimated that there were about 1,900,000, or 36%, located in rural areas and 188,000, or 4%, in small towns of 2,500 to 5,000 population. The ratio of rural relief cases to all relief cases appears to have changed very little since October 1933.

The relief situation as shown by a sample study of nine major agricultural areas in February 1935 presents striking differences among the areas and reflects clearly the severity of conditions existing either temporarily or permanently in these areas. Effects of the drought are particularly noticeable in certain sections, and a permanent condition such as exists in the Lake States cut-over areas has forced on the relief rolls almost 40% of the rural families in that area. This study also brings out the unfavourable position of non-farm families as compared with farm families. The unfavourable status of the tenant and share cropper groups as compared to the owner-operator group is also disclosed.

Agricultural labourers and farm families have been reached through the Agricultural Extension Service. In many States, special educational programmes have been prepared to reach the agricultural labourers and tenant farmers, both directly and indirectly. Home production programmes suited to the different areas have been worked out and an effort made to help the agricultural worker directly through education in wise food choice. In some areas, the landlords have made land available for the production of food. The extension programme has done much in the way of improving the diet of independent farm families with the same type of education and the stimulation of home production of food for family use. The decrease in the incidence of pellagra in the South is in large part attributable to the educational programmes undertaken by the State extension service.

The unemployed and persons in receipt of relief have been reached, as indicated above, by distribution of cash and relief in kind, and by educational programmes. In every State, there have been educational programmes in nutrition set up under the Emergency Relief Administration, advising the clients in food selection as well as educating them in the use of the commodities distributed.

There has been little work done with the industrial workers as such, except as they have been reached by welfare agencies, private industries or educational groups of their labour organisations. In general, there has been less direct work with them than with other groups.

Uruguay.

For unemployed persons and persons in receipt of relief, the Government of Uruguay has instituted public kitchens in various parts of the capital, where food can be obtained very cheaply by indigent persons.

In certain industrial establishments, the employers have arranged for the staff to receive economical and rational meals, and the National Commission for Rational Nutrition, in the course of its visits, appreciated the sound composition of those meals from the standpoint of the quantity and quality of the various foodstuffs.

In the private field should be mentioned the efforts of social assistance and welfare institutions, which maintain cheap canteens.

Venezuela.

In the child welfare centres in Venezuela, established under the Ministry of Health, Agriculture and Education, sterilised milk is given to children. This milk is the subject of a daily bacteriological test.

The special centres of the Red Cross organisation distribute meals to poor mothers.

Yugoslavia.

In the year 1931-32, when the poorer regions of Yugoslavia suffered from drought, the State sent to them, through the Privileged Exportation Company, 2,076 wagons, each of 10 tons, of wheat and 1,138 wagons of maize.

At the end of October 1935, further action was taken to assist the " passive " areas. The Government voted a credit of 20 million dinars, and, in January 1936, a further sum of 8 million dinars, to provide food for the impoverished inhabitants of those areas. With the help of these funds, the Privileged Export Company has so far despatched 1,156 trucks of maize to the areas in question.

This assistance is given free of charge—as in the year 1931-32—only to persons disabled for work. All other persons are required to pay for the assistance by taking part in public works arranged by the banovine concerned.

In addition to supplying direct aid in the form of food, the Government indirectly helps to supply the " passive " areas by lowering transport rates. On October 1st, 1935, for instance, the railway rate for the carriage of maize over distances exceeding 500 km.—which chiefly affected the areas in question—was reduced by from 15% to 31%. In addition to

these privileges, the Ministry of Social Welfare issues permits for the free carriage of wheat and fodder.

Feeding the Unemployed.

There are 120,000 unemployed in Yugoslavia. Legislation makes it incumbent on the labour exchanges to assist the unemployed. For this purpose, the departmental offices of social insurance levy a subscription of 6 per mille on employed workmen's wages, half of which is paid by the workmen and the other half by the employers. These subscriptions produce about 22 million dinars per annum. The labour exchanges have had to make certain restrictions in the matter of granting relief, so that only a given number of workmen can obtain benefit, and that for a limited time. The feeding of the unemployed therefore falls mainly on municipal and banovine authorities and on private organisations. The task of feeding Belgrade unemployed falls on the Central Committee for Unemployed Relief, consisting of representatives of the central and regional authorities, workmen's associations and private societies.

From January 7th to April 10th, 1934, this committee issued to the unemployed 206,831 hot meals. This food was supplied to 5,582 persons. In addition, the " Daily Bread " Society issued, on presentation of the committee's identity card, bread to 3,304 unemployed workmen and office employees. Between December 16th, 1934, and April 14th, 1935, the committee distributed 284,187 hot meals. The food was supplied to 10,489 persons.

CHAPTER IV.

ARMY AND NAVY DIETARIES.

Apart from the case of unemployed and indigent persons and persons in receipt of relief, the feeding of adults is not normally regarded as a matter for direct Government action as regards quantity or quality. There are, however, notable exceptions to this rule, inasmuch as there are collective bodies in all countries, such as armies, which the State has to feed, as well as public institutions with boarders.

Such special cases as the dietary of prisons, hospitals and the like do not fall within the scope of this study.

The question of the feeding of the armed forces has always, by reason of its importance and of the technical difficulties involved, been the object of careful supervision and of special action.

Union of South Africa.

The scale of rations in the Union Defence Forces for all ranks (European members), excluding Union cadets, is as follows (full ration for soldier, one-half ration for wife and one-quarter ration for each male child under 16 and each female child under 18 years of age, with a maximum of six children) :

Ration (daily scale)		Equivalent	
Bread	1 lb.		
Mealie meal	2 oz.	Wamo meal	2 oz.
		or Oatmeal	1 ,,
Fresh meat	1 lb.	Sausage or liver at equivalent money value.	
Tea	½ oz.	Cocoa	¾ oz.
Coffee	½ ,,	Cocoa	¾ ,,
Sugar	5 ,,		
Salt	⅜ ,,		
Pepper	1/64 ,,		
Potatoes	12 ,,	Sweet-potatoes	12 oz.
		or Rice in lieu of 6 oz.	1¾ ,,
		or Samp in lieu of 6 oz.	4 ,,
Vegetables	10 ,,	Dry beans in lieu of 5 oz.	2 ,,
		or Lentils in lieu of 5 oz.	1 ,,
Dried fruit	2 ,,	Fresh fruit twice weekly	4 ,,
Butter	2 ,,		
Cheese	1 ,,		
Jam	2 ,,	¼ lb. packet jelly powder once weekly.	
Milk, fresh	½ pint	Milk, condensed (nominal lb.)	¼ lb.
Flour	½ oz.	Pearl barley	½ oz.
Bacon	2 ,,	Fish fresh once weekly	4 ,,
		or	
		Eggs, excepting days on which fish is issued	1½ eggs.
Boer beskuit or rusk (weekly)	½ lb.		

Austria.

In Austria, the daily rations prescribed for soldiers in permanent garrison quarters have, on an average, a nutritive value of 3,300 calories, made up as follows :

Foodstuffs		Quantity in grammes, except liquids	Meal	Average nutritive value Calories Rubner's system	Nem Pirquet's system
Coffee, roasted		4	Breakfast	221	331
Barley or malt coffee		6			
Fig coffee		5			
Sugar		20			
Milk (centilitres)		20			
Bread		600	Per day	1,340	2,010
Beef		160		287	431
Vegetables	Legumes	40		107	161
	Potatoes	250		208	312
	Kitchen flour	70		234	351
	Rice	60		198	297
	Pickled or fresh	40		8	12
Fat		50	Midday meal and evening meal	442	663
Cheese		50		166	249
Jam		10		22	33
Sugar		15		60	90
Cooking requisites	Salt	20		—	—
	Vinegar (centilit.)	0.5		—	—
	Condiments	0.5		—	—
	Soup greens, powdered	1		2	3
	Onions, fresh	15		5	7
Total				3,300	4,950

The daily rations of soldiers engaged on field exercises and assistance work away from their garrison quarters are increased by 582 calories in the form of a snack which the soldiers take with them in the field.

During manœuvres and strenuous exercises in high mountain districts, the daily rations are further increased by 100 grammes of beef (nutritive value, 180 calories), to allow of a more copious evening meal.

The cookhouses are not strictly tied to the " standard rations " as given above. The bill of fare, which is drawn up in consultation with a cookhouse committee on which the men are represented, should, on the contrary, and as far as the available funds allow, be varied, wholesome, palatable and in accordance with the men's wishes, provided always that the food served has the same nutritive value as the standard rations. Only the prescribed rations of meat, milk and cheese may not be replaced by other foods, in the interests of the marketing of home

agricultural produce. Soldiers who for service reasons are unable to take their meals in the ordinary mess receive a cash allowance representing 1 ½ times the estimated cost of the rations, since individual meals (in inns, etc.) prove more expensive.

Apart from the above-mentioned standard rations, the following may also be issued to troops for various special reasons :

(*a*) An additional bread ration of 200 grammes daily (nutritive value, 447 calories), which is served out to the members of the military assistance corps (young men), as new recruits are frequently undernourished and the early stages of training involve great physical strain.

(*b*) An additional food allowance equivalent to the value, as fixed from time to time, of 300 calories issued to those engaged in field work in the pioneer service, the support companies, etc.

(*c*) An additional health allowance representing the actual cost of 1 gramme of ordinary household tea, 30 grammes of sugar and 2 centilitres of rum per day when the Army Medical Corps officially recognises the outbreak of an epidemic.

At the Theresa Military Academy, the rations are governed by the same rules as in the case of the ordinary troops. As during the academic year, however, the cadets are constantly under a special physical and mental strain, they are allowed an extra food grant equal to twice the above additional food allowance (cost of 600 calories).

Belgium.

In Belgium, the following are the food rations of the private soldier :

(a) *Ordinary ration :*

Fresh or frozen meat	300 grammes
Bread	600 grammes
Coffee	10 grammes
Chicory	5 grammes
Milk	2 centilitres
Margarine	25 grammes
Rice or peas or beans or alimentary pastes	25 grammes
Salt	20 grammes
Pepper	1/4 gramme
Potatoes	1,200 grammes
Fresh vegetables, a varying quantity, approximate cost 20 centimes per day.	
Fats and condiments used in the preparation of the above, approximate cost 20 centimes per day.	

(b) *Field ration :*

Fresh or frozen meat	450 grammes
Bread	750 grammes
Coffee	25 grammes
Lard or magarine	40 grammes
Sugar	30 grammes
Chicory, Rice or peas or beans or alimentary pastes, Salt, Pepper, Potatoes	Same as ordinary ration

United Kingdom.

THE NAVY'S FOOD.

The naval standard ration, and certain extra issues allowable in special circumstances, are as follows :

(i) *Standard ration :*

	Oz. daily
Bread	10
Fresh meat	8
Vegetables	16
Sugar	2
Tea	½
or Coffee	2
Chocolate	½
Condensed milk	¾
or Fresh Milk	5 (*i.e.* ¼ pint).
Jam, pickles or marmalade	1
Preserved meat or salmon	4 (On one day in harbour or two days at sea, weekly.)

Condiments as required.

In addition :

Spirit ration : Rum, one-eighth pint daily, or " grog money " in lieu.

Plus messing allowance. This allowance stands at present at 7.7*d.* a day on the home station.

(ii) *Extra Issues:*

(1) On duty in engine-room :

	Oz. daily
(*a*) Oatmeal	2
Sugar	½
or	
(*b*) Lime Juice	1
Sugar	1

(2) Employment of exceptional character involving heavy extra work such as coaling, etc., or men exposed by their duties to unusually severe weather :

	Oz. daily	
Bread or biscuit	8	
Preserved meat	6	
(*a*) Soluble chocolate	½	Plus $^1/_4$ oz. sugar and ½ oz. condensed milk
or		
(*b*) Tea	$^1/_8$	
or		
(*c*) Coffee	½	
or		
(*d*) One of the issues in paragraph (*i*) above.		

The ration is supplemented by a money allowance for the purchase of additional foodstuffs according to the requirements of individual messes. In ships where messing is conducted on the general messing system, a full dietary is provided by the Accountant Officer. Four meals are provided—viz., breakfast, dinner, tea and supper—and the quantities in the standard ration may be varied as considered desirable, expenditure being regulated by an appropriate daily money allowance per man victualled.

Regular reports from the Fleet on the messing of the personnel ensure that a standard is maintained that is fully adequate in all respects. The approximate total calorie value of the sailor's dietary is 4,000 calories.

Dietary of the Army.

The dietary standard of the soldier is based on a ration of 3,800 calories gross, provided by approximately 130 grammes each of proteins and fat and 500 grammes of carbohydrates ; about 60% of the proteins is derived from animal sources. Certain articles of the diet are issued in kind and the balance is purchased out of a cash allowance to provide variety and a sufficiency of accessory food factors.

To assist units in obtaining full value from the rations, a specimen diet-sheet is prepared and issued quarterly by an expert catering officer, who works in close liaison with the Hygiene Branch at the War Office.

With the same object, messing officers and cooks of units are trained in the subject at the Army School of Cookery.

For troops serving at overseas stations (except India, where they are not administered by the War Office), a standard of feeding equal to that obtaining in this country is aimed at.

Czechoslovakia.

The experience of the Czechoslovak Military Administration has been as follows :

The administration fixed dietary standards on the basis of practical requirements and scientific research. Apart from meat, the soldier's ration consists entirely of agricultural products, so that the army consumption of such commodities is a large one. The Czechoslovak soldier's ration is sufficient for any man engaged in hard work.

The military units fix their bill of fare, as prescribed in the regulations, according to the customs of the district and the habits of the men, and also the local possibilities of purchase, but always with strict regard to the above-mentioned regulations. The diet must not be monotonous and must in any case be of the prescribed caloric value.

The Army Administration sees that the dietary contains a sufficient quantity of vitamins, including, therefore, foodstuffs in which they are present (milk, fresh vegetables, fat, etc.).

The energy-forming nutritive value of an army ration is quite adequate, as is proved by the sound health of the army.

Estonia.

In fixing the dietary, the authorities in Estonia have borne in mind the need for variety. The composition of the daily ration must be such as to compensate physically for the loss of energy in the organism, and at the same time to build up that organism and promote its development. In the preparation of food, the guiding principle has been to safeguard the nutritional value as far as possible, particularly in the matter of vitamins. The dietary of each army unit is composed weekly, with the assistance of an army doctor.

There are two forms of army dietary : the ordinary and the increased standard. The ordinary standard applies in the various units and military institutions and the increased standard in military schools and in the Air Force. The standard in hospitals is 40% and in sanatoria 50% higher than the ordinary standard. The daily dietary, according to the ordinary standard, contains 91 to 108 grammes of albumins, 61 to 80 grammes of fat, and 550 to 600 grammes of carbohydrates—*i.e.*, 3,300 to 3,500 calories net.

Finland.

In Finland, the ordinary ration which forms the basis of the army's diet comprises the following quantities of various foodstuffs :

	Grammes
Rye bread, dry	450
Beef, fresh (dead weight)	120
Pork, fresh (dead weight)	50
Baltic herring, pickled	50
Butter	40
Peas	50
Oatmeal	100
Potatoes	800
Lump sugar	40
Full-cream milk	0.5 litre

Calculating the value of those foodstuffs at current market prices, and adding a certain sum in cash for groceries and other necessaries (at present 7% of the total cost price of the standard ration), we arrive at the amount of the daily subsistence allowance within the limits of which each unit can arrange its dietary as it thinks fit. This system has the advantage of making it possible to keep very close to the fluctuations in local prices, and also leaves each unit full latitude to provide the precise kinds of food customary in the area from which the men are recruited.

Although units have considerable latitude in framing their dietary, it has been thought well to lay down certain general practical rules dealing with dietary physiology :

(1) The diet must be based on a fortnightly diet-sheet drawn up in advance, showing the bill of fare for each day ;

(2) The nutritive value of the daily ration must average 3,800 calories net, and must in no case be less than 3,500 ;

(3) In its chemical composition, the daily ration must observe the proper physiological proportions ;

(4) The dietary must conform to seasonal changes, so that more foodstuffs containing calcium hydrates are eaten in summer, and in winter more fats, full-cream milk, raw foods and foodstuffs rich in vitamins ;

(5) The diet must be so arranged that the men receive adequate, well-prepared, palatable and sufficiently varied meals.

The amount of the daily subsistence allowance may be influenced by special conditions in certain units and establishments. For example, the allowance is increased by 10% in warships at sea, and by 15% in military hospitals.

France.

In France, the various regimental authorities have a considerable latitude in their purchases and commonly select " protective " foodstuffs. Bills of fare of the meals are submitted for approval to army doctors (see Chapter VII, below, pages 231 *et seq.*).

Iraq.

The standard diet for the Iraq army, both for officers and for men, is as follows :

	Soldiers Grammes	Officers' school (18-25 years) Grammes
Bread (wheat)	600	600
Rice	200	300
Meat (generally mutton)	150	300
Milk	—	50
Butter fat (Ghee)	40	105
Fresh vegetables	330	500
Dry vegetables	150	—
Lentils	80	—
Fruits	—	150 to 500
Sugar	—	60
Jams	—	40
Salt	23	28
Tea	—	3
Tomato juice	15	15
Lemon juice	1	2
Pepper and curry	—	1

Italy.

Army.

Various improvements have been made during the past few years. The soldier's ration no longer presents the terrible monotony of former years, and the food has also gained in nutritive value.

The improvements made consist in : (1) the replacement twice a week, at the first meal, of meat by farinaceous dishes or rice with vegetables plus a ration of table cheese, thus utilising a product with which the country is well provided ; (2) the consumption once a week, during certain periods of the year, of a ration of " dentale " (fish

preserved in oil) ; (3) the supply of milk with the morning coffee ; (4) the introduction of a " free day "—*i.e.*, once a week the various corps and sections, instead of receiving the normal meat ration for their men from the stores, are given a sum with which they may purchase foodstuffs on the local market (poultry, fish, beef, pork, etc.), endeavouring as far as possible to suit the tastes of the men ; (5) increase in the quantity of green vegetables in the composition of the military ration, and hence increase in the vitamin content.

The innovations introduced have raised the total protein content, more particularly of proteins possessing the greatest value (cheese, milk), which is very important when it is considered that the army consists largely of young men who are still growing. The same applies as regards the proportion of fats, which has almost reached the quantity of 75 grammes fixed during the war by the Inter-Allied Scientific Commission.

Thus, the present ration for garrison troops supplies the soldier with about 3,200 calories per day. When the troops have harder work to perform (camps, manœuvres, etc.), or find themselves in peculiar climatic conditions, they are given a special supplementary ration of certain foodstuffs which form part of the normal ration. Thus, a soldier taking part in field manœuvres obtains about 3,700 calories from his ration, while a soldier stationed in the mountains receives about 4,100.

In the military schools and regimental schools, where there is a mess, the dietary is more varied. Usually, each school command draws up a list for the two meals for each day of the week, and this list is approved by the competent health authorities in order to preclude physiological or sanitary disadvantages.

The food ration in East Africa is designed to meet all contingent physiological requirements ; it appears to be sufficiently varied, if one takes into account the special conditions of supply. The vitamin content is ensured by the systematic distribution of lemons, oranges and other fruit.

The individual reserve ration (biscuit, 400 grammes ; tinned meat, 200 grammes) supplies a number of calories below the normal ration. This is also the case in many other armies. It may be noted, however, that this ration is consumed only in exceptional circumstances and for a fairly limited time (one or two days). A scheme is under consideration for including in the reserve ration a tin of prepared soup, which would raise the number of calories by about 500.

The dietary of the troops is subject to permanent supervision. The condition and state of preservation of the various foodstuffs are inspected at the time of purchase and when actually employed in the units. When large quantities of foodstuffs are purchased, steps are taken to make sure of their content in certain fundamental chemical substances. In the various units, the Food Inspection Commission supervises the working of the Commissariat, and the Inspector of Sanitary Services exercises supervision in all matters relating to

hygiene. In this connection may be mentioned the strict supervision that is exercised over the health of persons attached to the different branches of the Commissariat, with special reference to infectious diseases whose seat is in the intestines (detection of possible carriers).

Navy.

Similar criteria have determined the composition of the navy ration. Since the application of sanctions, it may be noted, meat has been stopped on Tuesdays, until further notice. With the sum representing the cost of the ration of 250 grammes of meat for that day, the commands must purchase on the market fresh fish or eggs or tinned tunny or " dentale ". The composition of the ration admits of changes, as the command, instead of purchasing part of the foodstuffs specified in the list, can always purchase other foodstuffs with the sum provided

The distribution of the supplies specified in the list is effected daily by the Royal Marine Stores for men on shore, and by the Naval Commissariat for vessels of the navy. The Naval Commissariat depots obtain fresh supplies periodically from the naval bases' stores.

Air Force.

The composition of the rations, studied and introduced in the air force with certain additions and modifications, shows that it constitutes for individuals serving under very varied circumstances and conditions a perfect dietary, which corresponds both qualitatively and quantitatively to the requirements of the organism.

The power of discretion whereby commands may replace certain commodities by others more suited to the season and to local conditions has always permitted of providing a wholesome, ample and palatable diet.

All foodstuffs for the mess, which must satisfy certain technical requirements laid down in the special regulations, are subject to strict inspection at the time of purchase.

In order to provide for members of the forces, and to some extent also for the civilian personnel, wholesome, adequate and properly prepared food with that minimum of comfort which the austere and fatiguing conditions of camp life—often remote from all ordinary human habitations—allow, special canteens have been established at all the service air ports and at the Royal Aeronautical Academy.

Efforts in two other directions should also be mentioned—namely, the co-operatives and the farms established in practically all military airports. The co-operatives make it possible for the men to procure all kinds of provisions cheaply and of good quality ; the farms are engaged in vegetable and fruit growing and the raising of poultry for the benefit of the personnel of the air ports, who are thus able to enjoy a more varied diet.

Latvia.

Nutrition Standards in the Latvian Army.

The following table shows the quantity of foodstuffs consumed by a soldier in the Latvian army in a month :

Product	Standard of consumption	Content and calorific value				
		Albumens	Fats	Carbohydrates	Other substances	Calorific value in kilo-calories
	Grammes	Grammes	Grammes	Grammes	Grammes	
Rye bread	18,600	1,186.68	78.12	10,131.42	630.54	47,128.68
Wheat bread	6,200	539.40	57.66	3,252.52	159.34	16,083.42
Fresh beef	4,500	554.85	216.45	11.70	523.80	4,335.30
Salt pork	1,485	318.53	399.32	—	188.—	5,019.60
Salted small herrings	120	22.72	8.53	—	16.97	172.48
Fresh fish	550	66.22	1.27	—	29.91	283.25
Tinned fish	120	21.65	17.94	1.38	21.18	261.24
Fresh milk (as an ingredient)	4,120	123.60	123.60	193.64	37.08	2,448.10
Curds	240	41.16	2.76	9.48	3.—	233.30
Eggs (each)	0.25	1.57	1.50	0.08	0.13	20.75
Bacon	2,170	210.92	1,643.78	—	116.75	16,151.74
Barley meal or pearl barley	1,710	197.51	37.79	1,193.58	41.73	6,054.94
Peas	1,260	293.58	23.44	662.76	103.83	4,138.97
Macaroni	560	63.06	7.39	418.32	4.32	2,042.43
Wheat flour	570	62.70	7.35	416.10	5.70	2,031.48
Potatoes	15,350	307.—	23.03	3,202.01	317.75	14,602.46
Carrots	2,060	24.31	5.97	186.64	55.62	920.61
Turnips	500	6.95	0.90	36.85	10.90	187.95
Beetroot	300	3.93	0.30	20.40	5.61	102.33
Fresh cabbage	930	14.14	1.40	38.78	19.07	229.99
Sauerkraut	3,040	41.04	10.34	85.42	124.34	608.61
Dried apples	100	1.42	0.75	58.88	7.67	254.21
Prunes	30	0.58	0.15	15.95	5.27	69.13
Starch	30	0.26	0.02	24.20	0.19	100.46
Cranberries	160	0.10	—	21.70	3.30	93.47
Salt	620	—	—	—	—	—
Onions	620	8.06	0.87	58.53	7.94	281.05
Pepper	6.2	—	—	—	—	—
Coffee	310	13.42	4.34	10.42	257.67	138.11
Milk (for coffee)	1,860	55.80	55.80	87.42	16.74	1,105.21
Sugar	1,240	—	—	1,233.80	—	5,058.58
Total for one month (31 days)		4,182.16	2, 730.77	21,371.98	2,713.65	130,157.85
Average per day		134.91	88.09	689.42	87.54	4,198.64

Poland.

The army of Poland has its own nutrition standards. In peace-time, there are four basic food rations and four supplementary rations, established according to the relevant provisions. The minimum standards are taken as a basis and may be augmented in the various units as the

result of economical management or special grants. The composition and caloric value of the various basic rations and supplementary rations is as follows :

Food	Unit of measurement	Basic ration				Extra ration			
		1 Normal ration "N"	2 School ration "S"	3 Diciplinary ration "K"	4 Total ration for the sick "L"	5 Extra bread	6 Anti-epidemic allowance	7 Allowance for heavy work	8 Milk allowance
1. Army bread	Grammes	800	300	700	300	200	—	—	—
2. Wheaten bread	,,	—	300	—	—	—	—	—	—
3. Rye bread	,,	—	—	—	150	—	—	—	—
4. Wheaten rolls	,,	—	—	—	100	—	—	—	—
5. Coffee extract	,,	50	25	25	—	—	—	—	—
6. Roasted coffee beans	,,	—	—	—	10	—	—	—	—
7. Tea	,,	—	1	—	1	—	1	1	—
8. Milk	Centilitres	—	40	—	40	—	—	—	100
9. Sugar	Grammes	—	70	—	70	—	10	10	—
10. Beef	,,	250	400	150	200	—	—	50	—
11. Veal	,,	—	—	—	100	—	—	—	—
12. Vegetables in a dry state	,,	150	140	175	100	—	—	—	—
13. Flour	,,	—	—	—	—	—	—	—	—
14. Fresh vegetables	,,	200	200	100	250	—	—	—	—
15. Fresh fruit	,,	—	—	—	50	—	—	—	—
16. Potatoes	,,	700	500	700	500	—	—	—	—
17. Bacon	,,	50	50	30	30	—	—	25	—
18. Butter	,,	—	20	—	40	—	—	—	—
19. Eggs	Each	—	—	—	¾	—	—	—	—
20. Flour for cooking	Grammes	10	10	10	10	—	—	—	—
21. Kitchen salt	,,	22	22	22	22	—	—	—	—
22. Fresh onions	,,	15	15	15	15	—	—	—	—
23. Dried vegetables	,,	1	1	1	1	—	—	—	—
24. Spice	,,	0.5	0.5	0.5	0.5	—	—	—	—
25. Vinegar	Centilitres	0.5	0.5	0.5	0.5	—	—	—	—
Caloric value		3,476	4,302	2,998	3,497	414	40	270	600

Men serving in the navy receive on land the food rations and, if necessary, the extra rations allowed to the land army. Sailors on board ship always receive the extra ration for men performing heavy work and the anti-epidemic allowance, in addition to ordinary rations.

Sweden.

In the Swedish army, the direct responsibility for the victualling of a military unit lies with the commanding officer, assisted by the commissary (quartermaster) of the regiment. They attend to the necessary purchases of provisions and must see to it " that the men get such food as is liked, and is good and plentiful, and all the necessary variety ".

In each military unit, a non-commissioned officer is appointed superintendent of the kitchen, as such serving directly under the quartermaster. It devolves on the superintendent of the kitchen to receive and be responsible for all articles of food, to superintend the men's kitchen and to be responsible for the preparation and distribution of the food.

The price of portions per man and day is calculated in accordance with an index established by the King, the s.c. normal-portion-estimate. As a minimum for the supply of provisions per day, there are fixed 3,675 calories ; as the upper limit, 3,900 calories. Under circumstances of special exertion, the dietary is adapted accordingly.

Example of a Weekly Dietary Estimate.

	August-October	November-April	May-July
Bread :			
Spiced bread	420 grammes	560 grammes	520 grammes
Soft coarse	360 ,,	420 ,,	360 ,,
Dry	490 ,,	490 ,,	490 ,,
Biscuits	50 ,,	35 ,,	35 ,,
Soft wheat	570 ,,	490 ,,	595 ,,
Bread in reserve	—	20 ,,	20 ,,
Fish :			
Fresh	225 ,,	225 ,,	225 ,,
Herring, pickled	125 ,,	125 ,,	150 ,,
Dry fruit	145 ,,	105 ,,	105 ,,
Vegetables	822 ,,	340 ,,	109 ,,
Groats	300 ,,	235 ,,	270 ,,
Dairy products :			
Milk (0.8% fat)	1.53 litre	0.6 litre	1,5 litre
Unskimmed milk	2.5 ,,	3.15 ,,	1.6 ,,
Skimmed milk	0.9 ,,	0.9 ,,	2.0 ,,
Cream	0.12 ,,	0.1 ,,	0.11 ,,
Butter	440 grammes	465 grammes	465 grammes
Cheese	310 ,,	380 ,,	150 ,,
Flour	245 ,,	210 ,,	292 ,,
Roots	4,265 ,,	2,900 ,,	2,280 ,,
Of which potatoes	3,100 ,,	2,250 ,,	2,250 ,,
Juice and jam	820 ,,	735 ,,	935 ,,
Sugar treacle	378 ,,	327 ,,	278 ,,

	August-October	November-April	May-July
Meat :			
Preserved meat . .	200 grammes	200 grammes	200 grammes
Dripping	70 ,,	60 ,,	40 ,,
Blood	—	100 ,,	100 ,,
Pork, uncured . .	425 ,,	120 ,,	—
Pork, cured. . . .	—	370 ,,	250 ,,
Bacon	—	175 ,,	—
Mutton	250 ,,	—	—
Brawn (from veal) .	125 ,,	—	—
Pork sausage . . .	150 ,,	100 ,,	175 ,,
Sausage, to be fried	—	125 ,,	175 ,,
Suet	—	25 ,,	25 ,,
German sausage .	—	30 ,,	100 ,,
Fresh beef	250 ,,	275 ,,	150 ,,
Sausage (Swedish) .	—	—	250 ,,
Various articles of food :			
Chocolate (for the army)	—	20 ,,	20 ,,
Coffee	70 ,,	60 ,,	70 ,,
Tea	1 ,,	1 ,,	—
Tomatoes	200 ,,	—	—
Almonds	6 ,,	10 ,,	—
Eggs (each)	1.4	2.4	4.3
Macaroni.	—	—	70 ,,
Peas.	—	180 ,,	90 ,,
Calories, per day. . .	3,721	3,800	3,680
Albumen, grammes per day	112	124	115

The regimental doctor assists the commanding officer in examining questions concerning portion estimates and the like. He examines each dietary estimate and attests the examination. The dietary estimates are also controlled from a medical point of view by the doctor of the army division. The Health Section of the Army Board has a final right to examine the estimates.

Very similar regulations are in force in the navy.

Switzerland.

The dietary of the army in Switzerland is designed to correspond as closely as possible to the dietary of civil life, the short periods of service precluding any systematic adaptation to a different system. Observations have been made mainly in connection with the training courses for recruits (nine to fifteen weeks, according to the arm in question).

The Swiss military ration, consisting of four main elements, is as follows :

(1) Bread ration, 500 grammes. The ration is not distributed individually. The men help themselves as they please. It is found that the average consumption does not exceed 500 grammes.

(2) Meat ration, 250 grammes. The meat (cow or ox beef) is replaced once a week by other meat of equivalent monetary value and is once a week omitted from the dietary. The 250 grammes ration is found perfectly adequate.

(3) Cheese ration, 70 grammes. Available as required. The ration is found ample.

(4) Vegetable portion, value 42 to 46 centimes. The portion includes, in addition to fresh or dried vegetables, milk, coffee, chocolate and tea. Experience shows that a daily expenditure within the limits given is ample for all requirements.

The above observations were made on recruits (ordinarily of 20 to 21 years of age) from all parts of Switzerland.

Turkey.

In Turkey, army rations are drawn up in accordance with laws and decrees in force. The rations of a soldier in peace-time are the following :

	Grammes
Bread	900
Meat	250
Rice or threshed wheat (boulgour) .	150
Butter	20
Salt	20

United States of America.

The army ration is prescribed by the President under the provisions of Section 40, Act of February 2nd, 1901. The Filipino ration is prescribed by the Secretary of War under the provisions of Section 36, Act of February 2nd, 1901, as amended by the Act of May 10th, 1926.

It is the duty of the officers of the (Subsistence Department) Quartermaster Corps, under the direction of the Secretary of War, to issue to the army such supplies as enter into the composition of the ration.

The following kinds of rations are provided :

(1) The garrison ration ;
(2) The Filipino ration ;
(3) The travel ration ;
(4) The field ration ;
(5) The reserve ration.

Garrison Ration. — The garrison ration is that prescribed in time of peace for all persons entitled to a ration, except under specific conditions for which other rations are prescribed, and consists of the following :

Meat : [1] [2]	Oz.
Bacon	2
Beef, fresh [3]	10
Chicken, fresh	2
Pork, fresh	4
Eggs, fresh (each)	1
Dry vegetables and cereals :	
Beans	0.5
Rice	0.6
Rolled oats	1.5
Fresh vegetables :	
Beans, string, canned	3
Corn, canned	2
Onions	2
Peas, canned	2
Potatoes	10
Tomatoes, canned	2
Fruit :	
Apples, canned	1.5
Jam or preserves	0.5
Peaches, canned	1.2
Pineapple, canned	1.2
Prunes	0.3

Beverages :	Oz.
Coffee, roasted or roasted and ground	2
Cocoa	0.3
Tea	0.05
Milk : [4]	
Milk, evaporated	1
Milk, fresh	8
Lard :	
Lard	0.64
Lard substitute	0.64
Butter	2
Flour, wheat [5]	12
Baking powder	0.09
Macaroni	0.25
Cheese	0.25
Sugar	5
Cinnamon	0.014
Flavoring extract	0.02
Pepper, black	0.04
Pickles, cucumber	0.16
Salt	0.5
Sirup	0.5
Vinegar	0.16

The dietary of the United States navy is fixed by law :

" *Section* 1. — The navy ration issued to each person entitled thereto shall consist of the following daily allowance of provisions : Eight ounces of biscuit or twelve ounces of soft bread or twelve ounces of flour ; twelve ounces of preserved meat or fourteen ounces of salt or

[1] In Alaska, the beef component will be increased by 10%, the bacon component by 33 1/3% and the vegetable component by 20%.

[2] On Thanksgiving Day and on Christmas Day, the meat component will be as follows: Turkey, drawn, 25 ounces ; turkey, undrawn, 28 ounces.

[3] Alternate for and hind quarters.

[4] In the Philippine Islands and at remote stations where it is impracticable to procure fresh milk, the milk allowance will be 6 ounces of evaporated milk.

[5] When it is impracticable to bake soft bread, or if for any reason it is more economical to purchase than to bake it, soft bread will be a component in lieu of an equal quantity of flour.

smoked meat or twenty ounces of fresh meat or fresh fish or poultry ; twelve ounces of dried vegetables or eighteen ounces of canned vegetables or forty-four ounces of fresh vegetables ; four ounces of dried fruit or ten ounces of canned fruit or six ounces of preserved fruit or sixteen ounces of fresh fruit ; two ounces of cocoa or two ounces of coffee or one-half ounce of tea ; four ounces of evaporated milk or one ounce of powdered milk or one-half pint of fresh milk, together with one ounce and six-tenths ounces of butter, one and six-tenths ounces of cereals or rice or starch foods, one-half ounce of cheese, one and two-tenths ounces of eggs, one and six-tenths ounces of lard or lard substitute, two-fifths of a gill of oils or sauces or vinegar, five ounces of sugar and such quantities of baking powder and soda, flavouring extracts, mustard, pepper, pickles, salt, syrup, spices and yeast as required.

" *Section* 2. — Any article comprised in the navy ration may be issued in excess of the authorised quantity, provided that there be an under-issue of the same value in some other article or articles.

" *Section* 3. — The Secretary of the Navy is authorised to increase the above-stated allowances on those vessels having an allowed complement of less than one hundred and fifty men and subsisting on a ration allowance, when, in his opinion, such vessels are operating under conditions which warrant such increases.

" *Section* 4. — The Secretary of the Navy is authorised to fix the limit of the cost of rations on destroyers, submarines, mine-sweepers, tugs, aircraft and other vessels subsisted under the direction of commanding officers."

The Bureau of Supplies and Accounts is responsible for the purchase and preparation of food, and the Bureau of Medicine and Surgery, through its medical officers, is charged with the responsibility of inspecting the food with respect to quality, manner of preparation and serving.

Yugoslavia.

In Yugoslavia, the problem of the feeding of the recruits for the army and navy has been settled by the establishment of a table of the different foodstuffs which go to make up the soldier's daily ration.

The table has been compiled, having regard to particular national tastes and customs, with a view to providing sufficient variety while at the same time affording full nutritive value corresponding to the physical effort demanded by military service.

The table provides for the daily supply of the following foodstuffs, subject to minor variations :

1 kilogramme of bread (of pure wheat flour) ;
0.3 kilogramme of fresh meat (beef, mutton or pork) ;

0.12-0.15 kilogramme of dry cooking foodstuffs (haricot beans, rice, lentils, peas, semolina, etc.) ; or

0.4-0.75 kilogramme of fresh vegetables (vegetable marrows, spinach, beans, cabbages, kale, potatoes, etc.) ;

0.02 kilogramme of fat or oil ;

0.056 kilogramme of condiments, various (salt, pepper, flour, vinegar) ;

0.04-0.115 kilogramme of hot drink for the midday meal (coffee, tea, soup, etc.).

The above quantities of all these products taken together represent some 3,500 calories.

In addition to these normal and regular daily rations, provision is made for the supply of improved rations (additional meat, fat or cooked foods), or for the distribution of supplementary rations (pies of all kinds, tinned meat, cheese, etc.), in certain exceptional cases—*e.g.*, in connection with epidemics, or at times when specially severe labour is required on fortifications, ships, etc.

A variety of national dishes is prepared from the foodstuffs above mentioned.

CHAPTER V.

MEASURES TO ENABLE PARTICULAR CATEGORIES OF CONSUMERS TO OBTAIN FOODSTUFFS AT REDUCED PRICES.

The present section will be confined to mentioning a few cases in which public authorities or private undertakings take steps to enable a category of consumers to obtain goods at reduced prices. It will not attempt to review systems of price control in general.

Union of South Africa.

SCHEME FOR ENCOURAGING CONSUMPTION OF SURPLUS MILK AND BUTTER.

The dairy industry of the Union of South Africa has expanded very considerably during the past few years, and production has evinced a consistent tendency to increase. The outcome has been that the stage of surplus production was reached some years ago, and, in order to ensure a reasonable return to the producer, steps had to be taken to remove the surplus from the inland market.

Legislation was therefore enacted in 1930 to provide for the establishment of a Dairy Industry Control Board, which was vested, *inter alia*, with the power of determining what quantities of butter and cheese should be exported compulsorily from time to time under a system of bounty, in order to relieve the internal market from the depressing effect of the surplus production, with due regard to the Union's own requirements. The Board was at the same time also

empowered to make all possible efforts to increase the local consumption of dairy products.

In view of the ever-increasing production of dairy products, the comparatively low level to which the prices had declined on the oversea market, the fact that indigent persons in the Union could not always afford to buy sufficient quantities of these health-promoting foods, especially during periodic droughts when scarcity sometimes obtained, and the fact that the efforts of the Board to increase local consumption met with little success, the Government decided, in 1935, upon an attempt to stimulate internal consumption of dairy products in a direct manner by means of a State-aided butter and milk scheme.

Whilst the scheme will undoubtedly augment the local outlet for dairy products, it is still largely in the nature of an experiment, the effects of which are difficult to predict. That it cannot absorb the surplus of the dairy industry is clear ; nor is it without elements of danger, inasmuch as the presence of supplies in excess of those which can be absorbed by competitive demand tends to depress local price-levels.

On the other hand, the plan has two advantages, since, while ensuring a supply of health-promoting food to the indigent section of the Union's population, it presents an opportunity to approach the marketing problem from a new angle—namely, that of subsidising local consumption instead of export.

To finance the scheme, the Union Parliament voted £93,000 for the financial year 1935-36, and it is expected that a considerably larger amount will be placed on the estimates for 1936-37.

The administration of the scheme has been entrusted to the Dairy Industry Control Board, and falls into two parts :

(1) The distribution of milk and cheese to children ; and

(2) The distribution of butter to charitable institutions.

Milk and Cheese.

The arrangements for the distribution of milk and cheese are briefly as follows :

1. The milk used is, as far as possible, drawn from existing supplies now used in rural areas for cheese and butter, and, in urban areas, from the surplus milk on the liquid market.

2. In certain areas and at certain times, it is difficult to provide milk. In such cases cheese, otherwise intended for export, is rationed to children.

3. The quantity of milk supplied to each child is limited to not more than half a pint per day ; in the case of cheese, to one ounce per child per day.

4. The milk or cheese is supplied on every school day of the school year.

5. The milk is delivered at the schools, and is usually distributed amongst the children before or during the morning break, and is consumed at the time of supply. Where facilities are available, only pasteurised milk is used.

6. The scheme applies to all children in primary classes and to indigent children in secondary classes. Milk is also distributed to pre-school children through charitable organisations.

7. The parents of schoolchildren who are in a position to do so are expected to contribute 2*s*. per quarter towards the cost of milk supplied to each of their children. Payment is, however, not obligatory.

8. It is estimated that at present about 100,000 children are receiving a daily ration of milk and about 100,000 a daily ration of cheese. It is further estimated that, as soon as the scheme is in full operation, about 350,000 children will benefit in this way.

Butter.

The distribution of butter through charitable organisations, which are normally unable to buy such products at ruling market prices, is encouraged by making supplies available at low cost :

1. Charitable institutions and organisations approved by the Board are supplied with butter for consumption, or distribution, at a price of 9*d*., 8*d*. and 7*d*. per pound for first, second and third grade butter, respectively, over and above any quantity purchased by such institutions and organisations in the ordinary course.

2. Butter is supplied free or at a lower rate than mentioned in paragraph 1 to such charitable organisations of a specially deserving nature, as may be approved by the Board.

3. If it appears that any deserving institutions, such as schools, hostels and hospitals, etc., are prepared to take butter in excess of the quantities normally consumed by them, such additional butter is supplied to them at export parity price—*i.e.*, the price which such butter would have realised had it been exported.

4. The cost of carrying out the above scheme is borne by the Union Government. The Dairy Industry Control Board, however, contributes an amount equal to that which it would have been obliged to spend in bounty on such butter had it been exported, less the cost of administration and less a reasonable margin to cover the risk of any such butter finding its way into ordinary trade channels, in displacement of normal sales.

It is estimated that, on the present basis, about 750,000 lb. of butter will be distributed under this scheme, and, according to reports, it is giving very satisfactory results, especially in respect of the supply of milk to schoolchildren.

United Kingdom.

In the exceptional circumstances of the war, it was found necessary to introduce by gradual stages a wide system of State control of food supplies and prices and of the machinery of food distribution. The system that was evolved was peculiar to the special conditions of the war and was gradually liquidated after the termination of the war ; but the general increase of prices which took place during and since the war, and the greater instability of prices in the years immediately following the war as compared with the pre-war period, left public opinion keenly sensitive on questions relating to prices charged for the necessaries of life.

The Profiteering Act of 1919 gave the Board of Trade power to investigate prices, costs and profits of articles of common use, and to fix maximum prices, and made the charging of prices giving unreasonable profits an offence punishable by fine or imprisonment. This Act, as amended by subsequent Acts, remained in force for a period of less than two years. Under the Acts, the Board of Trade was enabled to establish local profiteering committees and to delegate their powers, except powers of price-fixing, to those committees. A number of enquiries were made by Standing Committees appointed under the Acts into various trades dealing with food and other commodities. Summarising this experience in his book on " British Food Control ", Sir William Beveridge stated that the total number of complaints investigated by the 1,800 profiteering committees during twenty months for which the Act operated was 4,700, and, of these, 75% were dismissed as irrelevant.

In December 1922, the Minister of Agriculture and Fisheries set up an important enquiry into the distribution and prices of agricultural products by appointing a Committee, under the Chairmanship of Lord Linlithgow, " to enquire into the methods and costs of selling and distributing agricultural, horticultural and dairy produce in the United Kingdom, and to consider whether, and if so by what means, the disparity between the price received by the producer and that paid by the consumer can be diminished".

The Committee produced, in 1933, reports on milk and milk products, fruit and vegetables, meat, poultry and eggs, cereals, flour and bread and a final report. In its final report, the Committee emphasised the need for continuous investigation into food marketing and distribution. It said that its investigations had led it to the conclusion that the spread between producers' and consumers' prices was unjustifiably wide. " Taken as a whole, distributive costs are a far heavier burden than society will permanently consent to bear."

In November 1924, the Royal Commission on Food Prices was appointed under the chairmanship of Sir Auckland Geddes. The Commission made a report in April 1925, which contained, in addition to a general section on food prices, sections containing the results of their investigations into bread, flour, wheat and meat. The Commission

recommended the establishment of a Food Council, and, in view of this recommendation, it did not extend its enquiries to other commodities, as it thought that the Food Council might carry on that work.

The Food Council was appointed by the Prime Minister in July 1925 to consider questions relating to the supply and price of articles of food of general consumption. It is not a statutory body and has no compulsory powers. It has made *ad hoc* investigations from time to time into various commodities, and its reports have been published. One example of its work is found in the drawing-up, after enquiries into bakers' accounts, of a scale of maximum bread prices in relation to flour prices. While this scale is not universally observed, it is generally followed by the London bakers' associations and sets a standard for bread prices in other parts of the country.

The Council has produced twenty-one reports, of which nine have been concerned with bread, one with flour, three with milk, two with tea, two with meat, one with fish and one with market-garden produce.

Reference may be made to an experiment in the distribution of potatoes at special prices conducted by the Potato Marketing Board in Bishop Auckland. This Board, the authority which regulates the supplies of potatoes in the United Kingdom, decided, in January 1935, to undertake a short local experiment in the distribution of potatoes in order to test the possibility of disposing of surplus supplies at specially low prices for consumption by necessitous families in such a way as not to disturb the normal operations of retail trade. Bishop Auckland, a small town in the coal-mining area of County Durham, where the greater part of the population are workers with small incomes and where unemployment is severe, was selected as a suitable centre. Vouchers were issued through the Employment Exchange to those who were unemployed or receiving public assistance, and these entitled the holders to purchase potatoes for domestic use at a favourable price.

It was fully realised that the restriction of the benefits to unemployed persons was artificial, that a number of those who were in employment and who had a large number of dependents might be living at as low a level of income. But the Board was primarily concerned, not with social relief in Bishop Auckland, but with an experiment to ascertain facts, and the restriction referred to provided an easy means of identifying a large number of those whose purchasing power was at a low level. Moreover, information was available regarding their number and the dependents of each man's family, while the fact that every one of them called once or twice weekly at the local Employment Exchange facilitated contact and communication. The town of Bishop Auckland contains some 19,000 persons, and there are approximately 5,000 male insured workers. Of this number, 2,437 (48%) were unemployed and they had 1,594 adult and 2,205 juvenile dependents, making 6,236 in all. To these persons (representing 33% of the population) a supply of potatoes was

made available for eight weeks (February, March 1935) at a specially reduced price. To qualify for this supply, prospective purchasers had to obtain a voucher from the Employment Exchange, visit a local retailer to get this voucher stamped, then proceed to a central warehouse, taking their own bag or other container, and pay cash.

The reduction in price was 3*d.* per 14 lb. from an existing price of 7*d.*, already an abnormally low price. Thus, a family consuming 21 lb. weekly would save the difference between 10½*d.* and 6*d.*, or 4½*d.* per week. The quantities in which these cheap supplies were available were limited to each family as follows :

	Lb. per week
For men with wife and 1 child	21
For men with wife and 2 to 4 children	42
For men with wife and 5 to 8 children	63

Of the full number of 20,929 vouchers issued by the Employment Exchange, 19,405 were utilised.

During the period of the experiment, the normal sales of potatoes in the retail shops fell by 40%, but the total consumption in the whole area rose by no less than 96%. Even if allowance is made for the stocks left on hand and for the fall in sales by fried-fish shops, the increase is still 69%.

This experiment definitely showed that, in a town having a high proportion of low-level incomes, and even at a time when prices were already exceptionally low, the consumption of an article like potatoes, the demand for which is usually regarded as inelastic, is, under certain conditions, responsive to a fall in price to a remarkable degree. The experiment also showed that, if there are cheap surplus supplies available which it is desired to dispose of without disturbing the general price structure, it is possible to devise machinery whereby the retailers' contact with their consumers is maintained, even if such supplies are not sold from their existing shops.

Bulgaria.

In Bulgaria, the Directorate for the Purchase and Export of Cereals, by fixing for agricultural products prices which, though not very high, are at all events stable, has safeguarded the rural population against price speculation and thus banished one very serious danger that threatens every agricultural producer—the danger that he may be obliged to sell his products for a song. On the other hand, thanks to the granaries established by the Directorate throughout the country and to the agricultural co-operative societies, the rural population, when threatened with famine after a poor harvest, can obtain effective assistance either through the Agricultural and Co-operative Bank or through the " Public Calamities Fund ". Assistance is in the form of cereals, which are distributed for consumption or sowing.

Czechoslovakia.

On July 20th, 1935, the Government of Czechoslovakia stated that it would take steps to prevent any advance in the price-level of flour and bread. The various State departments at once ascertained the prices of flour paid on July 15th, both wholesale and retail, and these prices served as a basis for the publication of the maximum prices of flour in the different districts. The fixing of prices had another advantage —*i.e.*, the various grades of flour were to some extent standardised. Flour-mills were thus prevented from increasing their sales by offering products of an inferior quality at a lower price. Prices have been kept at the same level because the Government authorised the Czechoslovak Wheat Company to supply the mills with sufficient quantities of old wheat and rye at a reduced price. This made it impossible for the millers to raise their prices.

The price of bread was stabilised by similar means, thanks to the establishment of the Millers' Union, which helped to keep the prices of flour uniform.

It was also found necessary to arrange for a sufficient supply of potatoes at a low price. A large quantity is used for the manufacture of alcohol. In order to ensure an adequate supply for the population, when the potato crop was rather less plentiful than the average, a part of the barley stocks were sent to the alcohol distilleries, and a large part of the potato crop was thus kept for direct consumption. The stability of the market price-level was ensured by an arrangement with producers ; after September 15th, there was practically no fluctuation in the price of potatoes in the agricultural markets, although the crop was 20% or 30% smaller than last year's crop. The quantity of potatoes required for the unemployed was set aside by the association for the marketing of potatoes, and an increase in prices in the various districts where the demand is greatest and prices are most likely to rise was thus prevented in the interest of the unemployed, who would otherwise have had to do without potatoes. This association arranged for potatoes to be supplied to the poorest classes of the population at cost price. To prevent heavy transport charges on potatoes for the unemployed, the Ministry of Railways made a reduction of 40% on those consignments ; 3,000 truck-loads—*i.e.*, 10,000 kilogrammes of potatoes—were thus obtained for the unemployed. The quality of the potatoes was satisfactory in the case of the first 2,000 truck-loads ; 14,000 truck-loads were stopped because the quality did not come up to the required standard.

Various measures have been taken to ensure an adequate supply of meat and animal products for the unemployed ; in particular, imports of fatted pigs have been increased considerably. During the first ten months of 1935, 155,000 fat pigs were imported, whereas during the whole of 1934 only 80,000 entered Czechoslovakia. Although these imports were prejudicial to the interests of home producers, the Government did not hesitate to take this step in order that the price-

level of animal products might be kept comparatively low. For the same reason, the import duty on pork fat was reduced to 90 crowns for raw pork fat and 120 crowns for lard, the normal import duty being 360 crowns per 100 kilogrammes.

France.

AGRICULTURAL PRODUCTION ASSOCIATIONS.

Agricultural production co-operatives and syndicates are now devoting special attention to quality. In the matter of vegetable products, the National Federation of Co-operatives and syndicates of fruit-growers, market-gardeners, horticulturists and producers of other agricultural products has recently, for the purpose of improving and supervising quality, adopted a series of measures which have proved effective from the outset.

These measures are of two kinds : general, with a view to establishing liaison with certain national organisations having a specified range of action ; and particular, in that they are peculiar to the co-operative movement itself.

As examples of the first category, we may mention the increasingly close co-operation with the National Federation for the campaign against farm and garden pests. The joint study of increasingly important documentary material greatly facilitates the campaign against these pests by the institution of better methods of defence and the growing of good-quality fruit and vegetables.

As a national measure, the National Federation of Co-operatives has created a national mark which is affixed to goods packed in co-operative workshops. These workshops are subject to supervision as regards methods of packing, and the mark is granted as a reward for the maintenance of satisfactory conditions.

The extension of this practice has been made possible by the establishment of central co-operative packing-stations working for numerous producers in neighbouring communes or for syndicates.

Various enquiries have shown that a regularly uniform packing cannot be obtained in small or homecraft industries, and that a mark will only engender confidence when it stands for some regular and reliable method of work in connection with a large volume of important products.

As a result of this effort and the relations which have been established with consumers' co-operatives, only those producers' co-operatives which accept the control of the National Federation are allowed to tender to the wholesale warehouse of the co-operatives of France.

It should also be mentioned that the National Federation advises its affiliated groups regarding the choice of fruit-trees for planting, the choice of varieties, the distribution of grafts and second grafting. Finally, the creation of syndicates for the defence of appellations of origin also provides a possibility of protecting quality.

In the matter of products of animal origin, the agricultural co-operatives and syndicates have also been very active. Live-stock breeding syndicates have, by the introduction of pedigree registers, contributed to the improvement of stock. Numerous steps have already been taken to improve French live-stock. The Law of July 7th, 1933, on bovine tuberculosis applied through the intermediary of agricultural co-operatives, has made it possible to put a stop to the use of, or dealings in, tuberculous cattle. The main result of this will be healthier meat and milk.

In the matter of milk products, the efforts of the production associations have achieved incontestable results. The quality of the milk delivered for consumption and its purity have been very appreciably improved. The quantity of good milk produced has also increased. The filtering and pasteurisation of milk and cream, payment according to fat content, the establishment of markets and the development of supervisory syndicates for dairy products show what great progress has been made.

In the case of vinicultural co-operatives, better wine-making methods have secured similar results.

Consumers' Co-operatives.

These voluntary associations of consumers are in a unique and privileged position, in that they are in direct and permanent contact with their members, whose needs they know and whose tastes they can form.

Already on their own initiative they have endeavoured to improve the standard of living of their members and, in particular, to ameliorate the conditions of nutrition.

The consumers' co-operative societies have employed divers methods to achieve this purpose. In the first place, they have sought to increase the purchasing power of their members by reducing overhead expenditure in such a way as to enable them to allow considerable discount. Moreover, by the improvement of commercial methods, good quality products are supplied to members. Group purchases are made by the wholesale house of the co-operatives of France. The introduction of a registered trade-mark that may be used if the quality and the make-up of the goods is satisfactory constitutes and even greater guarantee for consumers.

Finally, this system has made it possible, through the intermediary of small branches, to reach even the most remote country districts and thus bring to the rural population products formerly unknown or delivered under unsatisfactory conditions.

Private Traders.

Industrial and commercial concerns have in their respective domains seconded the efforts to improve the conditions in which foodstuffs reach the consumer.

The reduction of overhead expenses and diminution of waste makes it possible, as a result of lower selling prices, for greater numbers of the less weathy citizens to procure more abundant foodstuffs in greater variety.

Moreover, a wider choice of products, improvements in the way in which these products are offered to the public, the possibility of purchasing smaller packets, etc., the good name acquired by the quality of a large number of national trade-marks—we need only quote, for instance, the production and preservation of milk products, pork-butchers' wares, biscuits, chocolates, etc.—also help, in some cases, to stimulate consumption.

A large part of the population now possesses a far wider marketing range than hitherto, particularly in rural and industrial districts, and these facilities are constantly being extended through the wholesale trading organisations which supply retailers in small townships and country districts, and through the close network of stores or branches founded by general food supply firms and chain store organisations, which were the real initiators of this system of distributing a large variety of products widely throughout the country.

The policy of the trade associations and federations in the food branch, which is co-ordinated by the National Confederation of the Food Trade and industry, is to reduce as far as possible the overhead charges and costs of foodstuffs before they reach the public and to see that the poorer classes obtain the benefit of abundant production.

Italy.

Food and Wages.

The problem of the diet of the working-classes calls for practical measures of various kinds which find their natural field of development in the trade unions and corporations. Generally speaking, two different policies have been followed. When, as occurs under many agricultural contracts, part of the wage is paid in products directly used to feed the labourer, efforts to improve the dietary are made through the trade unions on the basis of the collective contract. If, on the other hand, even though a money wage is paid, the terms of employment involve the consumption of meals on the employers' property, it is a common custom in agricultural work for the employer to supply all or part of the worker's meals. In such cases, several collective contracts lay down rules for the protection of the worker's interests as regards the quality and price of the food supplied.

Contracts stipulating Payment of Part Wages in Kind.

This is a very important form of contract. Under it, not only does the worker, as it were, share in the production in order to enjoy certain benefits but he has also the possibility of using for himself and his family the part of those products which he received as wages and which

are usually staple commodities. The consumption of these products, therefore, means a considerable saving to the worker on the amounts which he would otherwise have to spend on buying them.

Of the numerous collective contracts of this class, mention may be made of that enacted for the Province of Turin.

Contracts stipulating the Supply of Food.

Many collective contracts stipulate the supply of food to agricultural labourers. There are rules under which the employer must give the labourer a certain daily ration of wholesome, nourishing and good-quality food. These measures aim at guaranteeing the worker a sufficient supply of food capable of giving him the necessary energy to do his work, and at the same time protecting him from possible abuses as regards the quality of the foodstuffs supplied.

Contracts of this are stipulated, for instance, for labourers engaged in the rice harvest ; under such contracts, the employer, in addition to a money wage, also supplies the food. On holidays, the employer pays the whole cost of the food, while on working-days the cost is borne by the labourers, the employer deducting a small amount (1 lira) from the wages.

In addition to the supply of food, measures have been taken on the initiative of the " Ufficio Nazionale Monda " to set up hutments, convenient and healthy shelters, refectories and day nurseries for the children of working mothers. Thanks to these measures, men returning from work find their dinner ready in healthy and comfortable surroundings. As an example of this type of collective contract, we may mention that of the Province of Vercelli. Steps have likewise been taken to organise the supply of food to shepherds, and particularly those moving about from one pasture to another. Similar measures have been adopted in the case of workers employed in oil-mills and on the harvesting and threshing of wheat, etc., for whose benefit the supply of food, wholly or partly at the employer's expense, has been made compulsory.

Under almost all these contracts, provision is made for the supply of wine in moderation—that is to say, in quantities sufficient to make the meal wholesome and complete.

" Métayage ".

To enable workers' families to secure the best possible nutrition, efforts are being made to do away with the employment of agricultural workers as day labourers and the more general adoption of the *métayage* system of husbandry, by which the conditions of workers and their families are improved, not only because it ensures the necessary minimum of subsistence and stability, but also because it gives workers a direct share in the products of their labour, foodstuffs included. The gradual extension of the *métayage* system, which has long been

established in the fertile regions of Central Italy, has been effected either through the adaptation of the systems obtaining on land already under cultivation or through its application to the agricultural workers who, with their families, have been settled on the land made available by the immense work of land reclamation undertaken and carried out by the Fascist Government under the name of " total reconditioning ".

Family Allowances.

In the last place, the desire to improve the nutrition of workers, suggested another measure of a general character which deserves mention : the introduction of " family allowances " through which workers' wages, instead of following an invariable and identical scale for all those belonging to the same category, is increased in proportion to the size of the families which they have to support.

Moderating Influence on Foodstuff Prices.

In Italy, the possibility of increasing the purchasing power of workers in general through measures to keep down the cost of foodstuffs is an aim which is pursued by the combined efforts of the State and the various corporative organs.

Control of Prices in general.

The regulation of the prices of staple commodities is effected by the competent corporative organisations and by the Fascist Party in such a way as to prevent abuses and excessive price increases, while at the same time guaranteeing an equitable profit to all economic interests.

Such regulation is achieved in two ways :

(*a*) By fixing maxima for the retail prices of the chief articles of food (bread, flour, pastes, meat, oil, butter, cheese, dried fish). These maxima are fixed periodically (as a rule, every fifteen days) by authorities set up in accordance with the corporative principle—that is to say, by provincial intersyndical committees, which base their decisions on the information and cost prices indicated by a central price committee presided over by the secretary of the Fascist Party and made up of representatives of all the employers' and workers' confederations ;

(*b*) By the discipline of the members of the various commercial categories grouped in their syndical organisations.

It is, indeed, the traders' syndical organisation which follows price movements, and, on detecting excessive or unwarranted rises, intervenes either by persuasion or disciplinary action or by requesting the Government to take the appropriate economic measures.

Corporative Action with regard to Prices among Factory Workers.

To the Government belongs the credit of having broken in Italy the vicious circle of wage increases consequent upon price increases, and price increases consequent upon wage increases, while at the same time endeavouring to reduce the cost of living. This action, which was carried out by the Confederation of Industry, with Government encouragement, began early in 1925 with the creation in all industrial centres of industrial supply organisations and stores serving one or more factories. Approximately one thousand firms are connected with the industrial supply centres at Milan and Biella, which have an average monthly turnover of ten million lire.

Factory Stores.

The monthly turnover of factory co-operatives and co-operatives common to several undertakings reaches approximately the same total. The influence of such stores on local prices is immediate and appreciable. According to the calculations of the meeting of statistical experts at Milan in July 1920, the savings thus effected each month by a working-class family of five persons (two adults and three children) on the fifteen most essential articles of food amounted to 142.50 lire during the first year of operation of one of the above-mentioned industrial supply organisations.

These factory stores, which were set up during an abnormal period in our economic development, still exercise a steadying influence on the market and are widely and freely patronised by their special public. They have, indeed, become implanted in the habits of working-class families, whom they supply with good quality goods at reasonable prices. There are at present approximately 2,500 undertakings which have their own stores or which are connected with industrial supply organisations.

Function of Consumers' Co-operatives.

The development of the consumers' co-operative movement in Italy is closely connected with certain special conditions governing the food supply. The latter presents different aspects, both hygienic and economic, according to whether it affects agricultural or industrial centres and an agricultural or industrial population.

The agricultural population needs a frugal but wholesome diet, which is excellent in the *métayage* areas but is more modest in the districts in which the system of daily hire and paid agricultural labour prevails. In all cases, the nutrition of the agricultural population is exclusively based on local agricultural produce, except in the mountain districts.

The importance of the consumers' co-operative movement, on the basis of the sales per head of the population, is therefore greatest in the industrial provinces. It is less marked, on the other hand, in the

Marches, Umbria, Latium, the Abruzzi and the whole of southern Italy, Sicily and Sardinia.

In the mountain districts, where it is more difficult to supply the population with food, and where, owing to their situation at a distance from the main routes of traffic, commercial competition is less keen and capitalist commercial speculation is easier, the consumers' co-operative has an extremely important double function : the technical function of improving supplies by the substitution of co-operative initiative for individual and capitalist initiative, which is found to be inadequate ; and the economic function of eliminating speculation, which is easy in connection with the distribution of foodstuffs.

Effects on the Market Price.

The Italian consumers' co-operatives really succeed in reducing the cost of foodstuffs and increasing the relative purchasing power of workers' wages. In support of this assertion, it may be added that, in order not to confine their economic action solely to their members, they also sell to non-members ; and they aim at selling at the lowest possible price rather than at paying dividends to their members in proportion to purchases made during the financial year.

The sums which the Italian co-operative societies distribute at the end of the year to consumers in proportion to their purchases are modest. Members are rarely paid more than 2% on their purchases ; but the profit derived by consumers from prices below those usually prevailing in trade is much greater.

The " Provvida ".

Lastly, mention should be made, in connection with the regulation of prices, of the part played by the consumers' co-operatives and the " Provvida ", an organisation for the supply of foodstuffs administered by the Ministry of Communications.

The special food administration, " La Provvida ", was instituted by Royal Decree dated March 5th, 1925, under the authority of the Communications Ministry, for the purpose of taking over and improving the activities hitherto entrusted to several co-operative societies of minor importance which existed among the staff of the Ministry.

The aims of La Provvida are :

(1) To lower prices by offering staple foodstuffs direct to the consumer, by eliminating costs of middlemen, advertisements, etc., which burden ordinary commerce, and the excessive profits (frequent in numerous cases) of the speculator ;

(2) To ensure for increasingly wide circles of the population a supply of hygienically supervised foodstuffs, thus indirectly combating the growing use of substitutes and counterfeits, and the substitution of goods of inferior quality at the moment of sale ;

(3) To perform charitable and relief work by setting aside for these purposes the greater part of the net profits,

Constituted on this basis, the " Provvida ", which began operations with two retail shops, had 327 all over Italy by June 30th, 1935. The sales of these shops to consumers amounted to 3,700,000 lire in 1924-25 and 264,063,434 lire in 1934-35. They sold 567,000 kilogrammes in 1924-25 and 92,667,499 kilogrammes in 1934-35.

During these ten years, the " Provvida " paid a total of 44,000,000 lire to charitable organisations. It now possesses a complete organisation for supplying the population, and its development is deliberately kept within reasonable limits so as not to injure free trade ; but, as any member of the " Dopolavoro " may buy at the " Provvida ", it represents all that a Government can do under a system of entirely free trade to give the masses an opportunity of buying food of excellent quality at a moderate price.

These direct results of the institution and the necessity of taking into account the competition of free trade, as well as the indirect pressure exercised by the possibility of a greater development of the " Provvida ", contribute to a remarkable degree towards regulating the trade in foodstuffs by providing a hygienic and cheap diet for the less well-to-do classes and by protecting them against those artificial shortages of goods which, when created in regard to staple foodstuffs, have very serious effects on the general welfare.

Netherlands.

Netherlands East Indies.

In normal times, neither the Government of the Netherlands Indies nor the local authorities take practical measures to distribute foodstuffs to various groups of the population. If necessary, they are distributed by charitable organisations. In cases of famine due to the failure of the rice crop, the deficiency is made good by the import of rice from Siam, India or Indo-China. The imported rice is distributed at a low price or free of charge to the population of the districts affected by the famine. These cases are exceptional, and the distribution of foodstuffs is purely local and temporary.

Poland.

In Poland, the Decree of the President of the Republic on " the supplying of the market with staple commodities " is the basis for control of the prices of the most important articles of food. The daily prices must be approved by the administrative authorities, whose aim it is to put down speculation. All the essential foodstuffs—bread, meat, sugar, fat, dairy produce, etc.—fall within the scope of this law.

Improvements in the food of factory workers are mainly due to the private initiative of the concerns which organise, in factories and workshops, kitchens and restaurants where meals are issued to the staff either free of charge or at a low price.

Switzerland.

In several Swiss towns there are popular kitchens—some of them very old-established—frequently financed by foundations of various kinds, which serve meals at cost price. In certain instances, the price is even further reduced through the assistance of voluntary workers, more particularly on the administrative side. Reference may be made to :

(*a*) The popular kitchens at Geneva, where a complete meal can be obtained for from 70 to 80 centimes ;

(*b*) The Société vaudoise de consommation at Lausanne which issues monthly cards at a cost of 30 francs, entitling holders to one full meal each day ;

(*c*) The workers' clubs, of which twenty-five have been founded in Switzerland, where a satisfactory meal can be obtained for from 40 to 50 centimes.

The Confederation grants a subsidy, to encourage the slaughter of cows for beef, to cantons and communes willing to supply the meat thus obtained to necessitous persons at reduced prices. In practice, this system is based upon the co-operation of stock-breeders, who sell their stock at low prices, while satisfying the requirements of the veterinary regulations ; of the butchers, who, in return for very small remuneration, undertake slaughtering, cutting-up and sale under official supervision, and, in the last place, of the general body of taxpayers, who bear part of the financial burden. It would appear that this system is likely to develop. The Canton of Geneva, for example, at present issues 40,000 vouchers, each representing 2 kilogrammes of meat, in the main to unemployed persons with families dependent upon them. The cost of such vouchers is 1.60 franc.

Uruguay.

Municipal departments are responsible for seeing that foodstuffs are sold at low prices. The cheapness of foodstuffs is a fundamental factor in Uruguay, where no problems of defective states of nutrition due to underfeeding arise and where, among sick children, in classical cases of inadequate and protracted artificial nutrition, it is exceptional to find clinical deficiency syndromes.

Yugoslavia.

Price Variations.

The price situation in Yugoslavia is highly complicated. Yugoslavia consists partly of rural producing and exporting areas and partly of areas and towns which have to buy their food, especially vegetables. Consequently, there is a great difference between the prices obtained

for wheat by the peasants who grow it in the north-east (the Vojvodina, which is the granary of the country) and by those in the west and south-west—Southern Croatia, Dalmatia, Bosnia, Herzegovina and Montenegro—who buy it from those more fertile areas. So wide is the difference that, in Montenegro, for example, the retail price of maize is 100%, and that of wheat 75%, more than in the producing areas.

Owing to the low prices of agricultural produce on the world markets, the Government is endeavouring, with the help of the Privileged Export Company, to keep them high enough for the Yugoslav peasants who work for the market to make a profit. The main reason for this is the wide gap between the prices of agricultural and industrial products in Yugoslavia. Notwithstanding these efforts, the gap is still very wide ; for instance, the price of a Sack plough in Germany represents 3.30 quintals of wheat, whereas in Yugoslavia it represents 9 quintals of wheat.

From another point of view, however, the Government's policy of increasing agricultural produce prices would be against the interests of the people of the " passive " areas, whose economic condition is such that they could not maintain an adequate dietary even if prices were equal to those on the world markets.

There is also another point. Distribution is inadequately organised, and communications are bad, especially in the rocky and " passive " areas. The absence of consumers' co-operative societies is very seriously felt ; they are hardly worth mentioning, except in the north-west (Slovenia), the only other important one being the Government Officials' Co-operative Supply Association, which has 80,000 members, representing with their families 300,000 people in all.

Price Control.

In order to protect the consumers against excessive increases in the price of foodstuffs, the Law of November 5th, 1931, authorises the police to fix maximum prices for the retail sale of foodstuffs and articles of prime necessity in the shops concerned and for their consumption in cafés and restaurants. Retailers of articles of prime necessity and owners of cafés and restaurants must post up their prices in such a manner that they can be easily seen by the purchasers and guests.

For the same purpose, the law to prevent the high cost of living and illegal speculation, of December 30th, 1921, provides that any person selling foodstuffs in shops, on the market or in any other place must indicate the price of each article, either jointly or separately, in such a manner that the prices are visible to all.

Breaches of this provision are punishable by three months' imprisonment and a fine of 10,000 dinars.

The law prohibits the storing of foodstuffs with a view to withdrawing them from the market in order to raise prices ; breaches of this rule are punishable by six months' imprisonment and a fine of 50,000 dinars.

The law prohibits sellers from asking a price higher than that which would provide a normal and legitimate commercial profit, which may not in any case exceed 25%. Breaches are punishable by three months' imprisonment and a fine of 10,000 dinars. Persons who give false measure or reduce the portions of foodstuffs for sale are liable to the same penalty.

Multiple resale and illicit speculation intended to increase the price of foodstuffs are forbidden, as well as any agreements between producers or middlemen with the object of raising the price of goods. It is forbidden to re-purchase foodstuffs which have already been sold on the same market the same day. Merchants and dealers must effect their sales and purchases for the purpose of providing retailers with fresh supplies after the hour fixed for retail sales at the same place.

It is forbidden to purchasse from any person carrying foodstuffs to the market and selling them on the way with the intention of depriving the market of the goods, or reducing the quantity offered for sale in order to raise prices.

Large fines are imposed for breaches of these rules.

CHAPTER VI.

MEASURES FOR ENSURING THE QUALITY OF FOODSTUFFS.[1]

The State intervenes in nutrition by the institution of a public service for the prevention of adulteration and the supervision of the quality of foodstuffs.

Argentine Republic.

The Health Boards of each province deal with problems relating to the supervision of foodstuffs, and two Food Codes have been promulgated : one for the province of Buenos Aires and the other for that of Santa Fé. The capital of the Republic submitted its Code for examination to a Commission set up two years ago by the Municipal Administration. Imported foodstuffs are supervised by the National Chemical Laboratory, and foodstuffs consumed in the City of Buenos Aires by the Municipal Chemical Laboratory.

Austria.

" Codex Alimentarius Austriacus ".

In Austria, the " Codex Alimentarius Austriacus " is intended to serve as a technical guide for the supervision of foodstuffs. The first edition was issued in 1891, in the time of the former Austro-Hungarian monarchy. A new edition of the Codex for Austria is nearly completed.

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[1] See also the report published by the League in 1930 : " Survey of the direct and indirect means at the disposal of foreign buyers to enable them, in a number of countries, to ascertain the quality of the goods acquired by them ". Document C.624.M.246.1930.II.

The various parts of the nutrition code are classified on uniform lines. A list of legal provisions precedes each of the following chapters : (1) Description, (2) Taking Samples, (3) Testing (Analysis, etc.), (4) Findings, (5) Rules for the Trade, (6) Utilisation of Products not fit for Human Consumption.

The nutrition code has not the force of law, like a Government Decree, but provides a criterion for institutions responsible for examining and testing foodstuffs, both from the chemical and the health points of view, and is also often consulted by the interested branches of industry.

This code, which is kept up to date by means of supplements, is a basis for the uniform and effective supervision of the foodstuffs trade in Austria.

Supervision of the Trade in Foostuffs.

Transactions in foodstuffs in general are governed by the Foodstuffs Act of January 16th, 1896. The trade in margarine, wine and home-made wine is dealt with in special legislation (1901, 1925, 1929). On the basis of these Acts, numerous regulations have been issued relating to their enforcement.

Under the Foodstuffs Act, Government analytical institutes have been set up for the technical analysis of foodstuffs and certain commodities in general use. Such " Federal Institutes for the Analysis of Foodstuffs " now exist in Vienna, Graz and Innsbruck.

In addition, the Agricultural Chemical Experimental Stations in Vienna and Linz have been commissioned to act as special Government analytical institutes. Among provincial institutions may be mentioned the Carinthian Provincial Experimental and Analytical Institute for Foodstuffs at Klagenfurt and the Vorarlberg Provincial Chemical Experimental Institute at Bregenz.

The Government analytical institutes are obliged to make a technical analysis of foodstuffs and certain commodities in general use at the request either of the authorities or law courts or of private individuals, and to issue reports and expert opinions thereon. If, in this connection, an analytical institute suspects the existence of a criminal offence, it must notify the Public Prosecutor accordingly.

The Margarine Act enacts provisions for the trade in margarine, oleo-margarine and other artificial fats. It is forbidden, in particular, to market admixtures of butter and the above-mentioned fats, and it is further directed that margarine may be sold only if during manufacture a certain admixture is added for purposes of identification. Furthermore, the fats referred to may be marketed only in containers distinguished by a conspicuous coloured band marked with the name of the manufacturer and a description of the contents. In retail trade, the paper wrapper must also have the coloured band.

The provisions of the Wine Act aim at preventing the adulteration of wine, must and fruit-wine : but exceptions are made for fruit-juices, mead (honey-wine) and medicinal wines.

To meet the demand for specialists with academic and practical qualifications for performing independently the duties laid upon public analytical institutes by the Foodstuffs Act, the Ministerial Decrees of October 13th, 1897, August 1st, 1900, and May 24th, 1909, define the basic features of the curriculum to be followed and examinations to be passed by food inspectors.

Under the Ministerial Decrees of May 25th, 1908, and August 22nd, 1922, courses of study for the training of sanitary and food inspectors were opened at the Federal Institute for Foodstuff Analysis.

Belgium.

In Belgium, measures have been taken to regulate the sale of certain products available for consumers. The majority of these measures have been taken under the Royal Decree of February 26th, 1935, to ensure Fair Trading in Agricultural Products and Garden Produce, or under the Ministerial Order of May 21st, 1935, for the Regulation of the Sale of Certain Fruits and Vegetables.

The Ministry of Agriculture is responsible for the prevention of adulteration. The work is carried out through inspectors and assistant inspectors of the Service for the Inspection of Foodstuffs. In addition to their main duties—*i.e.*, the detection and punishment of food adulteration—these officials and agents assist by advice in the work of improving the standard of foodstuffs offered to the public.

United Kingdom.

In England and Wales, several statutes, and the regulations made under them, deal with the composition and purity of articles of food and drink. Their execution mainly rests with specified classes of local authorities. The Ministry of Health, however, exercises influence upon the administration of the statutes and regulations by such means as the issue either of circular or special letters of advice, and the publication of special reports. Further, under the Local Government Act, 1929, a comprehensive survey of the administration by local authorities of their public health services is periodically carried out by medical officers of the Ministry.

The principal provisions of the statutes and regulations which are mainly relevant in the present connection are briefly indicated below.

Food and Drugs (Adulteration) Act, 1928.

This Statute, which consolidated a number of earlier Acts, contains two main prohibitions ;

(1) The sale of an article of food which has to the knowledge of the vendor been rendered injurious to health ; and

(2) The sale to the prejudice of the purchaser of an article of food differing from that demanded.

By a further provision, a person prosecuted may plead as a defence, broadly speaking, that he purchased the article under a written warranty that it was such as was demanded by his customer ; that he had no reason to believe that it was otherwise at the time he sold it ; and that he sold it in the same state as when he purchased it.

The Act contains certain special provisions relating to milk, and also empowers the Minister of Agriculture to make certain regulations as to the constituents of milk, butter and other articles. It also contains a number of special provisions for the protection of the public against fraud in connection with the sale of butter, margarine and cheese.

Articles of food are not defined in the Act, with certain partial exceptions, and where no definition is prescribed by statute the decision whether a particular article falls within the definition of the name under which it was sold rests, in the event of a dispute, with the court of summary jurisdiction before which proceedings are taken. The court decides this on the evidence before it ; and its decision on the question of fact is not binding on another court. The result has, however, been that standards of composition have become generally recognised for very many articles. Reports on a number of special points in relation to the composition of food have also been made by the Ministry of Health. The recommendations made in these reports, though of course not authoritative in law, have to a large extent been adopted by the courts in deciding cases which have come before them.

The local authorities who enforce the Act must appoint public analysts, whose appointment and removal are subject to the approval of the Minister of Health. Enforcement is, in general, effected by means of the purchase of samples from a retailer by an officer of a local authority. The officer divides the sample into three parts, one being sent to the public analyst for analysis, one given to the retailer to enable him to have an independent analysis made, and the third retained so that it may, if necessary, be sent to the Government Chemist.

Public Health Acts.

(a) *Public Health Act*, 1875, *and Public Health Acts Amendment Act*, 1890.

Officers of the appropriate local authority may inspect and examine any article of food exposed for sale or deposited for preparation for sale for human consumption, and, if the article appears to be diseased, unsound, unwholesome or unfit for food, it may be seized and taken before a Justice of the Peace. The latter may condemn it and order

it to be destroyed or so disposed of as to prevent it from being used for human food. The vendor may also be fined or imprisoned.

These Acts also include provision for the erection of public slaughter-houses by local authorities, the licensing of private slaughter-houses, and the making of bye-laws for slaughter-houses.

(b) *The Public Health Act*, 1925.

Requirements are prescribed for shops, etc. (other than premises coming within the scope of Regulations under the Act of 1907 referred to below), where food is sold or prepared for sale relating to sanitation, ventilation and cleanliness, and requiring the occupier to take all reasonable steps to prevent risk of contamination to the food.

The statutes referred to in (*a*) and (*b*) above, do not apply to London, but similar measures are in force under special codes of legislation relating to London only.

(c) *The Public Health (Regulations as to Food) Act*, 1907.

This Act empowers the Minister of Health to make regulations for the prevention of danger to public health from the importation, preparation, storage and distribution of articles of food and drink intended for sale for human consumption. Several series of regulations have been made under the powers conferred by this Act and other Acts.

(d) *Public Health (Preservatives, etc., in Food) Regulations*, 1925-1927.

These regulations prohibit the addition of preservatives, as defined in the Regulations, to any article of food or drink, and the importation of food or drink containing added preservative, except within specified limits in the case of certain scheduled articles, some of which must be labelled to show the preservatives which they contain ; restrictions are also placed on the sale of preservatives ; and a further schedule contains a list of colouring matters which are prohibited.

(e) *Public Health (Condensed and Dried Milk) Regulations.*

An amendment to the Act of 1907 enabled the Minister to make regulations with regard both to the labelling of these articles and to the amount of milk-fat and milk-solids they must contain. Regulations for this purpose were made accordingly in 1923 (amended in 1927).

(f) *Public Health (Meat) Regulations*, 1924.

These Regulations contain requirements as to notices to be given to the local authority when animals are to be slaughtered for human consumption (so as to facilitate the work of meat inspection), and relating to other matters in connection with slaughtering. They provide also for a voluntary scheme of meat marketing, by the local authority's

officers, and they contain detailed provisions for cleanliness and avoidance of contamination of meat in shops and stalls, and in the transport and handling of meat.

(g) *Public Health (Imported Food) Regulations, 1925, and Amending Regulations, 1933.*

These Regulations make all imported foods subject to examination at the port of entry, and to seizure and condemnation if found to be unfit for human consumption. Further, it is an offence to import for sale for human consumption any article of food which has been examined by a " competent authority " and not found at the time of examination to be fit for human consumption. The Regulations also contain special provisions relating to imported meat (derived from cattle, sheep, swine or goats). The importation of certain kinds of meat is unconditionally prohibited and the importation of other specified kinds of meat is prohibited unless accompanied by an official certificate of the country of origin which has been recognised by the Minister as affording satisfactory evidence that the meat has been derived from an animal which was free from disease at the time of slaughter, and that it has been dressed or prepared and packed with all necessary precautions for the prevention of danger to public health.

(h) *Shell-fish.*

Contamined shell-fish beds have been in several places brought under control either by orders made by sanitary authorities under the Public Health (Shell-fish) Regulations, 1915 (now replaced by the Public Health (Shell-fish) Regulations, 1934), or by special series of regulations applying to particular fisheries, made by the Minister of Health under the Act of 1907.

The general effect of the orders is that no shell-fish from the area concerned may be distributed for sale for human consumption unless they have been relaid in clean salt water for a specified time. The effect of the regulations is similar ; they prohibit the sale of the shell-fish for human consumption unless they have been subjected to an approved process of sterilisation (heat treatment) or cleansing. Local authorities have power under an Act of 1932 to provide apparatus for cleansing shell-fish.

Milk Standards.

Milk and Dairies Acts, etc.

Special provisions relating mainly to the cleanliness and safety of milk are contained in the Milk and Dairies (Consolidation) Act, 1915, the Milk and Dairies (Amendment) Act, 1922, and the Milk and Dairies Order, 1926. Their general object is to secure cleanliness in milk production and its freedom from disease, both bovine and human. Reference may be made more particularly to the following :

So far as the health and inspection of cattle are concerned, the administration of the Acts and Order rests with county and county borough councils ; in other matters with the local sanitary authorities.

The medical officer of health of a county or county borough may have the cows on any farm or dairy in the area examined by a veterinary surgeon if he suspects that tuberculosis is likely to be caused by the consumption of their milk, and he must do this if he receives a notice from the medical officer of health of another area in which the milk is consumed that tuberculosis is likely to be caused by such milk. Local authorities have power to stop the supply of milk if they have sufficient evidence that it is likely to cause tuberculosis.

It is also an offence to sell the milk of a cow which has given tuberculous milk or is suffering from certain forms of tuberculosis or from other specified diseases, if the vendor has received notice from an officer of a local authority or could, by the exercise of ordinary care, have known that the cow had given tuberculous milk or was suffering from tuberculosis.

Power is given to the appropriate local authorities to make routine veterinary examinations of all dairy cattle in their districts, and such examinations must be carried out by qualified veterinary surgeons.

A medical officer of health of a local sanitary authority has power to stop the supply of milk from a dairy, where he has evidence of infectious disease being attributable to the milk from that dairy. Further, if a medical officer of health suspects that any persons having access to milk or milk vessels are suffering from an infectious disease, or have recently been in contact with anyone so suffering, he may examine them and, if necessary, forbid them, for a specified period, to take any part in the production, etc., of milk.

The Public Health (Prevention of Tuberculosis) Regulations, 1925, contain provisions for preventing any person who suffers from tuberculosis of the respiratory tract from being engaged in connection with a dairy, in employment which involves the milking of cows or the handling of milk vessels ; and the Public Health (Infectious Diseases) Regulations, 1927, contain provisions for preventing the employment of carriers of enteric fever or dysentery infection in any trade concerned with the preparation or handling of food or drink for human consumption.

All persons carrying on the trade of cowkeeper or dairyman, and all farms and dairies, must be registered with the local sanitary authority, and the authority may refuse or revoke the registration of retail purveyors of milk if satisfied that danger to public health is involved.

The Milk and Dairies Order, 1926, contains detailed provisions for securing cleanliness in premises and methods, including requirements respecting the adequate ventilation and water supply of dairies and cowsheds, and provisions for the protection of milk vessels from contamination and the use of clean clothing by milkers and distributors. Other provisions relate to the construction of the floors of cowsheds

and to their cleansing and lime-washing, and requirements are laid down for preventing the contamination of milk in transit.

Under the Milk (Special Designations) Order, 1923,[1] a system has been set up by which licences are granted for the production and sale of milk under special designations. The special designations of milk at present are as follows :

Certified Milk. — Raw milk from cows which have passed a veterinary examination and a tuberculin test ; it must be bottled on the farm, and not contain more than 30,000 bacteria per c.c. or any coliform bacillus in 1/10 c.c.

Grade A (Tuberculin Tested) Milk. — Raw milk from cows which have passed a veterinary examination and a tuberculin test ; it may be bottled either on the farm or elsewhere. It must not contain more than 200,000 bacteria per c.c. or any coliform bacillus in 1/100 c.c.

Grade A Milk. — Milk from cows which have passed a veterinary examination ; it may be bottled either on the farm or elsewhere. The milk may be raw or pasteurised ; if raw, it must conform with the bacteriological standard for Grade A (Tuberculin Tested) Milk ; if pasteurised, with that for Certified Milk.

Pasteurised Milk. — Milk which has been heated and retained at a temperature of 145° to 150° F. for at least thirty minutes and does not contain more than 100,000 bacteria per c.c.

It is unlawful to use any of these designations or any similar designation for milk unless the appropriate licence has been obtained.

Licences for the sale of milk under the special designations are at present granted by the Minister of Health to producers of Certified and Grade A (Tuberculin Tested) Milk ; by county council and county borough councils, and in a few special instances by local sanitary authorities, to producers of Grade A milk ; and by local sanitary authorities to pasteurising establishments and for graded milk sold from premises other than the place of production.

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[1] Under the Milk (Special Designations) Order, 1936, operating as from June 1st, 1936, the designations "Certified" and "Grade A (Tuberculin Tested)" are replaced by the one designation "Tuberculin Tested" and the designation "Grade A" is replaced by the designation "Accredited". The designation "Pasteurised" is retained.

The conditions applicable to the production and sale of Tuberculin Tested milk are substantially the same as those for Grade A (Tuberculin Tested) milk ; it is, however, permissible to pasteurise Tuberculin Tested milk and sell it as "Tuberculin Tested Milk (Pasteurised)". The conditions for Accredited milk are similar to those for Grade A milk, but, if pasteurised, the milk must be sold simply as "Pasteurised" milk.

The Minister of Health ceases to be a licensing authority and his functions in this respect are transferred to local authorities.

In Scotland, under the Milk (Special Designations) Order (Scotland), 1930,[1] a system which has been placed under the administration of local authorities has been set up for the granting of licences for the production of " Certified ", " Grade A (Tuberculin Tested) ", " Grade A " and " Pasteurised " milk. It is illegal to use any of these special designations or any similar designation for milk unless the appropriate licence has been obtained.

Certified Milk is raw milk produced from cows which have passed the double intradermal test for tuberculosis twice yearly and a clinical veterinary examination three times a year. The milk is bottled on the farm, must contain a minimum of 3.5% of butter-fat, and not more than 30,000 bacteria per c.c. or any coliform bacillus in 1/10 c.c. at any time before delivery to the consumer.

Grade A (Tuberculin Tested) Milk is raw milk produced from cows under similar conditions to certified milk, but it may be bottled on the farm or elsewhere. It must contain a minimum of 3.5% butter-fat and not more than 200,000 bacteria per c.c. or any coliform bacillus in 1/100 c.c. at any time before delivery to the consumer.

Grade A Milk is raw milk from cows which have passed a clinical veterinary examination not less than three times a year. It may be bottled either on the farm or elsewhere, may be sold raw or pasteurised, and must contain a minimum of 3.5% butter-fat. If sold raw, it must conform to the bacteriological standard for Grade A (Tuberculin Tested) Milk ; if sold pasteurised, with the bacteriological standard for Certified Milk.

Pasteurised Milk is milk which has been heated and retained at a temperature of 145° to 150° F. for at least thirty minutes and does not contain more than 100,000 bacteria per c.c.

Bulgaria.

In Bulgaria, the Public Health Directorate, with the assistance of the veterinary authorities, exercises very strict supervision over the production of and trade in foodstuffs, so that the possibility of bad or adulterated products being sold is reduced to a minimum.

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[1] Under the Milk (Special Designations) Order (Scotland), 1936, operating as from October 1st, 1936, the designation " Grade A (Tuberculin Tested) " will be replaced by the designation " Tuberculin Tested ", and the designation " Grade A " will be replaced by the designation " Standard ". The designation " Pasteurised " will be retained.

The conditions applicable to the production and sale of Tuberculin Tested milk will be substantially the same as those for Grade A (Tuberculin Tested) milk ; it will, however, be permissible to pasteurise Tuberculin Tested milk and sell it as " Tuberculin Tested (Pasteurised) ". The conditions for " Standard " milk will be similar to those for Grade A milk, but, if pasteurised, the milk must be sold simply as " Pasteurised " milk.

Denmark.

Denmark possesses a highly developed system of inspection of animal foodstuffs, especially dairy produce and meat products, as part of an effective campaign against animal diseases—in particular, bovine tuberculosis.

France.

The National Nutrition Committee [1] has collected information regarding the regulation and organisation of the supervision of foodstuffs. This information is intended to throw light on the means at the disposal of the public authorities for supervising the quality of the foodstuffs supplied to the general public and to persons belonging to various units (army, navy, educational establishments, charitable or public assistance institutions ; hospitals, homes, asylums, sanatoria, etc.).

It has also studied what steps might be taken to render this supervision more effective.

The National Nutrition Committee has likewise considered what means could be employed, within the framework of the present organisation, by the public authorities or certain bodies to improve nutrition, both in quantity and in quality, and to give effect to the guiding principles laid down by the scientific committees.

Laws and Regulations.

Regulations relating to the Fitness of Food for Human Consumption.

(a) *Governing Foodstuffs in general.*

The supervision of foods with regard to fitness for consumption is based on the *Law of April 5th, 1884,* on Municipal Organisation, Article 97 of which provides that :

" The object of municipal administration is to ensure order, security and public health. It comprises, in particular . . . the inspection of goods sold by weight or measure to ensure that the correct quantity is supplied and of foodstuffs offered for sale to ensure that they are fit for human consumption."

Moreover, under Article 99 :

" The powers vested in the mayor shall not debar the prefect from taking, in respect of all communes in the department, or certain of them whenever no action has been taken by the municipal authorities, such steps as may be necessary to maintain public health, security and order.

" This right may only be exercised by the prefect in respect of a single commune after the mayor has been ordered to take action and has failed to do so."

[1] For the French National Nutrition Committee, see page 218.

These provisions have been reproduced in the Law on Public Health (February 15th, 1902, Article 2) and in the Law of August 5th, 1908.

Moreover, as regards the supervision of foodstuffs at Paris, the *Law of April 7th, 1903*, amending the Law of February 15th, 1902, stipulates that the Prefect of Police at Paris shall " continue to . . . ensure the application of the laws and regulations regarding the sale and offering for sale of foodstuffs which have been adulterated or are tainted ".

(b) *Governing Certain Foodstuffs in particular.*

1. The first regulations in regard to the *fitness of meat for human consumption* are several centuries old. The main texts are as follows :

Old Laws :

Edict of January 30th, 1350.
Edict of December 19th, 1403.
Letters Patent of Henri II (February 1587).
Parliamentary Decree of March 28th, 1589.
Parliamentary Decree of February 23rd, 1602.
Letters Patent of June 1st, 1782.
Letters Patent of August 26th, 1783.
Order of September 2nd, 1806.
Ordinance of March 25th, 1830.
Law of March 27th, 1851.
Law of July 21st, 1881.

Present Laws :

Under the *Law of June 21st, 1898*, communes were for the first time required to organise a service for the supervision of slaughter-houses, cattle-markets and knackers' yards. Although the sole object of these provisions was to prevent epizootic diseases, they have actually served as a basis for the establishment of meat inspection services in a large number of places.

The same law prohibits the offering for sale of meat obtained from animals suffering from cattle plague, glanders, anthrax, swine erysipelas and rabies (Articles 43 and 44).

The *Decree of October 6th, 1904*, lays down the conditions under which meat obtained from animals suffering from contagious pleuro-pneumonia of cattle (Article 32), tuberculosis (Article 47) and anthrax (Article 78) may be sold.

Article 477 of the Penal Code provides that damaged, tainted and harmful foodstuffs shall be confiscated and destroyed.

(*The Law of August 1st, 1905*, on the Punishment of Fraud applies to meat and meat products ; these two last-named texts are, however, general and relate to all classes of sales.)

The Law of January 8th, 1905, provided the communes with the means of organising the supervision of the wholesomeness of meat and the upkeep of public slaughter-houses, for which purpose taxes were introduced. These were amended by the Law of January 8th, 1921, and are as follows :

Meat prepared in a municipal slaughter-house, 0.05 franc per kg. net ;
Meat prepared in a private slaughter-house, 0.03 franc per kg. net ;
Meat coming from elsewhere, 0.03 franc per kg. net.

The circular of July 5th, 1908, emphasised the necessity for oganising this supervision and requested the mayors to organise it in accordance with the provisions of the above-mentioned law.

The *Decree of August 24th, 1908*, deals with various details regarding the use of public slaughterhouses, and in the circulars of December 1st, 1908, and April 15th, 1910, the necessary instructions were given for the application of the Law of January 8th, 1905, and the Decree of August 24th, 1908.

The *Decree of July 18th, 1913*, provides the municipalities with the means of collecting the legal taxes by a simple method in places which have no scales—namely, the tax per head of slaughtered animals based on a scale included in the text of the Decree.

The circulars of June 27th, 1914, July 9th, 1917, and May 1st, 1923, contain further instructions for the organisation and exercise of supervision.

Under the *Law of July 7th, 1933*, the work of organisation, begun under previous laws, was continued, and meat inspection was made compulsory. For this purpose :

(*a*) The display, circulation, sale and direct or indirect use for human consumption of fresh and frozen meat not bearing the stamp testifying to its wholesomeness were prohibited (Article 12) ;

(*b*) The inspection of industrial slaughter-houses was entrusted to agents appointed by the Minister of Agriculture ;

(*c*) The prefects were required to take upon themselves the duties of the mayors and to inspect the meat in communes which have not considered it necessary to set up an inspection service ;

(*d*) Meat offered for sale without the necessary stamp was to be confiscated and sold for the benefit of the commune or the State.

The *Decree of September 29th, 1935*, lays down the conditions under which the law is to be applied and summarises these as follows :

" No matter where the animal is slaughtered, no portion of the meat, offal and by-products may be exempted from inspection from the point of view of its fitness for human consumption."

It is now the duty of the public authorities effectively to ensure the general inspection of meat offered for sale and they have the means of doing so.

2. *Purity of Milk.* — The regulations relating to the purity of milk date back to the Decree of March 25th, 1924, the main provisions of which are reproduced below :

" A. The following may not be regarded as suitable for human consumption :

" (1) Milk obtained from animals suffering from diseases, a list of which will be issued by Decree of the Minister of Agriculture after consulting the Advisory Committee on Epizootic Diseases ;

" (2) Coloured, dirty or malodorous milk ;

" (3) Milk obtained from an animal within one week after calving, and, in general, milk containing colostrum ;

" (4) Milk obtained from ill-nourished animals which are obviously exhausted (Article 2).

" B. Under Article 1 of the Law of August 1st, 1905, the possession without any legitimate reason, the display, offering for sale or sale for human consumption of milk which is unfit for this purpose, or milk obtained by mixing milk fit for consumption with milk which is unfit for that purpose (Article 3), are regarded as attempts to defraud the public.

" Article 1 of the Law of August 1st, 1905, also prohibits the possession without any legitimate reason, display, offering for sale or sale :

" Under the designation of pasteurised milk, of milk from which all pathogenic microbes have not been removed by a method approved by the Supreme Council of Public Health of France

" Under the designation of ' sterilised milk ', of milk containing live germs."

In application of Article 2 of the Decree of March 25th, 1924, the Committee on Epizootic Diseases, after a lengthy and careful examination, proposed that the following provisions should be adopted :

" (1) Milk obtained from animals suffering from one of the following diseases may not be regarded as fit for human consumption :

" Tuberculosis,
" Undulant fever,
" Anthrax,
" Symptomatic anthrax,
" Gas gangrene,
" Cattle plague,
" Pleuro-pneumonia,

" Rabies,
" Cow-pox,
" Foot-and-mouth disease,
" Cachexia,
" Fever,
" A marked disorder of the lacteal secretion,
" Mammitis,
" Metritis,
" Enteritis,
" Poisoning,
" Pulp disease,
" Draff disease,
" Abscesses and furunculosis of the udder or teats.

" (2) In the case of undulant fever, anthrax, symptomatic anthrax gas gangrene, cattle plague, pleuro-pneumonia, rabies, fever, cachexia, a marked disorder of the lacteal secretion, mammitis, poisoning, pulp disease, draff disease, abscesses and furunculosis of the udder or teats, the milk may not be used for human consumption under any pretext and in any form whatsoever.

" In the case of tuberculosis, cow-pox, foot-and-mouth disease, metritis and enteritis, the milk, if it is perfectly normal in appearance, may be used for consumption after pasteurisation or sterilisation and subject to the reservations laid down in the last two paragraphs of Article 3 of the Decree of March 25th, 1924."

This text has been submitted for examination to the Supreme Council of Public Health of France.

The *Law of July 2nd, 1935*, for the organisation and improvement of milk markets makes a further contribution towards the supervision of the purity of milk. Its chief provisions are given below :

(1) Milk for consumption or the manufacture of a milk product may only be offered for sale if it has been obtained from milch animals that are perfectly healthy.

(2) The Government shall grant a special stamp to producers who voluntarily accept official veterinary and medical inspection (Article 4).

(3) Milk sold raw must be sold direct by the producer to the consumer, subject to the reservations and conditions laid down in Article 5.

(4) Milk which does not comply with the provisions of Articles 4 and 5 of the Law may only be sold for human consumption if it has been properly pasteurised.

(5) Departmental milk committees may be set up by decree of the Minister of Agriculture at the request of the departmental committees concerned ; the functions of these committees are laid down in the circular of September 14th, 1935.

The body of provisions referred to above represents a decided advance, and an important step forward towards the compulsory supervision of the health of milch animals.

3. *Purity of Drinking-water.* — Article 1 of the Law of February 15th, 1902, provides that :

" In every commune, the mayor is required, in order to protect public health, to draw up, after consulting the municipal council, and in the form of municipal decrees embodying health regulations : " . . . provisions relating to the supply of drinking-water."

Article 10 deals with the protection of springs, wells and conduits conveying drinking-water from an underground sheet of water, and lays down conditions for the establishment of a protective zone.

Article 21 provides that " the Departmental Health Councils and the Health Commissions must be consulted regarding . . . the supply of drinking-water to built-up areas ".

Under Article 22 (amended by the Law of April 7th, 1903), the Prefect of the Seine is responsible for the catchment and distribution of the water.

In accordance with Article 24, the Prefect of the Seine is to be assisted in carrying out these functions by the Seine Public Health Council.

Article 25 provides that the Supreme Public Health Council shall deal with all questions affecting public health. It must in every case be consulted regarding public works for the supply of water to towns of over five thousand inhabitants. It is specially responsible for supervising the water supply of towns when the catchment area of such water lies outside the limits of their respective departments.

Lastly, Article 28 enumerates the penalties inflicted on persons who :

" As a result of neglect or carelessness, defile public or communal works for the catchment or conveyance of drinking-water ; any person who, as a result of neglect or carelessness, allows excrement or any other substance harmful to health to enter spring-water, fountains, wells, tanks, pipes, aqueducts or public reservoirs shall be punished by the penalties laid down in Articles 479 and 480 of the Criminal Code."

In accordance with this article :

" Persons leaving the carcasses of animals, butchers' offal, manure, fœcal substances and animal residue in general which is liable to putrefy, in clefts, pits, swallets or hollows of any kind, other than the pits required by recognised establishments, shall be liable to the same penalties.

" Persons voluntarily committing any similar act shall be liable to the penalties laid down in Article 257 of the Penal Code."

4. *Fitness of Oysters and Shell-fish for Human Consumption.* — The conditions under which the fitness of oysters for human consumption is ensured are laid down in a *Decree of July 31st, 1923.*

At the time of transport, supervision is exercised in accordance with the following provisions :

" Proof that the oysters have been obtained from healthy beds must be furnished to the agents responsible for supervision, at their request. For the purposes of this supervision, special documents must be attached to each package."

Consignments of oysters to be put back into the beds are subject to the same formalities.

The supervision of the sale of oysters intended for consumption is exercised in accordance with the existing laws and regulations already mentioned in the present report :

Law of April 5th, 1884, on Municipal Organisation ;
Law of August 1st, 1905, on the Detection and Punishment of Fraud.

In addition, any handling of the oysters liable to render them unwholesome is prohibited, and, in particular :

(1) Watering or washing the oysters, for the purpose of cleaning the shells, with polluted seawater, such a harbour water or fresh water not fit for drinking, such as the water of rivers, canals or streams into which refuse or waste water flows, or drinking-water with the addition of salt (tainted kitchen salt, such as salt which has been used for the transport or preservation of fish or any other commodity) ;

(2) The cooling or preservation of oysters with ice unfit for consumption ;

(3) The storage of oysters in boxes, bags or baskets submerged along quays or in places liable to contamination ;

(4) The opening of oysters with dirty tools or appliances ;

(5) The washing of open oysters ;

(6) The preservation in dirty water of oysters removed from their shells.

Consequently, oysters treated by any of the methods described above must be seized and destroyed as dangerous to public health.

Mention must be made here of the essential provisions of this Decree, which provides for the supervision of the production, transport, sale or importation of flat oysters.

As regards production, " only establishments owning oyster-beds recognised as healthy may despatch oysters for consumption or sell them direct ".

The list of these establishments is drawn up by the Minister in charge of the Merchant Marine after an enquiry by the Scientific and Technical Office for Maritime Fisheries. This list may be modified at any time.

The Fisheries Office is responsible for carrying out periodical inspections for the purpose of ascertaining that the establishments on the list in question comply with health requirements.

Moreover, by *Decree-Law of October 30th, 1935*, adopted on the motion of the Minister for Public Health, relating to the protection of drinking-water and oyster-beds, the provisions of the Decree of July 31st, 1923, were extended to cover natural beds and shell-fish establishments.

It also makes the establishment of a protective zone around all these establishments compulsory.

The conditions of application of this Decree will be specified in the Public Administration Regulations now in course of preparation.

Regulations for the Detection and Punishment of Fraud.

The supervision of foodstuffs is based on the Law of August 1st, 1905.

Not only does this law provide for the punishment of any fraud regarding the nature, origin and quantity of the goods sold, but it also provides severe penalties for any adulteration of commodities used for the consumption of men or animals.

Penalties of imprisonment (varying from one month to one year) and a fine (from 100 to 5,000 francs) may also be imposed on any persons :

(*a*) Who display, offer for sale or sell foodstuffs which they know to be adulterated, tainted or poisonous ;

(*b*) Display, offer for sale or sell, with a knowledge of the purpose for which they are intended, products employed for the adulteration of commodities intended for human consumption.

Moreover, if the adulterated or tainted substance is harmful to the health of human beings or animals, the penalty will be imprisonment (three months to two years) and the fine imposed from 500 to 10,000 francs.

(*c*) Persons who are merely in possession of commodities intended for human or animal consumption " which they know to be adulterated tained, or poisonous ".

This law is thus of primary importance from the point of view of the protection of public health. The conditions under which it was to be applied to various foodstuffs were laid down in a series of later texts.

These dealt with :

Fats and oils ;

Various beverages (cider and perry, liquors and syrups, beer, hydromel) ;

Vinegar ;

Sugar, confectionery, chocolate ;

Pork-butcher's wares, fruit, vegetables, fish and preserves ;
Wines and spirits ;
Dairy produce ;
Butter and margarine, etc.

Organisation of Supervision.

Supervision in respect of Fitness for Consumption.

The municipal authorities are responsible for satisfying themselves as to the fitness of foodstuffs for human consumption. Various administrative authorities are entrusted with the application of the regulations relating to this supervision. These are, as the case may be :

(*a*) The Ministry of Public Health, in respect of all foodstuffs in general and drinking-water in particular ;

(*b*) The Ministry of Agriculture (veterinary services) in respect of foodstuffs of animal origin—meat, milk ;

(*c*) The Ministry of Merchant Marine (Maritime Fisheries Office) in respect of oysters and shell-fish.

Functions of the Ministry of Public Health.

In accordance with the legislation referred to above,[1] the municipal authorities are responsible for supervising, in respect of their fitness for consumption, foodstuffs offered for sale and drinking-water in particular. Provisions relating to this supervision must be included in the municipal health regulations promulgated in each commune by municipal decree, in application of Article 1 of the Law of February 15th, 1902. (These regulations have, however, been given a departmental character by Decree-Law of October 30th, 1935—that is to say, in future they will be promulgated by the prefect and will apply to all the communes in the department.)

Article 19 of the Law of February 15th, 1902, also provides that :

" In towns of 20,000 or more inhabitants and in communes of not less than 2,000 inhabitants, where there is a hydropathic establishment, a municipal service responsible, under the authority of the mayor, for the application of the provisions of the present law shall be set up under the name of the Health Office."

The mayors discharge their functions in regard to health under the supervision of the prefectural administration. In this connection, the same law provides (Article 19) that :

" If the prefect, with a view to giving effect to the present law, considers that a supervisory and inspection service should be organised, this may only be done by decision of the general council regulating the details and budget of the service."

[1] Law of April 5th, 1884 ; Law of February 15th, 1902.

The setting up of a service of this kind has just been made compulsory in each department by Decree-Law of October 30th, 1935.

The Ministry of Public Health (Department of Hygiene and Assistance) supervises the application of all health measures relating to the fitness of foodstuffs for human consumption under the health regulations (Fifth Bureau) or regulations for the prevention of epidemic diseases due to impure food (Sixth Bureau).

This administration appoints and arranges for the supervision of approved laboratories for the analysis of drinking-water.

In exercising these various functions, the Central Administration of Public Health consults the Supreme Council of Public Health, which is responsible, in particular :

For studying the health regulations ;

For giving advice as to the choice of approved laboratories for the analysis of drinking-water and for their supervision ;

For advising upon public sanitation works or works for the supply of water to towns of over 5,000 inhabitants ;

For studying any questions referred to it by the Minister.

We would mention that the Minister has the right to submit to the Academy of Medicine questions relating to foodstuffs in the same way as any questions affecting the protection of public health in general.

Result of the Supervision exercised under the Authority of the Minister for Public Health.

(a) *Supervision of Foodstuffs in general.* — This supervision is exercised more or less strictly according to the means at the disposal of the municipal administrations. While it is very thorough in towns of over 20,000 inhabitants which possess a special health organisation, it is necessarily more rudimentary in smaller towns and in small communes which are obliged to apply to the special departmental services (departmental health inspectorates).

The recent measures promulgated (substitution of departmental health regulations for municipal regulations, compulsory establishment in each department of an inspection and supervisory service) will give the prefectural administrations greater authority and more extensive means of action, and will enable the supervision of foodstuffs to be made closer.

(b) *Supervision of Drinking-water.* — The supervision exercised in France is very strict. Pollution by feed water is exceptional. On the other hand, pollution by water stated by the health authorities to be unfit for drinking is still too frequent. These accidents are attributable, not to inadequate supervision, but to the fact that a water-supply complying with all the conditions desirable from the point of view of

health is not available everywhere. It is for this reason that, notwithstanding budgetary difficulties, considerable efforts are being made to increase the supply of drinking-water.

Functions of the Ministry of Agriculture: Veterinary Services.

(a) *Organisation of Meat-inspection Services.* — The vast majority of municipalities introduced supervision in regard to the fitness for human consumption of meat prepared in their locality or brought into it (Law of April 5th, 1884), without waiting for the compulsory provisions of the Law of July 7th, 1933.

In the towns, permanent inspection is ensured by one or more veterinary officials attached to the service.

In Paris, in particular, a service consisting of fifty-two veterinary officials ensures the regular supervision of all establishments engaged in the meat industry or trade.

In smaller places, both public and private slaughter-houses are under the supervision of veterinary surgeons, assisted by local officials.

These services, which were organised under the Laws of April 5th 1884 (Article 97), June 21st, 1898 (Article 63), January 8th, 1905, and January 8th, 1921, are placed under the supervision of the Departmental Director of Veterinary Services, who " proposes to the prefect such measures as are necessary to ensure the application of the laws and regulations relating to the fitness for human consumption of foodstuffs of animal origin and the suppression of fraud " (Decree of May 3rd, 1923, Article 5).

All these services are under Government supervision.

> " The directors of the veterinary services and veterinary officials, veterinary inspectors of fairs and markets, slaughter-houses and knackers' yards are placed under the authority of the inspectors-general of the veterinary services (Article 11 of the above-mentioned Decree), who are themselves under the Chief of the Veterinary Service at the Ministry of Agriculture."

The inspection services have been instrumental in obtaining the withdrawal from consumption of large quantities of meat, as shown by the figures in the reports regularly submitted by the chiefs of the departmental services.

For the Seine Department alone, the Slaughter-house Inspection Service effected, in 1934, 113,000 seizures, covering 2,230,000 kilogrammes of meat.

(b) *Supervision of Milk.* — This supervision devolves, according to their respective functions and powers, upon the officials of the service for the suppression of fraud, the public health and veterinary services, who are responsible for the application of the regulations referred to above.

In addition to these various forms of supervision, certain municipalities have taken steps to provide the population as a whole or a certain part of it with milk of good quality.

For instance, the city of Bordeaux, in conjunction with the Girondist Federation of Child Welfare Associations, has succeeded in producing pure raw milk for babies. The cost price of this milk is rather high, and the town is therefore obliged to sell it at a loss to families unable to pay the full price. This example deserves to be followed.

Nancy has also organised a system of supervision for the purpose of providing the public with clean milk, and this has been willingly accepted by producers and sellers.

Similarly, Versailles has introduced the supervision of milk in shops, and has supplemented this by inspection during transport.

Lyons and St. Etienne each have a model dairy, over which strict supervision is exercised, and which supplies institutions, municipal day nurseries and private child welfare organisations.

We would also mention that certain municipalities (Strasburg, for instance) run municipal dairies. Strict supervision is exercised to ensure that the milk distributed by those dairies is pure.

Lastly, it should be noted that the big milk companies carefully check the quantities of milk offered for sale, both before and after pasteurisation at their collecting centres. Special supervision of byres and of the conditions under which the milk is collected have also been instituted by them.

Inspection of Covered and Open Markets. — In all the large towns the municipalities have organised, in accordance with the Laws of April 5th, 1884, and February 15th, 1902, inspection services of covered and open markets. These services are responsible, in particular, for the supervision of certain foodstuffs (for instance, eggs and mushrooms).

Functions of the Ministry of Merchant Marine (Maritime Fisheries Office).

A special service of this office is responsible for supervising the wholesomeness of oysters and shellfish, in accordance with the provisions of the Decrees of July 31st, 1923, and October 30th, 1935, to which we have already referred.

For this purpose, regional inspection services, placed under the supervision of an inspector-general for the hygienic supervision of oysters and shellfish, have been organised all along the coast.

Eight areas have been established.

These services include inspectors, deputy inspectors, supervisors and laboratories.

Analyses are also made in Paris, at the Central Laboratory of the Fisheries Office.

Results. — This service has been strengthened year by year, and the creation of new posts of inspectors is now proposed. The results of

this supervision can already be regarded as satisfactory, at all events so far as oysters are concerned.

The provisions of the Decree-Law of October 30th, 1935, mentioned above, will enable strict supervision to be exercised over shellfish from the point of view of their wholesomeness.

Detection and Punishment of Fraud: Functions of the Ministry of Agriculture.

Service for the Detection and Punishment of Fraud in France.

The Service for the Detection and Punishment of Fraud was set up by Decree of April 24th, 1907, with a view to the application of the Law of August 1st, 1905, on the suppression of fraudulent practices in the sale of commodities, and particularly the adulteration of foodstuffs, beverages, agricultural produce and medicaments.

A corps of inspectors for the detection and punishment of fraud (attached to the Chief of the Service) was accordingly established by Decree of October 21st, 1907. This corps makes expert enquiries and serves as a link between the Central Administration and the prefectural services for the suppression of fraud.

Another Decree of January 17th, 1908, set up a Central Laboratory for the Detection and Punishment of Fraud at Paris, mainly for the purpose of carrying out scientific researches in connection with the detection of fraud, giving directions to local laboratories where the latter apply to it for advice, and, lastly, of analysing one portion of the samples taken in the Parisian area, the other portion being analysed by the Laboratory of the City of Paris, which has been approved for that purpose.

The number of approved laboratories and agents in connection with the service has since been increased.

The functions of the laboratories are local, inasmuch as they are responsible for the analysis of samples taken in the departments or " arrondissements " under their supervision; but there are certain special laboratories which handle samples from the whole of France. Samples of preserves, for example, wherever taken, are all sent to the Preserves Laboratory of the Ministry of War. Similarly, seed samples are all sent to Paris to the Seed-testing Institute, and samples of resinous products to the Laboratory for the Analysis of Resinous Products at Bordeaux.

Article 11 of the Law of August 1st, 1905, on the detection and punishment of fraudulent practices in the sale of commodities and foodstuffs and agricultural products provides that public administration regulations shall be promulgated regarding the measures to be taken to give effect to that law, particularly as regards :

(1) The sale, offering for sale, displaying and possession of the foodstuffs, beverages, substances and products to which the law applies ;

(2) Marks and inscriptions, indicating either the composition or the origin of the goods or regional appellations and special vintages, which buyers may require to be entered on the invoices, packings, or on the products themselves, as a guarantee on the part of the sellers, and also the outside or visible indications required to ensure that the description under which the goods are sold or offered for sale is correct ;

(3) The formalities for the taking of samples and the analysis of suspect goods by the approved laboratory and a laboratory selected by the seller ;

(4) The selection of the methods of analysis for the purpose of establishing the composition, constituents and content in valuable principles of the products, or detecting their adulteration ;

(5) The authorities competent to take steps to discover and establish infringements of the law, and their right to collect information from the various public administrations and transport agents.

The drawing-up of these draft public administration regulations has been entrusted to two commissions, one dealing with beverages and the other with foodstuffs.

Both commissions were appointed by agreement between the Minister of Agriculture and the Minister of Commerce and Industry, by Decrees of November 15th and December 12th, 1905.

With a view to the application of the fourth paragraph of Article 11, a Permanent Technical Commission responsible for determining the analytical methods to be employed and specifying both their method of application and the manner in which their results are to be interpreted, was set up by Decree of December 15th, 1905.

As the outcome of the work of these various commissions, which was itself based on the decisions and recommendations of the International Congresses for the Suppression of Fraud held at Geneva (September 1908) and Paris (October 1909), a large number of regulations have been adopted giving effect to the Law of August 1st, 1905, particularly as regards wine, sparkling wine, brandy, various beverages, sugar factories, confectionery, preserves, milk and milk products.

The Service for the Detection and Punishment of Fraud is therefore responsible, not only for supervising the observance of these regulations, but also for supervising the execution of the provisions of special laws relating to butter, fertilisers, spirituous liquors and poisonous substances. It must endeavour to detect fraudulent practices and the adulteration of these products and also of medicinal products and mineral waters.

Lastly, it must also supervise the application of the laws for the protection of appellations of origin, and, in particular, endeavour to detect fraud and falsification as regards the origin of the products.

The Service for the Detection and Punishment of Fraud is also entrusted with the supervision of prices, and must see to the public posting up of the prices of foodstuffs, and of grain and flour coming on the market.

Products offered for sale are inspected by means of the taking of samples and analyses.

Every year, some 40,000 samples of foodstuffs, beverages and agricultural products are taken in the whole of France. Suspect samples are reported to the judicial authorities, and the courts are then called upon to inflict on the guilty parties the penalties by law provided.

Since the establishment of the service, the situation has certainly improved considerably. The grosser forms of adulteration are becoming more and more rare ; but the progress of science has placed new weapons in the hands of the adulterators. Adulteration is now more scientific, and consequently more difficult to detect, particularly where the supervision cannot be exercised at the place of manufacture.

International co-operation is therefore highly desirable for the purpose of combating adulteration more effectively. Such international action would imply the conclusion of a convention embodying more definite directions in connection with the specification of the composition of certain foodstuffs, and the definition of licit and illicit trade practices, together with the steps to be taken in the event of the detection of adulteration.

Organisation of Certain Special Systems of Supervision.

Dietetic Supervision in the Army (Home Troops).

Appropriate steps are taken for the inspection of each article of food as it arrives, both by the supply services and by the various units.

The general rules already mentioned are strictly applied in the army.

Finally, information is given concerning the steps taken to ensure that foodstuffs shall contain the proper proportion of so-called protective substances (minerals and vitamins). General instructions issued by the Ministry of War specify the proportion of these substances that the various articles of food should contain. The best average daily ration for the various units, living under ordinary conditions, is thus established.

Dietetic Supervision in the Army (Colonial Troops).

The general principles observed for inspection in the home army are also applied in the colonial army. Certain special points concern the diet of soldiers serving in the colonies.

Dietetic Supervision in the Navy.

A detailed memorandum on this subject is preceded by certain information on the sailors's diet :

(*a*) On shore service or in surface vessels ;

(*b*) In submarines.

It sets out the methods of inspecting the various foodstuffs destined for the various branches and draws attention to the severity and efficacy of this inspection.

Dietetic Supervision in Hospitals and Hostels.

Article 7 of the Organic Law of August 7th, 1851, leaves it to the Administrative Commission " to direct and supervise the internal and external services of hospitals and similar establishments ".

Article 8 (4) specifies that the Commission " shall, subject to the approval of the Prefect, establish the rules governing both internal and external services and health . . . "

One of the main aims of the internal rules is to regulate diet and food supplies.

The model set of rules adopted by the Conseil Supérieur de l'Assistance Publique and communicated to prefects in a circular, dated March 31st, 1926, gives very precise indications on this subject.

The steward and the doctor in charge of the case are responsible respectively for food supplies and the patient's diet.

Under Article 10 of the model rules, the steward's duties are :

(1) To purchase, store and preserve *foodstuffs* and furniture of every kind ;

(2) To distribute these foodstuffs and articles. He shall carry out these duties under the supervision of the Managing Board.

Furthermore, under Article 12, doctors and surgeons must record, in a special register, their prescriptions and the diet ordered for each patient. After each visit, they must sign this register.

Chapter 10 of the rules is devoted to dietary questions.

Questions of diet are decided, in the hospital or hostel by the Managing Board, " in agreement with the medical staff of the establishment ". No change may be made until the medical staff has been consulted, the opinion of such staff being expressly annexed to the " Board's decision transmitted to the Prefect for approval ". [1]

The Ministerial Circular makes the following comments on this article, which indicate certain aspects of the patient's diet to which attention should be paid :

" The circular of June 26th, 1924, drew your attention to the desirability of increasing the consumption of fish in public institutions.

" The report of the Inspector-General for the year 1925 refers to the economy effected by one national assistance establishment as a result

[1] This decision must include a description, in the form of a table, of the dietary regime which the hospital administration has prepared, in the light of its own experience, within the framework of the theoretical table attached to the model rules.

of adopting frozen meat. The same document contains observations applicable to all hospitals, concerning benefits in kind accorded to the staff, particularly in the matter of foodstuffs."

A plan of meals and diets is also given in the model rules.
Article 52 is of special interest. It is worded as follows :

" Every day the steward shall, in agreement with the supervisor of the kitchen, draw up the menu of the various meals for the following day. This menu must be submitted previously to the medical officer of the institute ; it shall then be posted up in the kitchen and a copy shall be kept in the stewards' office."

Dietetic Supervision in Sanatoria.

Article 21 of the Decree of August 10th, 1920, concerning the creation, working and supervision of sanatoria, lays down that :

" In public sanatoria, special regulations drawn up by the Supervisory Committee on the proposal of the chief medical officer in charge, after submission for approval to the representative of the body which maintains the establishment, shall provide for the organisation and working of the internal services . . . These rules shall make provision for all questions concerning . . . food supplies and diet. A general model set of rules shall be prepared by the Ministry of Health Assistance and Social Welfare to serve as a guide to the various bodies in the preparation of their own rules."

In public sanatoria, the chief medical officer in charge shall exercise dietetic supervision. Article 16 of the Decree lays down that :

" The chief medical officer in charge shall be generally responsible for the conduct of the establishment. He shall be in charge of the internal administration."

Article 17 states, however, that a steward-controller shall be responsible for accountancy in the matter of foodstuffs and supplies.
In this connection, it may be noted (Article 18) that :

" Laws and regulations concerning the general administration of hostels and charitable institutions, particularly as regards . . . the supervisory and managerial duties of the steward-controller . . . shall be applicable to public sanatoria, save in so far as they may be contrary to the foregoing provisions."

Preventoria are not yet subject to the rules governing sanatoria. The Decree-Law of October 30th, 1935, however, concerning the reorganisation of departmental health services, lays down that all the establishments concerned in the protection of public health shall be placed under the supervision of the departmental health inspector.

In this way, definite rules will be established for the management of these institutions. Special rules may be laid down to govern the diet of the inmates.

Holiday camps are also placed under the supervision of the departmental health inspectors.

Furthermore a model set of rules, which must be observed by all establishments in receipt of subsidies, has been prepared by the Ministry of Public Health.

There also exists a dietetic supervision in homes and charitable institutions, in elementary education establishments and in secondary education establishments.

Strengthening the Supervisory Organisation.

(a) *General Supervision.*

As has been already stated, though a very close watch is kept on all foodstuffs throughout France, effective supervision is much more difficult in the case of imported foodstuffs. Hence the need for international rules.

(b) *Special Forms of Supervision.*

It has been shown that an extensive supervisory network exists in France. The supervision of foodstuffs of the most varied character has been taken in hand. There are, however, certain foodstuffs which call for special treatment, such as irradiated foostuffs, which have become very popular of late.

Special rules, the principles of which are explained in a separate note, will have to be prepared to meet this case.

On the other hand, the fitness for human consumption of certain products like milk can be better ensured by preventive measures than by subsequent supervision. It is reasonable to suppose that the quality of milk will improve in proportion to the knowledge of hygiene acquired by producers. This, then, is a case for the educational propaganda undertaken by the Ministry of Health.

Italy.

Supervision of everything connected with human food in Italy is by law under the Ministry of the Interior, which exercises its powers through central and local authorities.

The central authorities are the Directorate-General of Public Health and the Public Health Institute. Both are directly under the Minister of the Interior. The Directorate initiates the measures considered necessary, and is responsible for the execution of such measures through the provincial and communal public health authorities. The Institute,

which is a purely technical organisation, is a centre for study and research, and also for the checking of disputed analyses of the provincial Laboratories of Public Health and Prophylaxy.

The local organisation is similar to the central organisation. In each province there is a provincial medical officer and a provincial veterinary officer, both of whom are directly under the Prefect ; and in each commune there is a public health officer, assisted where necessary by other officials, medical and veterinary officers, and chemists, all of whom are directly under the Podesta (Mayor).

In divisions of communes which the public health officer cannot cover, his powers are exercised by the local medical officer under the instructions of the Podesta.

Each province has also a Provincial Laboratory of Public Health and Prophylaxy organised on the lines of the Public Health Institute —*i.e.*, on a purely technical basis. These laboratories serve as research centres, and also undertake analyses as required by the provincial and communal public health authorities.

The supervision of the hygienic quality of foodstuffs thus operates from the centre through the provincial public health authorities down to the most remote and distant communes and villages.

Public Health Officers.

The public health officers constitute the basis of the organisation for health supervision, and their powers in regard to the hygiene of foodstuffs are extensive.

Directly or through the staff under them, they supervise the production and sale of foodstuffs. They keep a watch on the health of the staff employed in the manufacture and sale of foodstuffs by periodical visits of inspection. They propose to the Podesta the measures required for the production of hygienic food conditions, and it is their duty to inform the provincial medical officer of health of any circumstances of a serious character.

Provincial Laboratories of Public Health.

The public health officers are assisted in their work by the Provincial Laboratories of Public Health and Prophylaxy. The latter are organised on wholly up-to-date lines, and represent one of the most important achievements of the Fascist regime in the matter of public health and the hygiene of food in particular.

These laboratories have bateriological and chemical departments through which they are in a position to check the hygienic condition of foodstuffs on strictly scientific lines, and to bring to light any adulteration made possible by the development of technical science.

Public Health Legislation on Foodstuffs.

In addition to the reform of the staff and institutions connected with the supervision of food hygiene, far-reaching improvements have been made in the legislation on this subject.

Until 1922, almost the only legislative enactments with regard to food hygiene were contained in the old Public Health Code No. 636, of August 1st, 1907, and in the Special Regulations for the Supervision of the Hygiene of Foodstuffs, Beverages and Objects of Domestic Use, No. 7045, of August 3rd, 1890.

Since 1922, the private initiative of producers and traders has been regulated in the public interest.

In addition to the hygienic control of slaughter-houses, the operation of the greater part of the food-producing industries has been made conditional on the obtaining of previous authorisation from the public health authorities. The latter are not allowed to give such authorisations unless they have first ascertained that the hygienic conditions of the premises, machinery and staff employed in the industry concerned are perfectly satisfactory.

The hygienic control of milk has been extended and improved by the institution in the principal centres of " Centrali del Latte " under the public authorities, for the centralisation and distribution of milk.

The hygienic control of shops has also been tightened up by the institution of an expert personnel of sanitary inspectors, food inspectors, etc., and special conditions have been laid down for the keeping of shops. Tradespeople are compelled, for example, to keep foodstuffs in suitable receptacles and not to expose them to contact with flies (Law No. 858 of March 29th, 1928, and Decree of the Head of the Government of May 20th, 1928), and so on.

Quality of Commodities for Sale.

In a number of cases the quality of products for sale has been defined —*e.g.*, the condition of flour, the maximum of humidity in the making of bread and alimentary pastes, the minimum grading of alcohol in wine, the minimum percentage of dry residue in syrups and syrup beverages, and the minimum percentage of fat and of thin residue in milk for direct consumption. The milk supply and the production of meat and the meat trade have been organised and regulated. Regulations on food extracts are about to be issued.

The main principles of the new regulations with regard to foodstuffs are the subordination to the public interest of private interests of industrialists and traders, the activities of the latter being regulated by authority, the extension of the powers of public health authorities, and the establishment of organisations and institutions for the

attainment of the objects which the Government has set itself in the matter of food hygiene. [1]

Mexico.

The General Office of Nutritional Hygiene puts into force special regulations relating to foodstuffs. Through its section dealing with regulations, it revises and improves existing measures as far as possible, so as to ensure the effective supervision and control of all foodstuffs. The section will study existing regulations, draw up new ones where necessary and see that they are effectively applied in the various parts of the country, by adapting them to the real requirements of public health, in accordance with the general efforts to improve living conditions, especially among the rural and working classes. This section will also reply to enquiries and give its opinion on all questions relating to nutritional hygiene, with the technical co-operation of all the other services or offices of the department.

The Food Registration Section will be responsible for the registration of foodstuffs, beverages, etc., sold in containers or special packings, whether coming from abroad or manufactured or prepared in Mexico, and also for analysing those products with a view to authorising their consumption.

The Veterinary Hygiene Section will study all questions relating to veterinary hygiene in its bearing on human health and of general interest to the country, particularly questions relating to imports.

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[1] See in particular, the following legislative enactments :

1. The Public Health Code (Royal Decree No. 1265, of July 27th, 1934, published as a Supplement in Ordinary to *Official Gazette* No. 186, of August 9th, 1934-XII).
2. Regulations for the Hygienic Supervision of Meat (in *Official Bulletin*, No. 7-8, of March 11th, 1929-VII).
3. Regulations for the Hygienic Supervision of Milk for Direct Consumption (Royal Decree No. 994, of May 9th, 1929).
4. Regulation of Varieties of Flour and Bread (Law No. 368, of March 17th, 1932).
5. Regulation of the Sale of Alimentary Pastes (Law No. 874, of June 22nd, 1933).
6. Wines, vermouths and apéritifs : Legislative Decree No. 2033, of October 15th, 1925 (Articles 12, 13 and 15) ; Legislative Decree No. 1225, of September 2nd, 1932 (Article 11) ; Regulation No. 1361, of July 1st, 1926 (Article 61) ; Legislative Decree No. 1696, of November 9th, 1933 ; Legislative Decree No. 745, of April 8th, 1935 ; Regulation No. 2164, of October 4th, 1935.
7. Vinegars : Legislative Decree No. 1225, of September 2nd, 1932 (Article 18).
8. Oils : Legislative Decree No. 2033, of October 15th, 1929 (Articles 20 ff.) ; Legislative Decree No. 1314, of October 5th, 1933 (Articles 2 ff.) ; Regulations No. 1361, of July 1st, 1926 (Article 73).
9. Butter : Legislative Decree No. 2033, of October 15th, 1925 (Article 26) ; Legislative Decree No. 381, of April 6th, 1933 (Article 2).
10. Lard : Legislative Decree No. 2033, of October 15th, 1932 (Article 31).
11. Margarine : Legislative Decree of February 15th, 1934 (Article 290).
12. Cheese : Legislative Decree No. 2033, of October 15th, 1932 (Article 32) ; Legislative Decree No. 1752, of November 30th, 1933.
13. Fruit juices, syrups and preserves : Legislative Decree No. 1225, of September 2nd, 1932 (Article 14).
14. Food preserves prepared with vegetable substances : Legislative Decree No. 501, of February 8th, 1923.
15. Concentrated Tomato Sauce Extract : Legislative Decree No. 1260, of August 25th, 1932.
16. Preserved Fish : Legislative Decree No. 1548, of July 7th, 1927.

As regards local activities, the service will be responsible, as in the past, for supervising the production, handling, transport, sale and distribution of foodstuffs, beverages, etc., within the Federal District. For this purpose, the various questions will be divided up as follows :

(1) Questions coming within the province of the Veterinary Hygiene Section :

Sanitary inspection of slaughter-houses, including the inspection of the meat and viscera of animals of various kinds authorised to be killed for public consumption in the slaughter-houses and factories manufacturing meat products in the Federal Districts ;

Sanitary inspection of shops ; supervision of butchers' shops and shops for the sale of poultry, game, fish, shell-fish, etc. ;

Sanitary inspection of poultry offered for sale in the market ;

Sanitary inspection of byres ;

Tuberculin-testing service, which comprises the sanitary control of animals to be used for the production of guaranteed milk, by means of the tuberculin-test and the careful examination of the animals themselves, with a view to eliminating tubercular animals ;

(2) Questions relating to milk and milk products—namely, the inspection of pasteurising plant and the sale and distribution of local milk and milk products, and of milk and milk products coming from other districts ;

(3) Questions relating to " pulque " ; sanitary inspection ; the transportation and sale of " pulque " ;

(4) Sanitary inspection of any foodstuffs or beverage not referred to in the foregoing paragraphs, including its production, handling and sale.

There will also be offices to attend to the formalities connected with the licensing of establishments producing and selling foodstuffs and beverages and with infringements of the regulations, and also with licences to bring in, transport and distribute those articles.

Poland.

The Ministry of Social Assistance, which deals with all public health questions, including that of rational feeding, has a Food Control Board attached to it, which also conducts enquiries into popular nutrition and researches into nutrition from the health standpoint.

Roumania.

(*a*) In Roumania, the law for the protection of health lays down that all foods and food ingredients supplied for consumption must be of good quality, and not adulterated nor tainted. Special reference is made to milk. The controlling authorities are the sanitary inspectors-

general, the chief medical officers in the departments, the chief medical officers in municipalities, the medical officers in rural and urban districts and the laboratory chemists and doctors.

The control of meat in slaughter-houses and of animals destined for human consumption is carried out by veterinary officers.

(*b*) There is a law providing for veterinary supervision, and for the control and sanitary regulation of slaughter-houses, as well as of stabling and of animals intended for use as human food.

(*c*) Regulations are laid down for the control of articles of food and drink—in particular, specifying the conditions to be fulfilled in the case of milk, powdered milk, etc.

(*d*) There are legal regulations for veterinary sanitary control.

Switzerland.

The campaign against poor quality foodstuffs and for the protection of public health is the subject of a whole series of regulations extending to meat, meat preparations and other foodstuffs, as well as to a number of articles in common use, into the manufacture of which substances liable to have an injurious effect on the human body have occasionally entered.

In conformity with Swiss political conditions, the supervision is divided between the Confederation and the cantons. Generally speaking, the Federal authorities supervise imports, while the cantonal authorities supervise internal production, though on similar lines.

Meat and meat preparations must satisfy the requirements of the Veterinary Department, as laid down more particularly in :

(*a*) The Ordinance concerning the slaughter of livestock, inspection of meat and trade in meat and meat preparations of January 29th, 1909 ;

(*b*) The Ordinance regulating the supervision at the frontier of meat and meat preparations imported into Switzerland of January 29th, 1909.

Foodstuffs and common objects subject to supervision are inspected with a view to their quality and compliance with the legal rules contained in such regulations as :

(*c*) The Ordinance concerning cantonal inspectors of foodstuffs of January 29th, 1909 ;

(*d*) The Ordinance concerning chemists for the analysis of foodstuffs of September 27th, 1919 ;

(*e*) The Ordinance regulating trade in foodstuffs and diverse common objects of May 26th, 1936 ;

(*f*) The Regulations for the taking of samples of foodstuffs and common objects of April 16th, 1929 ;

(*g*) The Ordinance regulating the supervision at the frontier of foodstuffs and common objects of October 28th, 1932.

Turkey.

Very considerable efforts are being made to regulate the consumption of food products on sound and hygienic lines. The Turkish Penal Code, published in 1926, contains, for the first time in Turkey, provisions with regard to the purity of foodstuffs. The Public Health Law which came into force in 1930 has again been concerned with this important problem, which it has endeavoured to solve on entirely up-to-date lines. Successive executive measures and instructions have served to fill up gaps in the legislation on the subject. Special attention has been devoted by the authorities to the milk question.

Uruguay.

Since its " Organic Law " was issued on January 12th, 1934, the Ministry of Public Health has given serious attention to the problem of national nutrition. Chapter IV : " Police Supervision of Foodstuffs ", includes among the functions of the said Ministry the " determination of the conditions to be complied with by the foodstuffs put on the market and regulations concerning their quality and purity ". It is laid down that this supervision it to be carried out by " officials of the Ministry, without prejudice to any action taken by the municipal authorities and the Customs offices concerned. "

In Uruguay, milk forms the subject of a special Act and of municipal regulations governing supply and distribution ; and pure milk is now available for consumption in the capital and in certain places inland, as the result of pasteurisation and strict supervision.

In this connection, a study is now being made on the basis of publication No. 5 of the Pan-American Health Office—*i.e.*, Model Decree concerning Milk—of national regulations to serve as a basis for the communal and departmental authorities in the application of measures for the improvement of milk for consumption. The regulations on the subject will thus be standardised.

Yugoslavia.

In Yugoslavia, to protect the public health and insure wholesome food for the population, the Law on the Supervision of Foodstuffs of February 8th, 1930, brings under public control foodstuffs and beverages of all kinds, including the appearance, taste and colour of spices, and the instruments used, or to be used, for manufacture, weighing, packing, preserving or consignment.

The object of the supervision is to :

(1) Insure that the quality of fresh or treated foodstuffs is wholesome ;

(2) Prevent contagious or parasitic diseases from being transmitted through the medium of foodstuffs ;

(3) Prevent poisoning or other effects injurious to health as a result of the use of foodstuffs or of the instruments, tools or receptacles required for their manufacture, packing, preserving or consignment ;

(4) Prevent counterfeiting and adulteration of foodstuffs in a manner injurious to health ;

(5) Prevent injury to the nutritive value of foodstuffs or beverages of any kind.

CHAPTER VII.

RESEARCH, EDUCATION AND PUBLIC INSTRUCTION.

Side by side with the relief organisations' activities, an intense propaganda has been conducted to study this problem and to draw the attention of the public and of scientists to the importance of the question of nutrition and also to promote effective application of the measures suggested by experts. Patience is an essential factor in modifying the tastes and habits of a people. With modern technique, however, amazing results can be achieved by popular education and propaganda.

Union of South Africa.

In South Africa, the Health Department of the Central Government employs a medical inspector and a number of nurse-lecturers in its child welfare section. These officers continually travel about the country instructing groups of mothers and others in infant health and more particularly infant feeding.

The South African Red Cross Society and the South African National Council for Child Welfare do much health educative work, including instruction on nutrition throughout the Union. The latter organisation employs full-time trained women health visitors for this work.

Various missionary societies have hospitals and clinics in backward native areas and are doing valuable educative work.

Propaganda work with regard to disseminating among the public a knowledge of the principles and practice of rational nutrition is continuously being done by the officers of the Central Government, local authorities and charitable organisations enumerated above. This work is being done by such officers along with numerous other health duties, and it cannot be claimed that instruction regarding nutrition is spreading at all rapidly, particularly among the "poor whites" and Bantus, where it is most needed.

Argentine Republic.

THE MUNICIPAL INSTITUTE OF NUTRITION IN BUENOS AIRES.

The Municipal Institute of Nutrition in Buenos Aires is the only institution in the country for the study of the social and technical problems bearing on popular nutrition. It is subsidised by the Central Government with the help of credits provided for under Law No. 11912.

The Institute consists of the following branches :

(1) A hospital consisting of (*a*) wards for men, women, children and infants, 100 beds in all ; (*b*) outpatients' departments for men, women, children and infants ; (*c*) nutrition services with canteens ; (*d*) canteens for outpatients ; (*e*) clinical analysis laboratories ;

(2) A Municipal School of Dietetics, comprising two years' study at the university ;

(3) The Chair of Clinical Medicine at the Faculty of Medicine of Buenos Aires, occupied by Professor Escudero ;

(4) Food research laboratories ;

(5) A section for supervising and protecting healthy individuals, to which we shall refer later.

In September 1935, the Institute set up a section known as the " Section for assisting and protecting Healthy Persons ", the cost of which is met out of the credits provided for under Law No. 11912. This section consists of eight sub-sections, for the services of which no charge whatever is made.

The first sub-section supervises the health, nutrition and work of pregnant women who apply to it (obstetrical treatment is excluded) ; when the family's means are insufficient to ensure proper nutrition, food is provided at the Institute's canteen.

The second sub-section supervises the health, nutrition and work of nursing mothers and, where necessary, supplies them with food.

The third sub-section supervises the normal growth and healthy development of children on the register and gives advice as to their food, rest and mental and physical work.

The fourth sub-section supervises the health of persons of both sexes and gives them advice on the subject of physical labour in relation to bodily health.

The fifth sub-section advices upon diet with due regard for the age, work, physical condition and economic situation of the persons concerned. It draws up a family dietary based on the income, work, age and sex of the members of the family.

The sixth sub-section gives confidential information to persons intending to marry and tells them whether they are suffering from communicable diseases. It tells married people suffering from parasitic affections which can be passed on to children how to prevent inherited disease and counteract the effects of such heredity.

The seventh sub-section supervises the nutrition of healthy children from birth until they reach the age of four and ascertains whether their mental and physical development is normal.

The eighth sub-section will be inaugurated shortly.

This last-named sub-section will be supplemented, in July 1936, by the setting-up of an establishment for supplying infants who need it with human milk in sterilised bottles containing 10 c.cm. This milk will be supplied free of charge to children whose parents are not in receipt of more than the minimum wage. The milk will be bought from mothers who are feeding their child at the breast, under the Institute's supervision ; only the surplus which can be taken without depriving the child will be purchased ; it will be taken and preserved according to aseptic methods.

The grants made for the purchase of milk are quite small ; they are never large enough to cover the family's expenses, which must be met by regular work.

Scheme for establishing Public Canteens.

In his articles published in the *Prensa*, of Buenos Aires, in 1931, and reproduced in his book on nutrition, Professor Escudero set forth the reasons—technical, economic and social—why public nutrition services should be set up under the municipalities for the purpose of providing the population with meals at the cost price of the raw materials or of the preparation of those meals. The general establishment of such services would solve an important economic and social problem in connection with the feeding of the poorest section of the urban population. It would save them the necessity of preparing meals for themselves and would enable them to obtain them at much less than their present cost. Housewives would be able to devote to other productive occupations the time spent in preparing meals, and malnutrition, with its serious consequences, would be avoided.

The Institute has decided to set up these public canteens so far as its resources permit, for demonstration purposes and with a view to encouraging the establishment of similar canteens in every district.

The system of public canteens and the establishment of a sufficient number of canteens for patients who are resuming work would solve the most serious problem raised in connection with the nutrition of the workers.

Canteen for Patients who are resuming Work.

When a patient leaves the hospital in order to take up a normal life again, his diet requires special care. He does not lose touch with the hospital, and attends the canteen. In 1922, Professor Escudero set up a canteen for patients whose case-record cards show that they need a special diet. These patients come to the canteen at meal-times, and resume their work, which enables them to provide for the livelihood of their families.

The Argentine is probably the first country to have established this form of social assistance to sick persons on their return to normal life. The general adoption of this system throughout the municipality was proposed in 1934.

Canteens attached to Municipal Schools.

In application of Decree No. 7279, the Municipal Institute of Nutrition has set up a school nutrition service for the sole purpose of looking after children who attend the canteens. This nutrition service is under the authority and technical supervision of the Director of the Institute. It also possesses a staff of pediatricians who are responsible for selecting the children. Under-nourished children and those who are suffering from disorders due to inadequate or defective nutrition are singled out. These children are provided each day with lunch having a net caloric value of 1,250 calories. During the winter months, three canteens, each with accommodation for 500 children, will be established and others will be set up later until there is accommodation for 4,500 children. These children will also be placed under the supervision of the Government and the Physical Education Department, which will supplement the measures taken by the Institute.

Research.

A New Use for Hard Wheat.

The Work of the Municipal Institute of Nutrition is not confined to propaganda ; it is also endeavouring to solve the technical problem of the economical nutrition of the population. It has been laid down as a principle that the concept of popular nutrition should be based, not on the actual diet of the people, but on diets making full use of local products.

In this connection, the Institute has considered by what means hard corn, the most perfect type of which is wheat, can be utilised direct as a substitute for dried vegetables, which are imported and which, if home-grown, work out at a higher price. The problem has been dealt with from the economic, technical and industrial standpoints. For some time past, corn prepared according to the formula specified by the Institute has been on the market. The six outer cellulose layers are removed by a special process, leaving the grain and protein layer, which constitute the nutritive value of the corn, intact.

A pamphlet on wheat, containing recipes for the preparation of various dishes for which wheat is used, has been published. This utilisation of hard wheat has the advantage of creating a new demand, without reducing the sale of bread cereals, which cannot be used in this form. Hard wheat is used solely for the manufacture of alimentary pastes.

Popular Instruction.

A campaign to disseminate the principles of rational nutrition was begun some time ago. Last year, a series of popular lectures on the following subjects was inaugurated :

(1) A rational hospital dietary : determination of the rational form of nutrition in hospitals, in accordance with the general nutritional principles laid down by Professor Escudero ;

(2) The risks to which consumers of the milk sold at Buenos Aires are exposed : essential precautions ; hygienic requirements ; advice as to how these risks may be avoided ;

(3) The importance of milk as an article of diet : why it is so valuable and why it should be consumed in large quantities ;

(4) The value of meat for the prevention and treatment of anæmia due to defective nutrition, and of the iron contained in meat ;

(5) The nutrition of pregnant women : characteristics of this condition ; advice as to the most suitable and economical diet ;

(6) Why animal albumen should be consumed daily : demonstration of the medical advantages ;

(7) Cheap dietaries for workers : analysis of the dietaries of sixty families and of their means : how their diet can be improved within the limits of those means ;

(8) Influence of vitamins A and D on the growth of the child.

Australia.

(For living-wage standards, see Chapter III, page 99.)

The State of New South Wales.

Testing the Prevailing Level of Nutrition.

The general average nutrition of the inhabitants is tested by periodical examination of the protein content and calorific value of the calculated *per capita* consumption of the principal foodstuffs. The last public examination was made by the Industrial Commission in 1932, by methods similar to those used in " The National Diet ", and with satisfactory conclusions. The nutrition allowance was compared with

the average diet of the Ford Motor Company's employees in Detroit, as analysed by the International Labour Office, the results being published under the title " International Enquiry into Costs of Living ", Geneva, 1931. The Commission at the same time examined the vexed question of the relative requirements of men, women and children of different ages. It found, incidentally, that, in comparison with the newer standards of calorie requirements laid down by recent authoritative works, the Atwater coefficients used by the Commission in conjunction with a standard allowance of 3,500 calories a day for an average man gave adequate total nutrition for its statutory family of man, wife and one child (as prescribed by the Legislature in 1929 in conjunction with child endowment).

Education.

In the schools of New South Wales, from the kindergarten up to the senior grades of the primary schools, children are taught the value of proper food and healthful diet. In the domestic science schools, special attention is devoted to the study of home economics (including food and diet), which is included as one of the subjects in the Intermediate Certificate Examination. Lectures on food and nutrition are also included as a part of the course in hygiene which is taken by all students passing through the Teachers' College.

The Department of Health of the State of New South Wales issues, gratis, from time to time, pamphlets on nutrition in non-technical language. An example which has a wide circulation is issued under the title " Food and Nutrition ".

The State of Victoria.

Education.

Much work has been done by both public authorities and private organisations in this State by :

(1) Lectures to expectant mothers on diet given by doctors and nurses at baby health centres. Talks are also given to mothers on the diet of infants and young children.

(2) In State schools, health instruction, including dietetics, is given as a part of the ordinary school curriculum.

(3) Classes for older girls in food values and the preparation and cooking of food have been established at all schools of domestic economy.

(4) The Better Farming Train, which reaches all portions of the State, includes a trained lecturer on infant welfare and an instructress in cooking, who lectures to country women on diet and the preparation of food.

(5) Wireless talks to schoolchildren are given by a medical expert in all health matters, including dietetics.

(6) General broadcast talks are given to the public on dietetics by medical experts.

(7) Pamphlets and articles in the daily Press are issued on dietetics by health departments and by such associations as the Health Association of Australia.

The State of Western Australia.

Educative pamphlets upon food requirements and diet have been issued in large numbers by the Health Department of Western Australia, and in regard to infants and young children also by the Infant Health Association. Lectures and broadcasts also assist in this direction.

The Northern Territory.

The Administration maintains a medical service throughout the territory, which concerns itself, *inter alia*, with the health and welfare of the population, and reports on any action necessary to correct defects from time to time detected.

The organisation of the medical service provides the only means in the territory of testing the prevailing level of nutrition, and investigations have been carried out in respect of certain groups of aboriginals, persons in institutions, schoolchildren and persons in receipt of Government relief. It so happens that the general dietary of the white population in the territory is for the most part adequate. Deficiencies in the supply of milk and vegetables are at the present time the subject of investigation. It is anticipated that a report will be made to the Administrator in the immediate future. Pre-natal and infant welfare clinics are maintained in Darwin for the guidance of mothers of all races.

Information is collected in two ways :

(1) Study of the individual from the pre-natal period until death, this procedure being rendered possible by the organisation and practice of the Medical Service.

(2) Direct enquiry into the dietary of different races and groups of people collated from details furnished by individuals.

Territory of Papua.

The Papuan Native Labour Regulations empower the Commissioner for Native Affairs to order an employer to provide special diets for indentured native labourers showing signs of deficiency diseases, such as beriberi, scurvy, tuberculosis or pneumonia ; detailed supplementary diets are prescribed in such cases.

For the medical and health service, the Government maintains three fully qualified Government medical officers, six European medical assistants, forty-three travelling native medical assistants and, at the European and native hospitals, thirty native attendants. A European medical assistant is employed both at Port Moresby and at Samarai. The forty-three travelling native medical assistants have, for the most part, received a six months' training under the chief medical officer, followed by a six months' course of study at the School of Public Health and Tropical Medicine in Sydney, Australia. The work of these native assistants is highly appreciated by the district officers and public. They work under and report directly to the chief medical officer and are visited by the travelling European medical assistants.

The Government medical officers, the Government medical assistants and the native medical assistants do their best to disseminate the principles and practice of rational nutrition along the lines of the knowledge of vitamins. But it must be admitted that the great difficulty is that of supplying the correct foods. The missions do valuable work in instilling into the natives the more correct methods of the feeding of infants and of the pregnant and nursing mothers. But modern methods are pretty well impossible as a rule, due to the lack of financial resources and the consequent difficulty in getting adequate foods in accordance with relatively expensive European standards.

Mandated Territory of New Guinea.

Nutrition of Indentured Natives.

With the exception of labourers in the goldfields area, where the indentured natives are living at altitudes of from 3,000 to 7,000 feet above sea-level, and where the mortality from pneumonia, influenza and dysentery is very high, the improvement in stamina and physique of natives during their terms of contract where they have regular working hours, balanced diet, and prompt medical treatment of active or latent tropical diseases is most obvious, and a very strong justification for the system of indentured labour.

The diet is, on the whole, adequate. The absence of beriberi—except very few cases in prison camps, etc.—shows sufficiency of vitamin B. Fats, especially in other than coastal districts, are deficient, causing need for much bulky carbohydrates. The planting of extra coconut groves in inland areas is being encouraged.

The influence of the indentured labourers, returning after three-year contracts to villages in the interior, in educating the population in the growing of a more varied diet is becoming more and more noticeable.

The Agricultural Department gives instruction in the rotation of crops, and both this department and the missions distribute various seeds, thus gradually adding to the variety of the diet and increasing its vitamin value.

Austria.

Education.

In Austria, as regards the education of the people in the principles of rational nutrition, the Public Health Department of the Federal Ministry of Social Administration possesses a collection of lantern-slides, which are lent on request to those interested. These collections are frequently borrowed by doctors in all parts of the country for public or school lectures.

The Austrian Red Cross Society has an extensive range of exhibits, including fine pictorial representations of the various food products and their calorie content, and the composition of rational dietaries. This material is shown at travelling exhibitions. The last exhibition was held at Salzburg in October 1935.

Explanations of the principles and practice of rational nutrition are given, more particularly at elementary and secondary schools and in special courses organised by various economic organisations, such as Chambers of Agriculture.

Belgium.

Education.

In Belgium, the Ministry of Agriculture has taken various steps to ensure an improved dietary for the rural population, to which reference may be made. In field schools of agricultural domestic economy, young girls receive practical and theoretical training on the choice and preparation of food and on the facts of the science of human nutrition. Short courses are also organised for farmers' wives and older girls.

There is a service of domestic economy advisers in agricultural districts. These advisers have the diploma of agricultural domestic economy teachers. Their main object is to give the farmers' wives and housewives in rural districts such information as they may require with regard to the rational and economic feeding of their families, and also in regard to the upkeep and purchase of clothing and furniture.

The service of domestic economy advisers also makes it its business to discover the districts in which there is an opening for courses or lectures on domestic economy. The advisers organise propaganda, attend lessons, etc.

A higher-training college has been established for the study of agricultural domestic economy, and subsidies are granted to six similar institutions of a private character. The object is to prepare a body of picked women capable of improving social conditions among the rural population, and to train teachers of agricultural domestic economy, who acquire the title of qualified agricultural domestic economy teachers. The period of study is three years. Teaching is both practical

and theoretical. The different branches of the science of nutrition predominate in the programme of study and are thoroughly taught. Young girls also learn the special methods of giving lessons in cookery.

Subsidies are also granted to some forty middle schools of agricultural domestic economy, at which the pupils are children of 12, 13 and 14 years of age.

In addition, a large number of popular courses in agricultural domestic economy are organised with the help of subsidies, as well as lectures and demonstration lessons relating to nutrition among groups of farmers' wives and agricultural housewives.

Popular Instruction.

In Belgium, there has been an intensive propaganda to promote the consumption of milk. The propaganda takes the form chiefly of posters, articles in newspapers and " Milk Days " or " Milk Weeks ". Private organisations have also done much to improve conditions of nutrition in the countryside. Groups of farmers' wives often arrange for lectures and demonstration lessons in cookery for their members.

Fish days consist in demonstrating the manner of gutting, cleaning and preparing cheap fish, and explanations of the nutritive value and manner of using fish.

The National Federation of Avicultural Societies organises each year an " Egg Week ", during which a competent training staff shows the public a number of different ways of preparing eggs and using them for food. The public can purchase the dishes at cost price.

The State Agricultural Experts' Service has co-operated in the propaganda to increase the consumption of Belgian milk and fruit.

United Kingdom.

The Ministry of Health and Other Government Departments.

Nutrition in England and Wales is primarily the concern of the Ministry of Health as the central department responsible for the health of the people as a whole (in Scotland, of the Department of Health for Scotland). The chief functions of the Ministry in this respect fall into two parts : supervision of the administration by local authorities of the legislation designed to safeguard the purity and wholesomeness of the food supply, and educational and propaganda work with a view to disseminating knowledge of food values and the needs of the human body. The latter function is exercised through the agency of local authorities and their public health staffs, as well as by the information which is directly made available by the Ministry. The Minister of Health is responsible for bringing before Parliament such legislation as may be necessary under these heads.

The Board of Education (in Scotland, the Department of Health) supervises the work done by local education authorities in England

and Wales, including the administration of the school medical service, for which the Minister of Health has Parliamentary responsibility.

A number of other Government Departments are actively concerned in work concerning nutrition. The Medical Research Council, for instance, has committees dealing with such matters as quantitative problems of human nutrition and accessory food factors and dental diseases ; the Food Investigation Board of the Department of Scientific and Industrial Research has committees dealing with practical questions of food manufacture ; and the Ministry of Agriculture and Fisheries undertakes research on nutrition questions in connection with the agricultural and marketing policies of the Government. The Ministry of Health keeps in close touch with all these activities.

The Advisory Committee on Nutrition.

In order to be in a position to give authoritative advice and to conduct propaganda to enable the public to benefit from the results of the steady progress made in scientific research, an Advisory Committee on Nutrition was appointed in 1931 " to advise the Minister of Health on the practical application of modern advances in the knowledge of nutrition ".

The Advisory Committee on Nutrition, reconstituted and enlarged, was reappointed in 1935 by the Minister of Health and the Secretary of State for Scotland " to enquire into the facts, quantitative and qualitative, in relation to the diet of the people and to report as to any changes therein which appear desirable in the light of modern advances in the knowledge of nutrition ". This Committee numbers amongst its members leading scientific authorities, physiologists, statisticians and economists.

Work of the Ministry of Health (England and Wales).

Since its foundation in 1919, the Ministry of Health has always insisted upon the vital importance of nutrition as a fundamental factor in personal and public health. Two principal means are available to them. First, the education of the community in the choice of suitable food, and, secondly, the safeguarding of foods from deficiency in composition, from adulteration and from contamination.

The annual reports of the Ministry and of their chief medical officer contain much information on nutrition, both of a scientific and a popular character.

In 1921, the Ministry published a report entitled " Diet in Relation to Normal Nutrition ". The object of this report was to afford useful information to medical officers of health, physicians, teachers and others who have opportunities for spreading scientific knowledge amongst the people. Also in 1921, the Ministry, in conjunction with the Medical Research Council, made arrangements for exhaustive

investigations by Dr. Corry Mann, extending over four years, into the nutritive value of milk as compared with other foodstuffs. The results demonstrated the unique value of milk. In 1932, the Ministry published two reports made by the Advisory Committee on Nutrition, " Diets in Poor Law Children's Homes " and " The Criticism and Improvement of Diets ". In 1932, the Ministry issued a circular based on recommendations of the Advisory Committee on Nutrition, drawing attention to the incidence of nutritional anæmia in infancy, and of rickets and dental diseases, suggesting measures whereby these conditions may be combated, and pointing out the value of milk in the dietary of growing children.

Activities of the Medical Research Council.

Research work on nutrition has been very actively pursued in the United Kingdom during the last quarter of a century. These investigations, necessarily expensive, have been supported from public funds provided by the Government through the Medical Research Council.

The following are the main heads under which research has been done :

(*i*) Experimental investigations into the part played by various constituents of diet, notably vitamins and mineral salts, in maintaining full health and normal growth.

(*ii*) Clinical and pathological studies of diseases due in whole or part to deficiency of particular food substances.

(*iii*) Practical trials, on numbers of human beings, of the effects of improving the diet by the addition of specific constituents.

(*iv*) Fundamental research into the origin, distribution, chemical nature and physiological activity of the different vitamins.

(*v*) Work directed towards the standardisation of vitamins so that amounts of these may be quantitatively expressed both in further research and in practical therapeutics and dietetics.

(*vi*) Analyses of various foodstuffs in common use to determine their composition, including their content of vitamins and mineral elements.

(*vii*) Surveys of different sections of the population to ascertain what dietaries are in actual use.

There are few problems in nutrition that have not, at one time or another, received the attention of investigators working for the Medical Research Council. The subjects of the following reports will illustrate the fundamental nature of much of the work which has been done in the United Kingdom : Nutrition and Rickets, Nutrition and Teeth, Nutritional Anæmia, The Value of Milk, Vitamins, The Standardisation

of Vitamins, Composition of Foodstuffs, Nutritional Surveys into the Actual Diets of Different Sections of the Population.

The important additions to knowledge which have been secured by these means in the United Kingdom and elsewhere have provided a new basis for action aimed at improving nutrition.

Research Work on Nutrition being carried out by Local Authorities with the Assistance of the Ministry of Health.

Two types of family dietary studies are undertaken, quantitative and qualitative. Their object is to ascertain the nature of the diets consumed by people in different parts of the country. The quantitative studies are conducted in a strictly quantitative manner and therefore throw light on the amounts of different foods eaten as well as on the family budgets. The qualitative studies give precise information only in so far as the nature and not the amount of the constituents of the diet is concerned ; but, in regard to certain particulars such as milk, they can be relied on to give fairly accurate quantitative information.

A quantitative study has recently been carried out on sixty-nine working-class families in Newcastle-on-Tyne. Another quantitative study is at present proceeding in the West Riding of Yorkshire. Two qualified dieticians are engaged on this work and they have at present studied the diets of 155 families. This study has included workers engaged in various industries, including mining, railway works, ironworks, transport, textiles and farming.

Qualitative dietary studies are proceeding in Leeds and Glossop.

Milk Nutrition Committee's Investigation.

The investigation sponsored by the Milk Nutrition Committee set up in accordance with arrangements made under Section 11 of the Milk Act, 1934, is proceeding at present in Luton, Wolverhampton, Burton-on-Trent, Renfrewshire and Huddersfield. About 8,000 children aged 5-14 years, in four groups of about 2,000 each, are included in the enquiry. The children were divided at random into the following four groups in accordance with the supplements they were to receive :

(1) The control group—the children in which receive biscuits once daily.

(2) This group receives one-third of a pint of pasteurised milk once daily.

(3) This group receives one-third of a pint of pasteurised milk twice daily.

(4) This group receives one-third of a pint of raw Grade A milk twice daily.

All the supplements are given free. Before the supplementary feeding began, the children were submitted to a preliminary medical examination,

consisting of clinical examination, physiological tests and physical measurements. The supplementary feeding is to continue for at least a year, and medical examinations are to be carried out every three months. Four full-time medical officers specially instructed in the method of examination are conducting the practical part of the investigation.

Investigations into Food Consumption in relation to Income.

Investigations into the food consumption of the population of the United Kingdom at different income levels in 1934 have been undertaken by the Market Supply Committee in conjunction with the Rowett Research Institute. A report based on this work, entitled " Food, Health and Income : A Survey of Adequacy of Diet in Relation to Income ", was made available in proof form for the first session of the Mixed Committee and has since been published by Sir John Orr.

The report finds that the expenditure on food in the United Kingdom amounts to £1,075,000,000 per week out of a total income of £3,750,000,000, or about 9*s.* per person per week out of an average weekly income of 30*s.* Meat and fish account for over 32% of the food expenditure ; bread and cereals for less than 9%. Meat, fish, eggs, milk and cheese, which are the sources of animal protein, account for nearly half the total expenditure. Vegetables, other than potatoes, contribute less to the total than sugar, though they are more important for health. With the exception of wheat, flour and potatoes, there has been a substantial increase in the consumption of most of the principal foods since before the war.

An examination of expenditure at different income levels leads to the conclusion that the consumption of bread and potatoes is practically uniform throughout the different income groups. Consumption of milk, eggs, fruit, vegetables, meat and fish rises with income. Thus, in the poorest group, the average consumption of milk, including tinned milk, is equivalent to 1.8 pint a head a week ; in the wealthiest group, 5.5 pints. The poorest group consumes 1.5 egg a head a week; the wealthiest, 4.5 eggs. The poorest spend 2.4*d.* on fruit ; the wealthiest, 1*s.* 8*d.*

From these facts, the important inference is drawn that the degree of adequacy for health increases as income rises. The average diet of the poorest group, comprising 4,500,000 people, is, by the standard adopted, deficient in every constituent examined. The second group, comprising 9,000,000 people, is adequate in protein, fat and carbohydrates, but deficient in all the vitamins and minerals considered. The third group, comprising another 9,000,000, is deficient in several of the important vitamins and minerals. Complete adequacy is almost reached in the fourth group, and in the still wealthier groups the diet has a surplus of all constituents considered.

A review of the state of health of the people of the different groups suggests that, as income increases, disease and death rate decrease, children grow more quickly, adult stature is greater and general health and physique improve.

Investigation by the Department of Health (Scotland).

In 1930, the Department of Health for Scotland conducted an experiment in Lanarkshire into the effect of an additional daily milk ration on the growth of schoolchildren. Some 20,000 children were included in the investigation, 10,000 of the children receiving daily a supplementary ration of three-quarters of a pint over a period of four months, the remaining 10,000 serving as controls. The results demonstrated that the addition of milk to the diet of children has a striking effect in improving physique and general health and increasing mental alertness. A report on the experiment was published by the Department of Health in 1930.

The Department published, in 1934, a report on milk consumption in Scotland prepared by Dr. Leighton and Dr. McKinlay as a result of an enquiry into the average amount of liquid milk consumed in Scottish households. It was ascertained that there was great variation in the amounts consumed in different localities. In large burghs, the figures are, in the aggregate, lower than in county districts. In individual burghs, they vary from 0.27 pint per head per day in Hamilton to 0.7 pint per head per day in Perth. In counties, the variation is also great, from 0.3 in Lanark to 1.03 in Aberdeen. The averages of the aggregates are for : (*i*) large burghs, 0.417 ; (*ii*) counties, exclusive of large burghs, 0.55 ; and (*iii*) Scotland as a whole, 0.479 pint per head per day.

Nutrition Publicity (Scotland).

By means of " Health Weeks ", model dietary sheets and specimen meals, an endeavour is made to interest and educate the public in Scotland in the elements of nutrition. Lectures are given on the subject and leaflets distributed.

Instruction is also given through the maternity and child welfare authorities and education authorities.

A good deal is being done by private organisations and commercial firms to extend a knowledge of proper nutrition among the public. Many daily and weekly newspapers and journals also give advice. Commercial organisations—*e.g.*, the Scottish Milk Marketing Board—have issued recipe booklets showing how their particular products may best be utilised in the daily dietary. In addition, the Scottish Milk Marketing Board employs a propaganda woman officer, who addresses meetings with a view to interesting the public in the use of milk.

Popular Instruction carried out by Private Organisations.

There are numerous private bodies devoted to the education of the public in the interests of national nutrition. The following are examples :

(a) *The Central Council for Health Education* was formed in 1927, the Society of Medical Officers of Health being largely instrumental in

establishing it. It acts as a central body to co-ordinate the methods and activities of the numerous voluntary bodies who deal with particular aspects of health education. It assists local authorities in carrying out health education, and in organising " Health Weeks " and exhibitions. It publishes a monthly journal entitled *Better Health*, which local authorities frequently use as a basis of a local health paper by incorporating local information of services available and articles of special interest to their areas.

(b) *The British Broadcasting Corporation.* — A large amount of work has already been done by the British Broadcasting Corporation in relation to public health propaganda, in which the Ministry of Health has been associated. Practical advice on diet and health and on cookery is systematically broadcast, especially for the benefit of housewives, and leaflets are published.

(c) *The National Milk Publicity Council.* — The National Milk Publicity Council was formed in 1920 " with a view to the inauguration of a campaign on national lines to instruct the public as to the value of pure milk ". The Council is principally composed of representatives of the various organisations in the milk industry, but it also includes representatives of Government departments and of such bodies as the Society of Medical Officers of Health. The Council has carried on its work by means of publicity in the general and technical Press, by the issue of leaflets, recipe lists and cinema films, by broadcasting, by the encouragement of clean milk competitions and displays and demonstrations at health exhibitions, and by general lectures and addresses at factories, welfare centres and schools and under the auspices of associations such as the Boy Scouts, temperance societies and women's institutes.

The National Milk Publicity Council includes in its activities propaganda with a view to encouraging the sale at collieries and factories of half and one-third pints of milk as a daily milk service for employees. The scheme has now been adopted in a considerable number of collieries and in factories of very varied types.

Besides the " milk in schools " campaign, the Council arranges for lectures and cooking demonstrations to women's clubs and infant welfare centres, propaganda by films, organisation of intensive campaigns during Health and Baby Weeks, etc., a campaign for increased consumption of milk in workshops, factories and mines, the distribution of pamphlets, posters, etc., and lectures by travelling cinema vans.

(d) *The British Medical Association.* — As one of its widespread activities, the British Medical Association set up a Committee in 1933 to determine the minimum weekly expenditure on foodstuffs which must be incurred by families of varying size if health and working capacity are to be maintained, and to construct specimen diets. Following upon the report of this Committee, made in 1933, which contained detailed

lists of foodstuffs and of the quantities required per week by individuals and families, the Association issued a booklet in 1935 transposing the lists of raw foodstuffs into receipts and menus for family diets, which was published under the title of " Family Meals and Catering ". Broadcast talks are now being given on this booklet.

(e) *The People's League of Health.* — This body has, since its inception in 1917, devoted much attention to food, its constituents and proper proportion and value to the human body, the best methods of cooking and the effects of improper diet. The League has issued in simple explanatory form pamphlets on " Diet in its Relation to Health ", " Vitamins—What to eat and why ", and has instituted an annual series of lectures by members of the medical profession and others.

(f) *National Federation of Women's Institutes.* — This Federation represents 300,000 country women living in the smaller villages of England and Wales. The subject of nutrition has lately occupied an important place in their educational programme, and, early in 1935, a National Conference was arranged with a view to arousing further interest in the subject amongst their members. The Federation has arranged courses in cookery and food values for students who already possess some knowledge of this subject and who are prepared to undertake teaching work in women's institutes. Lectures and demonstrations in cookery and domestic economy form an important part of their activities.

(g) *Scottish Federation of Women's Rural Institutes.* — The institutes associated in this National Federation have a membership of 50,000 women living in the small towns, villages and rural districts of Scotland.

Through the county federations, the subject of improved nutrition among the people is receiving special attention, and lectures and demonstrations in cooking and domestic economy form an important feature of the individual institute's activities throughout the year. Particular stress is laid on the incorporation of home-produced foodstuffs in the dietary—*e.g.*, eggs, fruit, vegetables and dairy products, which are derived from local sources, such as smallholdings and allotments. In some areas, special short courses have been arranged through the education authorities in the cooking of home products and their food values.

The Scottish Federation has started as a national movement a " Guild of Housewives ", qualification for admission being the result of tests and examinations in cooking and knowledge of nutritional values.

Nutrition Instruction in Schools (England and Wales).

The instruction of the pupils attending the various types of schools in the principles and practice of rational nutrition is allied to the general instruction given in domestic subjects, including cookery. Domestic

instruction is given to about 90% of girls over 11 years of age in the public elementary schools. About 80% of the girls in grant-earning secondary schools receive some such instruction, chiefly between 12 and 14 years of age. There is fairly extensive provision in evening classes, some 90,000 persons taking instruction in cookery and allied subjects.

Nutrition Instruction in Schools (Scotland).

Steps have been taken to extend and intensify the teaching of cookery and related subjects in Scottish schools.

Practically every girl before leaving school at the age of 14 years has had a course of domestic science, and girls are encouraged to take cookery as one of the subjects for the Day School Certificate (Higher) before leaving at the end of 15 years.

In 1933-34, there were 14,622 pupils (out of 93,535 on the roll) in the secondary departments and 689 in the primary departments who received instruction in cookery in 1935, out of 251 secondary schools. Within recent years, an interesting development in many secondary schools has been the institution of intensive courses in domestic science, varying from two to twelve hours per week during that part of the last year of the secondary course following upon the leaving-certificate examination, for pupils who have not previously studied that subject during their secondary course.

Of a total continuation class enrolment for the session 1934-35 of about 140,000, the number of students enrolled in cookery classes was 17,799. For the most part, the instruction given was of a plain, useful, everyday character, adapted to the needs of the students concerned. The purpose of these classes was to give instruction in courses of a shorter and more informal type than the regular cookery classes, and as far as possible under actual home conditions. In particular, the needs of the small cultivator, in whose diet vegetables necessarily play an important part, were considered in the conduct of these classes.

Bulgaria.

A Commission is attached to the Directorate-General of Public Health for the study of all questions relating to rational nutrition. The results of these studies will be published and the Commission's recommendations and conclusions will supply the guiding principles in carrying out the work undertaken by the Directorate-General of Public Health.

The Directorate-General has expressed the opinion that a more general knowledge of nutrition questions would help to increase the consumption of the country's food products of vegetable and animal origin. It is only necessary to mention the excellent results obtained by propaganda for encouraging the consumption of grapes, as a result of which the consumption of fresh grapes has increased every year, as has production. Reference should be made to the very successful efforts of the services of the Ministry of Agriculture and State Domains, which does useful

work in the matter of nutrition through the medium of its own organs and of the institutes under its direction.

Steps are taken to supplement education in the matter of health by means of lectures by doctors, wireless lectures, Press articles, popular scientific publications, posters, etc., one of the principal subjects being rational nutrition.

Canada.

In Canada, voluntary organisations, local welfare units and city health departments, in addition to provincial Departments of Agriculture and Federal departments concerned with the marketing of special products, such as fish, etc., all carry on a constant educational programme. These programmes, which are not closely co-ordinated, are based on professional and technical knowledge.

Denmark.

Advisory Nutrition Committee.

In Denmark, the Public Health Department has, for long devoted attention to public nutrition, and in particular to the defects which have appeared in recent years. With a view to carrying on work in this respect on the best possible basis, the department arranged for the appointment, on December 13th, 1935, by the Ministry of the Interior, of a special expert nutrition committee to give advice to the department. This committee consists of Danish experts on nutrition and foodstuffs.

Education.

There are in various parts of the country a number of domestic science schools which are an outcome of the Danish People's High School (Folkshojskole) and are usually conducted on similar lines. In these schools, attention is also given to the nutrition aspect of domestic science. In addition, there are domestic science training colleges for women teachers, at which, naturally, instruction is also given in the science of nutrition.

Lastly, a number of private associations and bodies (housewives' associations, domestic science associations, agricultural associations and smallholders' associations) have appointed special consulting experts in domestic science to advise the members of the associations on all questions relating to house-keeping, including the problem of nutrition.

Research.

Under Law No. 159 of May 11th, 1935, a domestic science board has now been appointed to co-operate with organisations working on subjects of interest for domestic science from the point of view of nutrition, health and technical and economic questions. It also arranges

for research work either in co-operation with the institutions and organisations concerned or in its own laboratory, if such a laboratory is established. The board can also have research carried out at such other laboratories as it may select. The board is to publish the results of its work.

The Public Health Department is represented on this board, especially for the purpose of looking after the board's public health work, which relates principally to nutrition problems.

Estonia.

In Estonia, the principles and practice of popular nutrition are disseminated through the medium of the following organisations :

(1) Maternity and infant consultation centres, where mothers and educationists receive directions and instruction on the nutrition of infants and young children and there is a periodical inspection in order to watch over the development of children ;

(2) The Estonian Health Museum, which organises exhibitions and conferences on health and popular nutrition ;

(3) Universities for the people, women's organisations, domestic science schools, etc., which organise various popular courses and lectures on nutrition.

Finland.

The extent to which food bulks in the national economy is illustrated by the fact that the Finnish people spend on food more than half the national income, which is estimated at about 20,000 million marks. In the poorer families, food accounts for two-thirds of the household expenses, but, in the well-to-do families, for only one-third or a quarter. Calculated per consumption unit, food costs from 8 to 12 marks a day in workers' and peasants' families. For example, in those farms where accounts are kept, the figure was 7.83 marks a day in 1932, though it had been 10.88 marks a day in 1928. In the poorest working-class families, the average daily cost of food was 10.05 marks in 1928.

Research.

The Central Union of Agricultural Societies now has a Domestic Economy Committee, which is preparing for an extensive enquiry in thousands of families in order to ascertain what foodstuffs are given preference by the agricultural population and what is their value from the standpoints of physiology, cookery and prices. The Marttas societies have also made limited enquiries in this field, and the Agricultural Economy Research Bureau of the Department of Agriculture has investigated the farmers' diet in connection with its enquiries into the possibility of making agriculture pay.

Education.

Instruction in the subject of human diet may be said to be better organised than scientific research into the same subject, for schools of domestic science and institutes of domestic economy have existed for some decades. In 1934, there were 42 of these establishments, with 278 teachers and 1,826 pupils. The annual Government grant to these schools approaches seven million marks. Domestic economy is also taught in the People's Institutes, and to some extent in the secondary and elementary schools. In 1933, there were 57 People's Institutes, with 2,026 pupils, of whom 1,950 were girls. In the same year, there were 216 secondary schools for girls, with 26,236 pupils. The number of rural elementary schools was 5,368, with 227,946 pupils, of whom 111,883 were girls. The urban elementary schools comprised 1,603 classes, with a total of 52,127 pupils, of whom 25,413 were girls. Lastly, there are now 253 school medical officers and 163 school nurses, who also give advice on dietary questions.

The institutions which teach domestic economy, however, reach only a small fraction of the total number of housewives ; greater importance attaches to the advice given on the subject by certain organisations. These include the Marttas Society, which has about 60,000 members, and the women's sections of the agricultural societies, which comprise nearly 40,000 " women agriculturists ", together with the women's organisations of the smallholders' societies, the communal domestic economy committees, and the Socialist women's domestic economy sections. Their work for the introduction of a rational diet is becoming more and more effective every year.

So far as children are concerned, the Union of Agricultural Clubs has undertaken to give advice on diet. The Union now has nearly 25,000 girl members.

Popular Instruction.

For nearly three years past, the Ministry of Agriculture has been devoting its attention to problems of popular nutrition ; it has printed, among other papers, instructions for advisers in domestic economy, and has published a cookery book for the use of the poorer families. Hundreds of thousands of marks have also been spent on stimulating the consumption of agricultural produce, especially the products of stockbreeding The grants to household economy and domestic science institutions have also been increased.

All this, however, is not enough ; it is urgently necessary to undertake extensive action with a view to raising the standard of popular nutrition and directing the agricultural production of the country into channels which will, as far as may be possible, allow of an appropriate dietary based on home produce.

France.

NATIONAL COMMITTEE FOR THE STUDY OF NUTRITION.

The French Government has always taken a deep interest in social questions and had the welfare of its important agriculture at heart. It has therefore given close and unceasing attention to the various aspects of the problem of nutrition.

Nevertheless, past and present research and action in this complex matter would seem to have been lacking in co-ordination—a fact which the depression has clearly brought out.

It was to make good this defect, while at the same time complying with a suggestion of the Mixed Committee on Nutrition, set up by the Council of the League of Nations, that a National Committee for the Study of Nutrition was set up on the intiative of M. Paul-Boncour, Minister of State and Permanent Delegate of France to the League of Nations.

The National Committee for the Study of Nutrition held its first meeting on April 2nd, 1936, with M. Paul-Boncour in the chair, assisted by the Minister for Public Health, and M. Queuille, former Minister and representative of France on the Mixed Committee at Geneva.

The Committee consists of representatives of the Prime Minister's Office, the Government departments concerned (Public Health, Agriculture, Commerce, National Education, War, Navy, Colonies, Labour, Finance, Foreign Affairs and Public Works) and of the chief scientific, agricultural, labour and commercial organisations, etc., specially concerned with the problem of nutrition.

Taking the view that its task was twofold—to co-operate effectively with the League of Nations and to collect all such material as might be useful to the latter, and to lay down the main lines of a national nutrition policy in accordance with the present state of scientific knowledge, the possibilities of educating public opinion, economic considerations and the possibilities of effective supervision, the Committee entrusted the preparatory work in these various respects to four commissions :

(1) A scientific commission, presided over by M. André Mayer, professor at the Collège de France (Mme. Randoin, laboratory director at the School of Advanced Studies, Rapporteur) ;

(2) A commission on education and practical application, presided over by M. Luc, Director-General of Technical Education (M. Paul Devinat, Inspector-General, Rapporteur) ;

(3) An economic commission, presided over by M. Jules Gautier (M. Vimeux, Secretary-General of the National Federation of Agricultural Mutual Benefit and Co-operative Societies, Rapporteur) ;

(4) A commission on the inspection and control of foodstuffs, presided over by M. Serge Gas, Director of Public Health (Dr. Xavier Leclainche, Rapporteur).

Scientific Research.

Existing Centres for Study and Scientific Research concerning Human Nutrition.

The following centres have been in existence in France since 1922 :

(1) A Nutrition Research Centre in Paris, which is under the authority of both the Ministry of Agriculture and the Scientific Nutritional Hygiene Society (recognised as being of public utility by the Law of July 7th, 1904). This centre comprises three research laboratories :

(*a*) A nutritional physiology laboratory ;

(*b*) A bio-energetics laboratory ;

(*c*) An experimental station for research on the nutrition of live-stock ;

(2) Research laboratories under the authority of the Ministry of National Education (faculties of science and medicine, Collège de France, School of Advanced Studies, Conservatoire national des Arts et Métiers), in various university towns, more particularly Paris, Lyons, Marseilles and Strasburg.

(3) A centre for instruction on the subjects of foodstuffs attached to the Conservatoire national des Arts et Métiers.

Proposals and Desiderata for the Development of Studies and Scientific Research regarding Human Nutrition.

Although for the purpose of surveys and enquiries regarding nutrition the laboratories specialising in nutritional research have always kept in touch with the Academy of Medicine—which since November 1935 has been responsible for collecting the opinions of technical experts interested in the various aspects of the nutrition problem—the researches of all these laboratories have hitherto been independently conducted.

Proposals are at present under consideration in France for the creation of a new organisation to make use of all the existing possibilities—that is to say, to group the laboratories in question, co-ordinate their efforts and supply them with funds, while at the same time naturally leaving each of them in enjoyment of the independence of mind which is necessary for scientific research.

Considered as a whole, the new organisation would represent a National Institute of Nutritional Hygiene, to which would be directly attached :

(1) A national centre for research and advanced teaching with regard to rational nutrition, which would be formed by the extension of the present Research Centre ;

(2) The various laboratories working under the Ministry of National Education.

This organisation would be able to undertake the study of all scientific questions relating to nutrition problems in France and her colonies.

The creation of such a national centre would, moreover, be of the greatest value in ensuring the co-ordination of the various forms of instruction in the science of nutrition.

Education and Popular Instruction.

Application of the Results obtained by Scientific Research with a View to Advanced Instruction on Nutrition.

1. There are at present two institutions in France specialising in advanced nutrition studies : the Foodstuffs Centre of the Conservatoire national des Arts et Métiers and the Scientific Nutritional Hygiene Society.

(a) *Foodstuffs Centre of the Conservatoire national des Arts et Métiers.*

In 1932, a Foodstuffs Centre was set up at the Conservatoire national des Arts et Métiers by agreement between the latter and the Union of Wholesale Provision Dealers' Societies. The purposes of this centre are :

(1) To set on foot investigations of all kinds regarding foodstuffs, their origin, physical and chemical characteristics, composition, industrial uses and place in normal and therapeutic diets ; the centre possesses a laboratory specially equipped for such work ;

(2) To make known the results obtained through such research by a series of lectures.

Thus interpreted, the teaching given appears as the extension of certain courses already given at the Conservatoire—*i.e.*, the courses in agriculture and agricultural production, mineral chemistry, agricultural and biological chemistry and industrial chemistry. At the request, however, both of the students themselves and of the trade associations, the Conservatoire has decided to introduce as a preliminary to the session proper, a course of instruction designed to prepare students for the specialised studies which are to follow.

The lecturers are chosen from among the scientific authorities most highly qualified in matters of rational nutrition.

The courses are public and are, in principle, intended for members of the staffs of provision and catering firms.

Half of those attending the courses are drawn, however, from other circles and include : students at the universities and schools of higher studies, B.A.'s, pharmacists, agricultural engineers, veterinary surgeons, chemical engineers, etc.

A certificate is already awarded to those who have regularly attended the courses and successfully passed the final examination.

(b) *Scientific Nutritional Hygiene Society.*

Like the Foodstuffs Centre, this society, which was founded in 1904 and declared to be of public utility, is intended for both the study and teaching of the sciences in their application to nutrition. For this purpose, it organises theoretical courses and, unlike the Foodstuffs Centre, practical classes for both normal and dietetic cookery.

The courses consist of ninety-eight hours of instruction annually and pupils are charged a fee. These courses are followed each year by some twenty pupils of various origins, half of whom belong to the Higher Normal School of Technical Education (Science-Domestic Economy Department).

The Scientific Nutritional Hygiene Society possesses well-equipped laboratories, which can also be used for teaching purposes.

2. The Ministry of Agriculture also evinces keen interest in the dissemination of knowledge so closely concerning the country's agricultural economy. It subsidises the Scientific Nutritional Hygiene Society, which is under its patronage.

Even though they do not form the subject of special courses, questions of nutrition are dealt with in the schools of advanced studies under the Ministry of Agriculture, and more particularly at the National Agronomic Institute, the National Schools of Agriculture (microbiology, zootechnics, agricultural technology, fruit nutrition and aquiculture) at the National School of Agriculture, Versailles (the cultivation of fruit trees) and at the National School of National Industries, Douai (sugar production, brewing and distilling).

3. In the last place, it may be pointed out that the Ministries for War and the Navy have for their own purposes instituted courses of advanced instruction in nutrition at the higher supply service (Army) and Commissariat (Navy) Schools and at the practical training-schools of the army and naval health services.

4. In conclusion, it may be said that, at the present time, properly organised advanced teaching on nutrition does not exist in France.

The Foodstuffs Centre and the Scientific Nutritional Hygiene Society, though unconnected with each other, have identical aims. The pupils attending their courses are both heterogeneous in origin and too few in number.

The public authorities are at present engaged in an attempt to improve the teaching of nutritional hygiene ; to ensure greater coherence between the establishments controlled by the Department of National Education ; to provide stricter supervision of the instruction given ; to work out schemes for systematic advanced teaching of nutrition under the Directorate-General of Technical Education, which is the department most interested in its development ; to create and organise the profession of dietetician ; and, in the last place, to ensure by administrative action

and the necessary publicity that the courses shall benefit a wider public and one more likely to derive advantage therefrom.

At the same time, the authorities are anxious to encourage in every way the assistance given by outside bodies, such as the trade organisations and centres of scientific research.

Dissemination of Information on Nutrition.

5. The rules of scientific nutrition cannot be applied unless appropriate instruction is given, in the first place, to the housewives of to-day and to-morrow, and, in the second place, to the various categories of persons responsible for collective catering.

The dissemination of such knowledge, therefore, requires the organisation of instruction in household management and also of technical instruction.

Instruction in Household Management.

6. Instruction in household management is designed to supply future housewives with the theoretical and practical knowledge necessary to enable them to perform their various home duties.

Such instruction is given in a practical form both by the State and by private organisations.

Public Education.

7. State instruction in household management is at present given in the educational establishments under the authority of the Department of Elementary Education, the Department of Secondary Education, the Ministry of Agriculture and the Directorate-General of Technical Education.

(a) *Elementary Education.* — 8. The Directorate of Elementary Education has always been aware of the importance of domestic economy teaching in the establishments under its control. The instructions of June 20th, 1923, regarding the new syllabus of studies for elementary schools include the following :

> " In girls' schools instruction in household management should occupy an important place. By combining the various classes included in the syllabus, it is possible to devote one half-day each week to the teaching of household management and kindred subjects."

Or again :

> " School-mistresses are aware how important it is for the good of France that its children should be preserved to it, intelligently looked after, safeguarded and protected against disease. They should therefore devote themselves wholeheartedly to the education of those who will be the mothers of the future."

Such teaching is of an essentially practical character, and theory is only included to explain practice, or to imbue the girls with love for the home and for the modest and yet noble domestic tasks which they will be called upon to perform.

Similar aims are evident in the syllabus of the higher elementary schools and teachers' training schools.

9. This insistence upon really practical domestic economy instruction has grown more pronounced in the last few years. In the large towns, and particularly in the Department of the Seine, suitably equipped classrooms under specially qualified mistresses have been opened.

In the rural areas, the Department of Elementary Education has made an attempt, in conjunction with the Ministry of Agriculture, to develop continuation courses in household management, and in these classes teaching on nutrition has come to occupy a very important place. The co-operation of the Department of Technical Education under the Decree of June 1934 makes it possible to carry on such instruction in the continuation classes.

10. The extension of the school age would have an excellent effect upon the development of training in household management, which might then be introduced throughout the country.

Although the children are too young for their mistresses to inculcate any but the very simplest ideas, at least in the elementary schools, the spreading of practical knowledge, even in the most modest homes, could not in the long run fail to exert an excellent influence on the methods of housewives.

In this connection, the elementary schools—even without the specialisation which could scarcely be expected of them—can make a vital contribution to the improvement of public health, particularly in the matter of nutrition.

(b) *Secondary Education.* — 11. Domestic economy is not included in the secondary-school syllabus. Nevertheless, as the result of local initiative, optional classes in cookery and household management have been organised in certain of the girls' lycées.

(c) *Agricultural Instruction.* — 12. Domestic agricultural training is at present given either in the fixed or travelling schools of rural housekeeping or in temporary classes, with a short term of instruction in special subjects, such as domestic economy and cookery. Nutrition teaching occupies an important place in the syllabuses of all such classes.

In schools of rural housekeeping, the syllabus generally followed is that of the National School at Coëtlogon, after adaptation to the social background and average intelligence of the pupils.

Such instruction is of an essentially practical nature ; the pupils take their midday meal in common and, in the boarding establishments, the evening meal also. They prepare their meals themselves under the

supervision of the instructor, after studying its composition and deciding upon the bill of fare. They then calculate the cost, which is shared among them.

In the continuation courses in rural housekeeping given by women teachers holding the certificate in rural housekeeping awarded by the Ministry of Agriculture, instruction on nutrition is given in accordance with a general syllabus drawn up by the Minister for Agriculture. In these classes, the midday meal is taken in school whenever possible ; it is prepared by the pupils, who share the cost.

Remarkable results have been obtained in certain rural areas by the travelling schools of domestic science, which, unquestionably, have already contributed to the improvement of local habits in the matter of nutrition.

(d) *Technical Education.* — 13. Since 1920, and particularly since 1925, when the scheme for the extension of technical education was first introduced, the Directorate-General of Technical Education has always given training in household management its closest attention.

It has planned such training on the most comprehensive lines, considering it as an indispensable means of reconciling the home duties of women with their outside work and also, through instruction in mothercraft and well-balanced nutrition, as a means of maintaining and improving the health of the race.

14. At the end of the war, domestic economy teaching was almost unknown in France, but its introduction was brought about almost spontaneously through the reconstruction of the devastated areas. During the war, the distribution of food to the inhabitants of the occupied departments had necessitated their organisation, and this was continued for the purposes of reconstruction. For the permanent organisation of such instruction, however, guidance had to be sought abroad, more particularly in Belgium and Switzerland, and from the material collected it was possible to perceive along what lines such instruction should be organised. Provisional syllabuses were drawn up and tested by experience. The teaching staffs made use of the data thus collected, and, after a period of experiment, worked out the essential principles of teaching household management as given to-day.

An " Educational Week ", organised in connection with the Domestic Arts Exhibition in 1927, made it possible to collate the results of this initial period, to deduce a body of general principles and thus to codify, as it were, the new domestic science teaching. Booklets were issued for the guidance of teachers in the organisation and management of their classes.

15. The programme thus drawn up in the light of experience includes every aspect of " housekeeping " and questions of nutrition are given an important place. It combines practical work with theory and each practical exercise is preceded by a short lesson.

The teachers endeavour to avoid curtailing or stultifying such teaching and to prevent its coming to consist of no more than a few commonplace recipes or falling to the level of little girls' play. Their aim is to see that it is not confined to the narrow limits of the school-building, but that, on the contrary, emphasis is laid upon its practical importance, its reality, its moral and social value. To make it accessible to all and to facilitate its introduction into all types of home, such teaching is given in the most varied forms, according to the age, occupation, means, general education and mode of life of the persons for whom it is intended.

The minimum age of pupils is 14 and the programme of work is both rational and carefully adapted to the pupils' capacity.

16. For the application of this programme of teaching, the Directorate-General of Technical Education has introduced three types of organisation. Training in household management is thus provided, not merely for school pupils, but also for working and peasant women, girls and young women of the middle-classes.

(*a*) The first type consists of practical schools for girls.

Apart from the schools already in existence, new schools specially intended for instruction in household management have been opened and model domestic training organisations with special classrooms with the necessary equipment have been set up in as many as possible of the public technical schools. The courses are open, not merely to pupils of the schools, but also to outside pupils. Any body wishing to organise instruction in household management may there obtain the necessary information.

(*b*) In all the communes where women's occupational courses are already in existence, the Directorate-General of Technical Instruction, in agreement with the municipal authorities, has studied and carried out the organisation of classes for the benefit of outside pupils, as well as of the regular pupils of the schools.

It has helped with the installation of special equipment or even with the erection of genuine schools of household management, open to pupils of all schools without discrimination.

(*c*) It was from the outset apparent that, in order to obtain conclusive results, an attempt must be made to place the pupils in conditions approximating as closely as possible to everyday life.

With a view to giving the most practical teaching possible, the Directorate-General of Technical Education decided to build model houses identical with the workmen's dwellings built in the neighbourhood. Five of these model houses are already in use.

17. The result of these efforts may be summarised as follows :

At the present day, teaching in household management in France is given in all the girls' practical schools of commerce and industry, and,

in Paris, in all the municipal vocational schools. In addition, there is a private household management school under the Department of Technical Education, the pupils of which may obtain scholarships from the authorities.

The importance of the various schools of household management and the progress made since 1927 may be judged from the following table :

	1927	1935
Number of classes	27	55
Number of pupils	1,434	5,465

The State's efforts in the course of the last ten years to organise genuine domestic economy teaching is proof of the great benefits to be derived from this form of education. The training of the housewife, the maintenance of the unity of the family, the protection of the national stock against alcoholism and infantile mortality—such are the valuable results of this new departure.

18. There exists therefore in France an effective means of disseminating among members of the public knowledge regarding rational nutrition. In practice, it is sufficient to give schoolteachers general instruction in accordance with the most recent scientific data to secure the wide dissemination of genuinely useful knowledge.

The way has been prepared, the system perfected, and methods well tried by experience, so that all that is now required is a more definite policy, and the appropriation of more ample funds to give the work new impetus.

This would all be easier if the activities of the authorities at present concerned in the development of domestic economy teaching in France were more effectively co-ordinated.

The creation of a body to co-ordinate and supervise the various forms and syllabuses of domestic economy teaching is, moreover, under consideration. Such a body would be especially well qualified for promoting the dissemination of methods of rational nutrition among the general public.

Private Education.

19. Apart from official action, the Directorate-General of Technical Education has endeavoured to promote the foundation of schools of household management by occupational organisations. To this end, the Permanent Commission of the Higher Technical Education Council has authorised the appropriation of sums equivalent to 10% of the amount of the fees due from all apprentices taking household management courses.

The progress achieved as the result of this measure was, in the first place, inconsiderable ; State propaganda in the form of model courses, lectures and the constant collection of up-to-date material was nevertheless bound to bear fruit.

Such propaganda was actively supported by the associations specially created for the purpose of assisting the development of this new type of education. The French Federation for Domestic Economy Teaching contributed to the work, and even endeavoured to extend it to the French colonies.

Bodies of all kinds have gradually but systematically brought into being organisations, the numbers and efficiency of which are constantly increasing.

20. Among the more important, we may mention the activities of the mining companies. All the more important companies in the central areas of France have set up courses on household management. Unfortunately, it is difficult to give exact particulars of the number of pupils and the results obtained.

In the mines of the Pas de Calais, there are at present sixteen centres for the teaching of household management, attended by 978 girls or young women.

The railway companies have also made valuable efforts in the same direction. The P.L.M. Company has organised four domestic economy centres. It subsidises the Family Domestic Training Office, which organises courses on household management for the wives and daughters of railway employees in all the larger towns along the company's lines.

The State Railway Company has founed fourteen centres of the same kind for the daughters of the railway employees ; it has also organised special courses for adults and married women.

The P.O.-Midi Company and the Northern Company have created fifteen courses with 500 pupils and twenty-two courses with 330 pupils respectively.

In this connection, it should be mentioned that the Caisse de Compensation of the Paris region has organised more than 100 courses, followed by 1,700 pupils, and that the Office familial ménager has also the same number of pupils.

21. The total amount represented by the exemptions from the apprenticeship tax granted to finance classes on household management is between 1 and 1½ million francs, not inclusive of the Department of the Seine.

Many strenuous attempts have therefore already been made to organise private classes in household management.

Promoted in general by the State, they have all been successful, thanks to its example and support.

22. At the same time, it must be acknowledged that the geographical distribution of these centres is not governed by any general plan, and certain areas are still entirely unprovided for.

Furthermore, the public authorities should be empowered to establish the necessary supervision over such private classes, so that training in household management may be kept up to its present level of efficiency.

Here, too, co-ordination must be introduced, though without interfering with private initiative.

Training of Teachers.

23. The practical value of nutrition teaching in France depends upon the training of the instructors.

In the absence of a policy based upon scientific data and guiding principles common to all grades of education, the training of instructors must at present be admitted to be somewhat unequal.

(1) *Elementary Education.* — 24. The elementary-school teachers are trained in the teachers' training colleges. In the latter, the three years' syllabus includes one hour's instruction in domestic economy, comprising not less than twenty lessons of one hour each of instruction in nutritional hygiene (types of water, drinks, food, puericulture). Four hours a week are spent on household work during each of the three years of the course.

It should be noted that the official instructions emphasise the importance to be attached to these subjects. It may be added that specially qualified teachers are trained at the National School at Coëtlogon, and at the Agricultural Institute, Toulouse. Furthermore, the scheme for the reform of the training colleges at present under consideration provides that much more time shall be devoted in the time-table and syllabus to the training in domestic economy of future schoolteachers.

(2) *Rural Education.* — 25. The staff responsible for instruction in rural housekeeping is recruited from former certificated pupils of the National School of Agriculture for Girls and the Higher Training Department for Domestic and Agricultural Teaching at Coëtlogon, near Rennes. At the Coëtlogon School, there is a special Department of Nutrition and Cookery. The main heads of the syllabus of this department are to be found in the annex.

(3) *Technical Education.* — 26. The teaching staff of the household management schools under the Department of Technical Education is trained at the Vocational School at Limoges, which trains teachers for the domestic science schools of the city of Paris ; at the Municipal Domestic Science School in the rue Belleyme, where staff is trained for the same schools ; at the National Vocational School, Poligny, and at the Department of Technical Education's Higher Training School.

As an example, we may point out that the pupils of the latter school re selected and trained as follows :

Entrance to the school is by competitive examination, and all candidates are required to hold either the higher elementary certificate, the *baccalauréat*, or the secondary leaving certificate. Apart from studies designed to improve their general education, their first year at the school includes a period of two weeks at the Porchefontaine-Versailles Crèche, and they attend classes and lectures at the Scientific Nutritional Hygiene Society. The second year includes four hours weekly of instruction in domestic science, with practical work in one of the city of Paris vocational schools.

It should be noted that teaching posts at the practical schools of commerce and industry can only be obtained by teachers having followed the above course of training and in possession of the teaching diploma (science, domestic subjects section). The former pupils of the Limoges Vocational School or the Municipal Domestic Science School in the rue Belleyme are only eligible for posts in the city of Paris schools or in private establishments.

(4) *Private Education.* — 27. The teachers responsible for household management teaching in private schools possess the most various qualification, and, as their classes are not under State supervision, it is impossible to give any reliable account of their previous training.

28. It is highly regrettable that the training of future teachers should be so very different, even when their pupils are likely to be of the same standard of intelligence. The best means of changing this state of affairs would be the drawing-up of a syllabus by the Directorate-General of Technical Education and the other authorities concerned in conjunction with the research institutes and higher educational authorities. This syllabus should be compulsory for all teachers of domestic subjects. It should lead up to a diploma and be supplemented by practical work whenever possible.

Proposals to this effect are at present under consideration. They may perhaps be put into effect in connection with the reform of higher nutritional studies referred to above.

Vocational Training.

29. Vocational training, at least within the scope of the present report, has a number of highly different aspects.

In the first place, the Department of Technical Education has set up a special school for hotel-keeping, at which not only the administrative staffs, but also chefs and their assistants are trained.

Furthermore, the army and naval authorities who are responsible for the feeding of soldiers and sailors have long been careful to instruct officers in their duties in this respect and to train the necessary specialised cooks.

It is these two cases which furnish the best example of the methods of vocational training in the matter of nutrition which are, or at least would be, widely applied in other quarters also. [1]

Training in Hotel-keeping.

30. The Central Board for Technical Instruction has opened practical schools for hotel-keeping in the districts which derive a large proportion of their income from tourists.

The chief concern of the teachers here is not to impart the rules of systematic, normal or dietetic nutrition, but rather to train pupils for carrying out the professional duties of hotel-keeping, to make them, when they leave school, useful assistants who will later become good managers.

In these practical schools, the teaching has the same features as in all public technical training schools. It is devised to give the pupils both a general education and professional training. It is based on the experimental method and keeps in permanent touch with the profession. During the holidays, the pupils of the school work as paid apprentices in the big health resorts, watering-places or climatic stations.

The course of study lasts for three years and terminates with an examination conferring the " Brevet d'Enseignement Hotelier ", first class.

A second-class " Brevet " may also be subsequently conferred under certain circumstances.

31. The training given is thus a sound one. At the same time, it has to be admitted that theoretical instruction in French, arithmetic, tourist and hotel geography, modern languages and political economy, does not leave sufficient room for the teaching of the science of nutrition.

Though some of the practical training is concerned with cooking, its purpose would seem to be to teach the pupils to prepare certain dishes rather than to impart the principles of rational nutrition.

The dissemination of these principles by means of technical training in hotel-keeping would therefore entail a change in the curriculum.

The Central Board for Technical Instruction is prepared to take this step. It had already intended, in organising the new Paris school for hotel-keeping, to allow for the interest at present taken in dietetics.

It is certainly essential for France, a country of health resorts, to be able in the future to give the persons visiting its various health resorts as sound guarantees as other countries for the observance of the diets prescribed by doctors. A great effort will have to be made in this direction to bring back to France visitors who have been rendered more exacting by the attention paid to them elsewhere.

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[1] At the request of the Minister of National Education, the Minister of Public Health set up, by a Decree dated June 3rd, 1934, a special commission to study the progress made in the matter of hygiene in the public secondary educational establishments.

This commission drew up rules subsequently communicated to the heads of all such establishments.

The inspectors-general of secondary education are responsible for their strict application.

It should not, however, be forgotten that, while training in hotel-keeping may, owing to the professional quality of its pupils, be an excellent means of disseminating knowledge of the methods of nutritional hygiene, and though the hotel providing special diets must occupy a larger place in the profession, the average hotel-keeper will always have to cater for the wishes and tastes of his customers.

Army.

32. One of the duties of the Army Supply Service is to control and administer the supplies department. It has always been anxious to give the rank and file the benefit of the scientific progress made in the hygiene of food within the limits, of course, of the funds available. It has therefore made a point of carrying out research into the nutrition of the troops, teaching officers of the Supply Service and medical and regimental officers the essential principles of a healthy, rational and palatable dietary, of selecting and training cooks, organising competent and effective supervision of the quality of foodstuffs and the value of the bills of fare compiled by the officers in charge of the commissariat.

This brief survey need not do more than indicate the measures taken by the National Defence Department to give both officers and men in charge of the commissariat the knowledge necessary for the rational feeding of the troops.

(a) *Instruction given to Officers.* — 33. This instruction is given :

(1) At the Higher Army Supply Service School ;
(2) At the Training School of the Army Medical Service ;
(3) In military colleges.

The training given at the Higher Supply Service School is intended for captains admitted to the school by examination who, on graduating, are drafted to the Supply Officers Corps.

The study of foodstuffs is one of the chief subjects in the curriculum. Two Army Supply Service officers qualified by reason of their duties at the General Inspectorate of Supplies are responsible for the training of pupils. Their teaching is supplemented by a lecture on preserved meat given by the Army Veterinary Surgeon, Director of the Laboratory for Research and Inspection of Army Tinned Foods, and by visits paid to manufacturing concerns.

The programme also includes lessons on the theory of nutrition and foodstuffs. At present it comprises six lectures and two practical lessons on hygiene and energetics.

To this training, given under the auspices of the General Inspectorate of Supplies, should be added that given by the Director of the Tinned Food Research Laboratory to veterinary lieutenants attached to factories producing tinned meat for the army.

34. At the Training School of the Army Medical Service (Val-de-Grâce), the physiological principles of nutrition and their application to the army play a leading part in the nutrition courses given to lieutenants in the Army Medical and Army Pharmaceutical Service in view of their duties as technical advisers to the Army Command.

During their year of training at the Army Medical Service Training School, army pharmacists are given practical lessons daily in the analysis of foodstuffs.

Lastly, as bills of fare have to be compiled by the officers commanding units, it is necessary for regimental officers to know, if not the physiology and chemistry of nutrition, at any rate the practical conclusions to which these sciences lead. These conclusions are expounded during the course on army hygiene given in military colleges.

(b) *Training of Cooks.* — 35. Army cooks are trained as follows : in each command area the General commanding the area organises a cookery training course.

The course lasts for three months and the training is essentially practical. The lessons are given by the head cook of a corps, under the supervision of a specially qualified officer.

Verbal instruction includes four lectures by the officer and two by an army veterinary surgeon.

At the end of the course, the pupils are classified, on the basis of an examination, as cooks or assistant cooks.

Since 1909, there has been in existence a " Handbook of Garrison Military Cookery ". This handbook, which has been repeatedly brought up to date, includes about 200 recipes. Each recipe is set out in quantities sufficient for 100 men.

Navy.

36. As in the army, the naval authorities are faced with two tasks :

(*i*) To train officers to supervise and run messes ;

(*ii*) To instruct the staff responsible for preparing meals.

(a) *Training of Officers.* — 37. Since to the Paymaster generally falls the important task of running the mess, the School of Paymasters gives its pupils special training on this subject.

They are given instruction in dietetics and how to recognise the suitability of foodstuffs for human consumption. They work for various periods in the victualling services and are also shown the practical tests to which all foodstuffs are subjected.

Naval officers who may have to run messes are also given this training, both at the " Ecole Supérieure de la Marine " and in the training-ships.

Naval surgeons attend special courses on nutritional hygiene at the Bordeaux Faculty of Medicine, and the " Ecole Principale " of the Medical Service.

At the " Ecole d'application " at Toulon they also attend a course of naval hygiene, several lessons of which are devoted to nutrition questions.

These students also visit the slaughter-houses and victualling services.

Naval pharmaceutical chemists are trained at the Bordeaux Faculty of Medicine, and receive special instruction in the analysis of foodstuffs, in the form of lectures and practical work organised by the " Ecole Principale " of the medical service.

Moreover, at the Toulon " Ecole d'application ", pharmaceutical chemists study for a period in the foodstuffs laboratory, attend lectures and practical demonstrations and participate, like naval surgeons, in instructional visits.

(b) *Training of Cooks.* — 38. Since 1926, cooks have been recruited in the navy among men who have already had experience, and who, after passing a test, receive a cook's certificate, or among conscripts or volunteers who, after suitable training, obtain the same certificate.

39. Though some knowledge of rational nutrition is indispensable among the officers responsible for management, there is probably little utility in imparting such knowledge to those who have to deal with the actual cooking.

The latter will always have to act on instructions received from their superiors. The training of these superiors is therefore the most important point. In the case of both hotels and restaurants, the managers are those who must be trained in the first place, if sound dietetical principles are to be popularised. This is the lesson we can learn from the policy followed by the army and navy.

40. Military and naval experience leads to the belief that the public authorities should insist on an equally thorough theoretical and practical training for all officials responsible in any way for the feeding of children or adults: bursars of public schools, lycées and boarding-schools, directors or managers of hospitals, hostels, etc.

All these persons should be obliged to follow a course of studies and obtain a certificate similar to that which, it is proposed, all staff engaged in teaching domestic science must in future possess.

If this common-sense step were taken, a reform in the more advanced teaching of dietetics would become all the more reasonable and necessary.

Italy.

Commission for the Study of Nutritional Problems.

The most far-reaching and thorough investigation into nutrition is that made on the initiative of the National Research Council (a public institution serving as a supreme technical council of the State), which set up a special commission, instructed to study nutritional problems from both the experimental and social standpoints. His Excellency Filippo Bottazzi, Academician of Italy, Director of the Institute of Physiology in the University of Naples, is Chairman of the Commission.

This Commission, which set to work in 1927, first ascertained what progress had been made in Italy in nutritional studies and then outlined a plan for research into these developments with a view to remedying any deficiencies.

Testing the Standard of Nutrition by the Public Authorities.

This work, to which the Directorate-General of Public Health has contributed both directly and indirectly, was entrusted more especially to a number of other public and private bodies, in co-operation with one another and with the Central Statistical Institute and various local institutions. For the most part, it was carried out through the complicated network of political and corporative bodies which are concerned with the question of nutrition from the standpoint of either production or consumption.

Some signs or results of good or bad nutrition are brought out in statistics. Here, by means of its tables, the Central Statistical Institute supplies the authorities with proof either of the actual facts or of the extent to which the measures they have taken have been effective. Thus, the statistics show that both the general and special death rates for some of the diseases more particularly attributable to under-nourishment or malnutrition, such as pellagra or rickets, have fallen considerably, especially during the last twenty-five years. Similarly, the tables showing the expectation of death of children up to 5 years of age confirm that progress has been made in infant welfare, particularly in the matter of nutrition.

Several enquiries had been made since the constitution of the Kingdom of Italy into the standard of nutrition of the Italian people, but the methods employed were not giving reliable results. The Commission for the Study of Nutritional Problems, in co-operation with physiologists, hygienists and economists, therefore decided to undertake an extensive survey of the dietary of the different classes of the population in Italy by means of the family booklet method, which, despite the many criticisms levelled at it, is still the method most likely to produce satisfactory results.

1929 Enquiry.

The enquiry was made by professors of physiology in the university, who were able to obtain the help of their assistants and of some of the students in the Faculty of Medicine. Before the survey was begun, very thorough preparations were made and the political organisations of the regime (Federal Secretaries, Political Secretaries of the Fighting Fascisti), the economic syndical organisations (especially the confederations of industrial and agricultural workers and the Employers' Confederation), doctors and health officers, primary-school teachers and parish priests were invited to assist.

The enquiry lasted one month, from April to May 1929. During this time, the local representatives paid visits from time to time to the families to whom the booklets had been issued. For the rest, assistance was given and supervision exercised daily by the doctors and health officers, primary-school teachers and students of the Faculty of Medicine. In spite of these measures, about 50% of the booklets were not kept correctly and could not be used. The remainder, however, give a fairly accurate picture of the nutrition of the different classes in Italy in 1929. The data relating to this enquiry were published in the " Monographs on the Study of Nutritional Problems ", a review issued by the National Research Council, the purpose of which is explained by its title. Owing to its wide circulation among competent persons, it is of valuable assistance in improving nutrition in the country.

Enquiry into Bread-making in Sardinia.

A specially important factor in Italian nutrition is the quality of the cereals from which bread is made. In order to obtain accurate information on this matter, the Commission for the Study of Nutritional Problems decided, in 1929, to make a special enquiry into the making of bread, and selected Sardinia as a field for research. The results showed of what cereals bread is usually made and what kinds of bread are most popular. It was also found that leguminous flour, chestnuts, etc., were sometimes added to cereal flour in making wheaten bread. The Commission thought it advisable to extend the Sardinian enquiry to the rest of the country. The information collected is being sifted and co-ordinated.

Enquiry in the Province of Littoria.

The 1929 enquiry served the Commission for the Study of Nutritional Problems as a guide for future research. It has decided, as a result of the lessons learnt from this experiment, to make various changes in the family booklet hitherto in use. A new booklet has therefore been prepared for the enquiry into nutrition which will shortly be made in the Province of Littoria in order to ascertain the quantity and quality of the diet of the population which immigrated from various Italian provinces, and to follow the changes brought about in the dietary customs of each as a result of the influence of persons with different customs and of the special agricultural conditions of the area.

Since the object of this research is mainly biological, the enquiry into nutrition must be accompanied by an anthropological investigation if it is to be really useful. For this reason, the Commission intends to make an anthropographical survey of the whole population in the Province of Littoria. This investigation will be carried out by a special staff under Professor Sergio Sergi, Director of the Anthropological Institute of the University of Rome.

Enquiry at Rhodes and elsewhere.

In 1933, a special enquiry into nutrition was made throughout the Island of Rhodes by means of a special questionnaire relating to the kind of food generally consumed in the island. The results of this enquiry are being sifted and co-ordinated.

A nutritional and anthropological enquiry is being carried out in certain parts of Sardinia to ascertain in what way the physical characteristics of the inhabitants (height, constitution) have been influenced by dietary practices.

Enquiry from the Social Point of View.

While the investigations referred to above serve to ascertain the present standard of nutrition in order to raise it if necessary, economic and social surveys serve to show whether for some reason or other such conditions as are present are likely to prevent this standard from being maintained or raised. That is the object of the observations made by the Central Statistical Institute on the basis of the data supplied by the corporative and other bodies on the cost of living, price-levels and, consequently, the wage-curve.

In recent years (the last six years) real wages in industry have increased by 8.83%, while there has been very little change in agricultural wages.

Generally speaking, there has been a considerable improvement in the average standard of nutrition of town-dwellers, particularly workers, in recent years. This is because, under the corporative organisation, the working-classes can bring more influence to bear on the economic and social policy of the Government in fixing wages, controlling prices and adopting social measures.

Thus, the economic and financial policy of the regime has had considerable influence on the national food budgets, because the moderating influence brought to bear on prices, especially through the competent organs of the Fascist Party from 1929 to 1934, has helped to lower the cost of living. As a matter of fact, the national index numbers for the cost of living as a whole have fallen sharply, and the fall is even more pronounced if the national index of food prices is taken by itself.

National Index Number for the Cost of Living.

Year	General	Food
1929.	93.88	95.97
1930.	90.71	90.60
1931.	81.91	79.10
1932.	78.05	74.10
1933.	74.71	70.17
1934.	70.89	66.94

Popular Instruction.

The question of national nutrition is one of those which is engaging the closest attention of the Government. Side by side with the research and relief organisations' activities, an intensive campaign has been conducted to draw the attention of the public and of scientists to the importance of this problem, and to promote effective application of the measures suggested by experts.

In view of the national importance of the question, this campaign is not the task of a specific service, but is pursued in common by all the organisations of the State, the Fascist Party, the co-operative institutions and the competent special associations.

Close co-operation is being established between the bodies engaged in research and those engaged in practical action. The results achieved by the former, exerting their full influence through the executive orders given by the political authorities, are carried into effect by all— the central and subordinate organs of the co-operative system, the secretaries of the different trade unions, the relief institutions and the local authorities. The permanent framework on which propaganda must be based being thus available and its efficiency being assured, the public authorities can use it for all the steps it wishes to take, whether they are of a general or individual character.

Latvia.

Teaching Nutrition in Schools.

Since 1928, two lessons a week are devoted to domestic science in the two upper classes of primary schools.[1] Until recently, the teaching thus given was defective and superficial, as specialised teachers, the necessary educational equipment (text-books and materials) and suitable premises were lacking. When the National Government came into power, radical changes were made. The Riga Municipality now sees that every school has a well-equipped kitchen and a special domestic science class-room. The Riga municipal budget allocates special funds for this purpose. Similarly, the necessary instructions have been given to the communal authorities to have primary schools in the country gradually fitted up, within three or four years, with the necessary household equipment (crockery, various household requirements, table and kitchen linen) costing about 100 to 150 lats. In future, it will be obligatory for every school-building scheme to include provision for a special kitchen.

Most (about three-fourths) of the domestic science course is devoted to teaching the utilisation and preparation of food, the rest of the time available being reserved for related subjects (care of the house, clothes, etc.).

At secondary schools, one domestic science lesson is given weekly, while at the institutions for the training of teachers the curriculum of the last two classes includes two domestic science lessons a week.

[1] The lessons are given to girl pupils only.

The Government arranges for the training of teachers specialised in domestic science. Thus, there is a provision that, in secondary schools, domestic science can be taught only by graduates of the Kaucminde School of Domestic Science. Special training-courses are organised for elementary-school teachers who have to give lessons in domestic science. One domestic science text-book has already been issued and is soon to be followed by several others.

Domestic science teaching in schools is based on the principle that food must be prepared *in a healthy and economic manner.* By means of a well-organised system of household training, the Government is endeavouring to improve public health and to prevent food wastage in homes. The Government realises the great importance, from the standpoint of public health and political economy, of disseminating the principles and practice of rational nutrition and has even considered increasing the number of lessons devoted to this subject.

Latvia has several special domestic science schools, which in 1934 had 302 children and twenty-one teachers. Domestic science teaching also plays an important part in the special Government schools of agriculture and domestic science. At the domestic science schools for girls, where the course covers one year and a half, the programme includes lessons in rational nutrition, preparation of meals, household accounts, utilisation of fruit, etc. The practical training comprises the equipment of a kitchen and the cooking of various foods, including pastries, and also the preservation of food products, serving meals, etc. The aims of domestic science schools may be epitomised by the following national saying, which forms the motto on the prospectus of one of the Government schools of domestic science :

> " Learn to keep house ! The hand of the farmer's wife can empty the barn faster than the farmer's cart can fill it."

In Latvia, the senior domestic science school is that of Kaucminde, with a two years' course and about seventy pupils from 18 to 21, most of them belonging to farmers' families. During its twelve years' existence, this school has been attended by about 320 students and the annual number of graduates is now thirty-two.

Domestic Science Courses.

Outside the schools, domestic science training is at present given mainly by the Latvian Chamber of Agriculture, which has a special domestic science section. Before the Chamber was established in 1935, this work was done by the Latvian Central Agricultural Society. There are special societies for household supervision in country districts ; in 1934-35 they numbered twenty-one, with 443 rural households under their control. The Chamber of Agriculture has at its disposal thirty-five domestic science teachers, each of whom is responsible for supervising from fifteen to thirty households. The teachers visit these households and give advice, particularly on food products. They also give

courses and lectures at the request of rural organisations. In addition, the Chamber of Agriculture has fifteen travelling teachers, who confine themselves solely to organising training courses and lectures. This number is supplemented by five district teachers with similar duties. All these teachers are paid partly by the State and partly by private organisations.

Latterly, a new form of imparting a knowledge of domestic science has come into vogue—viz., the cookery competitions organised by the Riga domestic science schools.

The domestic science courses for women engaged in agriculture are usually devoted to special subjects—*e.g.*, the preparation of meat and vegetables, various handicrafts, weaving, dressmaking, household technology (dyeing, bleaching, furniture repairs, home decoration, etc.).

Domestic science is also taught to the " Young Farmers ", a very large organisation whose members are mainly recruited from young country people.

Campaign to stimulate the Consumption of Milk.

With a view to giving farmers a bigger market in Latvia itself (the possibilities of selling abroad being very limited and the prices very low), the Ministry of Agriculture, the Central Dairy Society (the chief organisation for the export of and trade in butter) and various firms dealing in dairy products organised a " Milk Week " in the spring of 1935. A large number of posters and pamphlets were distributed explaining in a graphic way the great importance of milk and its by-products for public health. The pamphlets also contained various recipes for preparing milk dishes.

Similar propaganda was carried on at the same time through articles in the local Press and broadcast talks. The success of this propaganda week is proved by the following figures supplied by the twelve largest firms dealing in dairy products (including the Central Dairy Society already referred to) :

Dairy products sold	In October 1934			In October 1935		
	In schools	In State institutions	In municipal institutions	In schools	In State institutions	In municipal institutions
Milk, litres	30,403	45,549	3,505	46,609	80,194	5,038
Butter, kg.	2,101	9,645	—	2,986	29,792	—
Sour cream, kg. . . .	1,992	666	—	2,682	7,328	—
Whipped cream, kg.	595	733	—	584	1,313	—
Curds, kg.	625	839	—	864	2,055	—
Buttermilk, litres . .	542	496	175	880	3,185	1,000
Kefir, bottles	97	651	—	181	1,464	—

It will be seen that the propaganda week led to a considerable rise in the consumption of dairy products in schools and the Government and municipal institutions. The same is true as regards the consumption of dairy products at home, although exact figures are lacking.

Campaign on behalf of Sugar.

In Latvia, the production of and trade in sugar are a State monopoly. In order to increase the consumption of sugar and enable farmers to increase the acreage under sugar-beet, the Sugar Monopoly Department organised a huge campaign in 1935 on behalf of this product. Forty thousand copies of a 16-page pamphlet were distributed, giving a brief description of the important part played by sugar in public health as an article of mass consumption, and advice on its use in the household, and 300,000 copies of a special propaganda publication were distributed in country districts in order to acquaint farmers with the importance of sugar in nutrition. This publicity was followed up by Press articles and numerous lectures (some of them broadcast).

There are no exact figures showing the results of this sugar campaign. Shortly before it opened, the price of sugar was raised 5 centimes per kilogramme. It is true that, in 1935, the consumption of sugar fell by 2% as compared with 1934 ; but there is reason to suppose that, but for the campaign, the consumption would have fallen even more heavily as a result of the rise in price. In 1936, the consumption of sugar tends to remain steady, if not to increase. Moreover, the fall in sugar consumption in 1935 was also due to the fact that, as the fruit and berry crop was rather poor, substantially less was made into jam.

Improvement in the Quality of Wheaten Bread.

On August 25th, 1934, the National Government issued regulations concerning the quality of rye flour and bread. Flour mills, flour merchants and bakers are forbidden to mix rye flour with bran, lower-grade flour or any other substitutes. As a result, the quality of rye bread has improved, while the price remains the same, for compulsory provisions were issued at the same time fixing the retail price for rye bread at a maximum of 0.20 lat per kilogramme. The Ministry of Agriculture sees that these provisions are strictly observed.

Mexico.

The Government of the United States of Mexico has devoted constant attention to the question of improving the nutrition of the masses of the people by promoting the consumption of home-grown agricultural products. The Department of Public Health endeavours to spread among the public a knowledge of the principles and practice of rational nutrition.

It will be the object of the Federal District Service and of the service dealing with general questions as far as possible to induce the public by persuasion to follow more closely the rules of health in the matter of food and drink. Educational campaigns will accordingly be organised, as being preferable to the mere inspection of foodstuffs with a view to detecting infringements of the rules.

The Mexican Government has also striven to improve the living conditions of the working and rural classes, by enacting laws such as the Labour Law and the Minimum Wages Law, under which they are assured of higher wages and are thus able to obtain the necessities of life, and particularly foodstuffs, more easily.

Nutrition Research Institute.

On January 10th, 1936, there was set up, under the Department of Public Health, a General Office of Nutritional Hygiene, including among its activities a Research Institute on Popular Nutrition, which, by studying existing data and the information collected in various parts of the country, will endeavour to ascertain the dietary habits, requirements and mode of life of the inhabitants and the sources from which they obtain their food and drink. It will propose changes with a view to improving nutrition by the fuller use of natural resources within the limits of the individual's means and will do its utmost to increase, as far as possible, the quality of local production.

It is proposed, through the Research Institute, to establish standard regional dietaries which would enable workmen and peasants, without spending more than they do at present, to obtain a better diet which would satisfy physiological requirements and lead to an improvement of the race and a better output.

Netherlands.

Research.

Consideration is being given to the expediency of setting up an Interministerial Commission, consisting of representatives of the various public services concerned with nutrition questions, the Ministry of Agriculture and Fisheries, the Ministry of Commerce, Industry and Shipping, the Ministry of Social Affairs, the Ministry of Education, Art and Science and the Board of Government Commissioners.

As complaints are heard from time to time of malnutrition among a section of the schoolchildren, especially those from social classes which are suffering from the economic depression, the Netherlands Government proposes to organise an enquiry throughout the country. A Commission of Experts has been appointed by the Ministry of Social Affairs to decide upon the method of conducting the enquiry.

Every other year, the Netherlands Pharmaceutical Society and the Netherlands Chemical Society organise a conference on the chemistry

of foodstuffs. The latest conference, which was held at Dordrecht in April 1936, discussed the nutrition of the Netherlands population, and had before it some important papers : " Nutritional Requirements " (by Professor B. C. P. Jansen) ; " Symptoms by which Undernourishment and Malnutrition may be recognised " (by Professor L. K. Wolff) ; " Application of Statistical Methods to Enquiries into the State of Nutrition " (by Dr. J. H. van Zanten) ; " Examples of Home Feeding and Institutional Feeding ".

Popular Instruction.

In the Netherlands, the campaign for the improvement of nutrition is conducted partly by the public authorities on grounds of hygiene and public health, and partly by the organisations for the marketing of agricultural and milk products with a view to encouraging the consumption of such products.

The campaign conducted by the Central Bureau for Public Sales of Vegetables and Fruits dates from 1924. It is conducted mainly by means of cookery-books, pamphlets by teachers in domestic economy schools and other specialists, which are distributed free by shops and at exhibitions. Demonstrations of cookery are given at various exhibitions for the benefit of the cause. The campaign also makes use of advertisements at exhibitions and fairs, advertising motor-cars and luminous advertisements, electric clocks, advertisements on paper bags, notices in newspapers, broadcast lectures and films.

The world depression has been the occasion of special propaganda efforts in connection with milk products. The consumption of milk products has hitherto been comparatively slight in the Netherlands, and the Crisis Bureau for Milk Products (Crisis-Zuivelbureau) has endeavoured to encourage consumption of these products in the home market. A special propaganda section has been formed, with thirteen propaganda centres, ten of which are in the provinces (one being for the provinces of Gelderland and Overijsel combined), and three for the cities of Amsterdam, The Hague and Rotterdam. The campaign is organised with the aid of various State and communal institutions, doctors, domestic economy experts and associations, public health services and the Press. An Advisory Committee for Scientific Research is in process of formation. The campaign is conducted by means of :

(*a*) Advertisements, wrappers, photographs, cookery demonstrations, circulars and pamphlets ;

(*b*) The organisation of propaganda days or weeks for milk products, with preparation of the ground by means of posters, films, etc., and the organisation of stands at fairs ;

(*c*) The distribution of milk products to mothers and wet-nurses, schoolchildren and unemployed in receipt of relief.

(*d*) In several provinces there were already provincial committees making propaganda to encourage the consumption of milk bread, before the propaganda centres were set up. In the Frisian Islands, for example, this propaganda had been very successful. Enquiries show that the percentage of milk bread to the total of bread consumed increased from 20% to 60%, and in some districts even to 70% and 80%. The provincial committees set up a large number of local committees. The Crisis-Zuivelbureau made use, wherever possible, of these existing organisations, on the principle that the parties concerned should pay for the propaganda. The provincial committees agree with this principle, and are at present co-operating with the propaganda centres of the Crisis-Zuivelbureau. The latter organisation has also approached the bakers' organisations and a co-operative organisation of consumers with a view to encouraging the consumption of milk bread.

Education.

Under the auspices of the Netherlands Ministry of Public Instruction and the Ministry of Social Affairs, committees have been set up to instruct housewives in the use of raw materials for food and the methods of preparing food in a nourishing and palatable form. In 1935, some 400 cookery courses were given in the country, and in the towns the population is given instruction by means of cookery demonstrations and pamphlets. A semi-official committee made two grants in 1935 of as much as 18,000 guilders for this purpose, and increased the amount in 1936 to 28,000 guilders.

Netherlands East Indies.

Research.

The public authorities in the Netherlands Indies are in a position to ascertain the prevailing level of nutrition. If certain groups of the population or certain districts are under-nourished, this fact is duly noted by the Local Government, the Public Health Service or the Department of Economic Affairs. There are Local Government officials, Government medical officers and agricultural experts in all parts of the archipelago, and their knowledge of the facts enables them to form a good idea of the sources of income, reserves of foodstuffs, commonest diseases, general living conditions, etc., of the population in their districts.

In 1933, all the unattached Government medical officers and the medical officers attached to the Local Governments were instructed to pay special attention to the level of nutrition in their districts. This enquiry was instituted in connection with the tenth Congress of the Far-Eastern Association of Tropical Medicine.

Special mention should also be made of the work of the " Instituut voor wetenschappelijk onderzoek der Volksvoeding en de met haar samenhangende problemen in Nederlandsch-Indië ", which was

established on September 21st, 1934, and receives a subsidy from the " Koningin Wilhelmina Jubileum Stichting ". This institution promotes chemical, medical, economic and social researches in the field of nutrition. To this end it receives as much co-operation as possible; *inter alia*, from the Medical Laboratory and Advanced School of Medicine, the Central Leprosy Institute at Batavia, the Chemical Laboratory and the Department of Economic Affairs. At the present time, the " Instituut voor Volksvoeding ", mentioned above, has instituted researches in Grissée, where the influence of nutrition on leprosy is being studied. Local investigations have shown that, on the whole, nutrition is adequate, but that a more rational diet could be obtained at the same price.

In 1929, Professor Donath compiled tables regarding the nutritive value of all kinds of foodstuffs, and, in particular, specifically native foodstuffs. These tables have been brought up to date at regular intervals between 1929 and 1935. They have been published in the *Medical Year-Book* for the Netherlands Indies and are in the hands of nearly all doctors. Thanks to the efforts of the institute for popular nutrition (Instituut voor Volksvoeding), new series of tables relating to the value of foodstuffs have been compiled, based on the researches of the chemical laboratory at Buitenzorg and the medical laboratory at Batavia.

Researches have recently been undertaken at the request of the " Koninklijke Paketvaart Maatschappij " to establish the vitamin content and the nutritive value of the rations issued to that company's native sailors.

Popular Instruction.

The medical and health propaganda service is endeavouring, by means of popular education, to ensure more rational nutrition—for instance, by displaying wholesome and hygienic foodstuffs at the fairs, in certain centres, etc. In the large towns, the communal and local public health services are co-operating in this work.

Poland.

Research.

The annual consumption per head of population of the principal articles of food in Poland is calculated on the basis of the country's total production and sales on the provision market. Certain facts are known regarding the consumption of the urban and rural populations; consumption has therefore been separately calculated for each voivodeship or group of voivodeships. Research is in progress regarding cereals, meat and potatoes, due regard being had to regional divisions.

Consumption statistics per head of population for 1934 were as follows :

	Kg.	
Potatoes	932	(highest figure in Europe)
Rye	159	(highest figure in Europe)
Wheat	51	(lowest figure in Europe)
Sugar	9.8	
Coffee	0.2	
Rice	1.4	
Meat	18.61	

An enquiry carried out in respect of four wage-groups showed that only a very small proportion of the budget of working-class families (four persons) is spent on food—viz.:

	Group Zloty per annum	Spent on food % of the total
(*a*)	1,527	66.1
(*b*)	2,386	60.1
(*c*)	3,230	54.9
(*d*)	4,995	44.6

The annual consumption of the chief articles of food (men) was :

	Bread Kg.	Potatoes Kg.	Milk Litres	Butter Kg.	Eggs Kg.	Meat Kg.	Fats Kg.	Sugar Kg.	Fruit Kg.
(*a*)	172.2	169.7	38.7	1.0	0.7	19.73	8.1	11.7	2.1
(*b*)	146.6	204.0	77.4	1.7	2.2	32.6	13.6	20.6	8.3
(*c*)	156.0	204.7	93.4	2.4	3.5	50.9	15.7	22.8	10.3
(*d*)	122.3	193.6	125.0	3.6	7.0	69.2	14.0	29.6	28.5

This very inadequate dietary is, nevertheless, luxurious compared with that of the unemployed.

Education.

The Polish Health Association has a food rationalisation section with a domestic economy institute. The object of this section is to make a scientific study of nutrition problems, and to disseminate a knowledge of these problems by means of lectures, exhibitions and publications (articles in the bi-monthly review *Public Health* and articles in the daily Press).

Propaganda on rational nutrition is carried on in towns and villages by various scientific and social institutions, which arrange courses on domestic economy, lectures, talks, etc.

Instruction on rational nutrition is given in schools of all types, and attention is drawn to the importance of health and to the nutritive value of the various foods in the growth of the human body.

Cooking and how to prepare food rationally are taught in the elementary schools for girls (Forms 6 and 7), when suitable premises are available.

The syllabuses of all vacational schools for girls include a yearly domestic course, dealing extensively with the problem of rational family nutrition. There are 108 special domestic schools of three kinds —primary, secondary and higher—in which nutrition problems are treated fully.

Roumania.

Research.

Among investigations of nutritional diseases may be mentioned the work undertaken at Osoi in the model village of Tomesti, which formed part of the activities of the Institute of Health at Iassi. The study was concerned with nutrition in the commune of Osoi, where it was found that maize formed an important element of food. It was observed, also, that there was little meat or protective food such as milk and vegetables.

Education and Popular Instruction.

Education and propaganda are carried on in the child welfare dispensaries, where mothers receive advice on infant feeding, and this is supplemented by the visiting nurses. There are schools of housekeeping where teachers are trained, and courses on housekeeping in the professional and higher schools where children learn the preparation of food and to distinguish good from poor quality. They are also taught the nutrition value of different foods.

There is a National Milk Committee affiliated with the International Milk Federation. This committee takes all possible steps to stimulate the production and improvement of this important food as well as milk publicity.

Siam.

Popular Instruction.

Public health education is important as a means of improving the standard of nutrition. To achieve this object, the Department of Public Health has distributed pamphlets, leaflets and posters to schools and has also given advice through the public health nurses to mothers in regard to suitable feeding for themselves and their children. Furthermore, the display of public health motion-pictures dealing with nutrition is being contemplated with a view to raising the standard of national nutrition. The Siamese Red Cross Society is also carrying out general health propaganda for improving nutrition.

Sweden.

Research in Matters of Nutrition.

An extensive social-hygienic investigation was carried out in the provinces of Västerbotten and Norrbotten during the years 1929-1931, at the instigation of the former head of the Medical Board, Director-General Nils Hellström.

The chief aim of this investigation was to discover the relation between the deficiency in the diet existing in these provinces and certain conditions of ill-health, mainly the reduction in certain functions of the stomach (achylia), colitis and anæmia, which appeared to be more prevalent in those districts. The result of this very extensive investigation has so far been published only in Swedish. A translation into English is in preparation. A large number of special investigations on a more restricted clientele have been carried out by private practitioners—as, for instance, the late M. C. A. H. Ljunggren, M.D.

In the account of an investigation published in the year 1933 concerning the influence of dietetic and hygienic conditions on the health of forest labourers, the Social Board and the Medical Board have put forward certain suggestions for the improvement of the preparation of food for forest labourers and lumber-floaters during their stay in the forests. A thorough analysis was made of the diet and the health conditions of these workmen. The investigation resulted in a recommendation that educational propaganda should be inaugurated —and directed, not only towards the workers, but their employers— that a handbook should be compiled on the organisation and upkeep of common camp-kitchens for forest labourers, and that short courses of instruction should be arranged for persons wishing to take employment as housekeepers or cooks in lumber-camps.

The chief sources of information as to the composition of the Swedish diet are the household investigations carried out by the Social Board. These are : " The Cost of Living in Sweden, 1913-1914 " ; " The Consumption of Foodstuffs in Households of People of Small Means during the Years 1914 and 1916 " ; " The Consumption of Foodstuffs in the Households of People of Small Means during the Years 1914-1918 " ; " The Cost of Living in the Rural Areas of Sweden in the Year 1920 " ; " The Cost of Living in the Cities and Industrial Centres about the Year 1923 " ; " Living Conditions and Household Habits in the Cities and the Industrial Centres about the Year 1932 " ; " Living Conditions and Household Habits of Workers in the Rural Districts about the Year 1933 ". These investigations, which form a part of the Official Statistics of Sweden, contain a summary in French. It is intended to make such investigations every ten years.

The household investigations referred to are carried out in the following manner : To a large number of families—usually over a thousand—very detailed housekeeping books are supplied, which are to

be kept during a whole year. In the preparation of the material thus obtained, knowledge is gained as to the distribution of the expenditure on the different items, and, as regards foodstuffs, the quantities purchased of the different kinds. The composition of the diet can then be considered with reference to the size of the family, degree of prosperity, the occupation of the head of the family, etc.

The investigations mainly concern households of the working-classes and the lower grades of the public service. A first examination of this material from the point of view of the physiology of nutrition has been carried out by the Social Board. A more thorough analysis is at present in preparation.

Education.

Government action in this sphere includes the training of female teachers for school-kitchens who are charged—especially in the primary and middle-stage schools—with the teaching of kindred subjects. A special volume of about 100 pages entitled " Norrlandskvinnornas hjälpreda " (The Norrland Housekeeper's Guide) has been very widely distributed in the homes, mainly through the intermediary of the Governors' offices, in the north of Sweden. This volume is chiefly intended for the homes in the rural districts of the north, but its contents are also of use beyond the borders of the provinces for which it was compiled. Broadcasting instruction is also given on these matters, partly by lectures, serial or individual.

Popular Instruction.

In addition to its other humanitarian activities, the Swedish Red Cross has made propaganda for better diet by arranging exhibitions and publishing pamphlets. One of these pamphlets, entitled " Vår föda och folkhälsan " (Our Food and the Public Health) has been distributed in the municipalities on the northern border, thanks to Government subsidy and through the intermediary of the Board of Education. Many other organisations undertake similar activities. The Taxpayers' Association (which is advocating sound expenditure of private as well as public money) has published several pamphlets and short articles dealing with a diet properly composed from the point of view of nutrition. The Co-operative Federation undertakes propaganda in the same direction in its paper *The Consumers' Gazette* (circulation 500,000 copies), by publishing books on the subject, by arranging study circles, by the so-called Women's Guild Movement, and by " housekeepers' evenings " arranged by the co-operative societies, at which demonstrations are arranged to show the proper preparation of food. A large number of associations for housekeepers and other similar societies, as well as the people's educational movement in general, include dietetic courses in their programmes. Finally, propaganda is made by private persons—as, for instance, medical men,

Switzerland.

Popular Instruction.

In Switzerland, the growing of dessert fruits is warmly encouraged. The Federal Alcohol Régie gives subsidies for the improvement of orchards. Fruit-picking, for marketing in the towns, is organised in certain cantons with the assistance of the public authorities—for example, in the Valais.

Several forms of propaganda for the consumption of food products of Swiss origin are educational in character and aim at promoting the economic interests of producers. The organisations devoting special attention to the problem of rational nutrition include :

The Swiss Hygienic Society, with headquarters at Basle ;
The Swiss Hygienic Alliance, with headquarters at Basle ;
The Swiss Milk Commission ;
The Bread Conference ;
The " Cartel romand d'Hygiène sociale et morale ", with headquarters at Lausanne.

Under the auspices of the Health Committee of the " Cartel romand d'Hygiène sociale et morale ", propaganda is at present being carried on to encourage the consumption of milk, dairy products, non-fermented fruit-juice and wholemeal bread.

A Bread Commission of hygienists, chemists and representatives of the milling and baking industries under the direction of the Federal Public Health Department has been constituted with a view to finding a formula for a " People's bread ". The idea is to make more rational use than is the case at present in the majority of breads in current consumption, and white bread in particular, of the constituent elements of the grain, so as to supply the human body with those parts which are necessary for the maintenance of its efficiency, and above all, certain vitamins found mainly in the husks and bran. The bread-type problem is closely connected with the problem of dental decay, the frequency of which in Switzerland seems to be due, in part at any rate, to defects of nutrition.

Reference should be made in this connection to the vigorous propaganda carried on in certain parts of Switzerland in favour of the consumption of raw foods. As raw foods retain their vitamins intact, whereas cooking destroys or alters them, their influence on certain diseased conditions may be excellent, and rational publicity in this direction is able to render real services.

Active propaganda is being carried on in the matter of dairy products, in order to advertise their nutritive qualities. The Swiss Propaganda Office at Berne, the Swiss Milk Committee, the Swiss Commercial Expansion Centres at Zurich and Lausanne take an active part in this propaganda.

Education.

In Switzerland, instruction in domestic economy is highly developed, but, as in the majority of countries much, still remains to be done. As a general rule, indeed, the education of girls scarcely ever concerns itself with the essential tasks of the mistress of a house. Not only does it neglect domestic economy, but economy of every kind. Instruction in domestic economy teaches girls to examine and choose foodstuffs, to prepare meals and manage their houses as economically as possible. They acquire habits of cleanliness and good taste, so that they are subsequently able to make their homes attractive, and, in addition, they receive valuable instruction in hygiene and the care of infants. The courses are also designed to counteract certain prejudices which are deep-rooted in many parts of the country.

Turkey.

To establish standardised nutrition in a country like Turkey, where customs and climatic conditions vary greatly, is a complex problem which it is practically impossible to solve. Enquiries have naturally been made into the method of nutrition of the various classes of the population. The results have merely served to confirm the particulars already known. The question of nutrition in the towns was placed on the agenda of the fourth National Congress of Medicine held at Ankara in September 1931, and was the subject of long discussion.

Popular Instruction.

The public authorities and private organisations have not found it necessary to undertake propaganda regarding the general principles and conditions of nutrition.

In accordance with the provisions of the Public Health Law, health teaching is compulsory in all the educational establishments. Apart from such instruction and some broadcast lectures, we have not yet established any organisation for encouraging the habits of rational nutrition among the masses.

United States of America.

Measures for the Improvement of Nutrition undertaken by the Public Health Service.

The nutrition work of the United States Public Health Service (U.S. Treasury Department) has been confined almost entirely to research work. This is being carried on along two different lines :

I. *The Office of Nutrition Investigations*, which conducts experimental laboratory studies on various nutritional problems.—In the past, the work of this office has consisted mostly of studies on pellagra, since

the control of this disease is an important problem in the United States. In addition to laboratory research, this office has held clinics, presented papers on pellagra to medical societies, and prepared exhibits for the dissemination of the new information acquired about this disease.

II. *The Office of Field Investigations of Child Hygiene* has made extensive field studies on large groups of children. The latest study now in progress includes details of nutritional status and correlates physicians' examinations, incidence of illness, with growth in height and weight and nutrition estimates on a group of about 5,000 school-children. This office, in co-operation with agencies in various States, undertakes investigations of growth, nutrition and health status of children in different areas of the United States. The results of some of the more recent of these studies indicate that, in a selected small city, the average weight of children in the years 1921-1927, as compared with May 1933, presents no consistent or statistically significant differences. Classification of children in three groups ((*a*) those from families of the unemployed, (*b*) those from families part-time employed and (*c*) those from families of the regularly employed) shows approximately the same differences in the weight of children as generally found in different socio-economic classes. It is concluded, therefore, that there has been no obliteration nor widening of class differences during the period of the depression.

A study of the relative change in height and weight during 1929-1933 of urban children from (1) families that remained in comfortable economic circumstances during the entire period, (2) families that remained poor and (3) families comfortable in 1929 but poor in 1933 shows that young children from families that had become poor failed by approximately 2% to attain the weight of the children of the group as a whole. The conclusion is drawn, so far as growth in weight of this sample of children from urban wage-earning families is concerned, that it is children from families whose incomes have fallen to a low level who have been affected by the economic depression.

A study of the diets of low-income families surveyed in 1933 in nine scattered localities in the United States, based on records of a week's food supply, indicates an average energy value of the food supply nearly 20% below the adequate standard of 3,000 calories per day per adult male unit for families in five cities with a weekly income of less than $2 per person, and about one-fourth of these families had less than 2,200 calories daily. The calorie supply was similarly low for families in New York City with incomes less than $4 weekly per person. Relief families, except those on work relief in New York City, had a higher average supply of calories than the poorest non-relief groups, but 25% in the five cities and 29% in New York had less than 2,200 calories per adult male unit. The average caloric value of the food supply of families at the lowest income levels in the other three communities equalled or exceeded the adequate standard, owing to the general use of large quantities of fat meat, flour or other cereal foods and sugar.

A greatly diminished use of milk, vegetables and fruits was associated with lower incomes in all the communities in the study. In the five cities, the average supply of milk purchased by families with income less than $2 *per capita* per week was one-third less than minimum requirements, and average amounts of fresh and canned vegetables and fruits were about equal to minimum needs. Bread and cereals were also used in smaller amounts than is recommended for a low-cost diet. On the other hand, amounts of meat and fish, eggs and sugary foods purchased, though less than amounts purchased by higher-income families, exceeded the quantities recommended for an adequate low-cost diet. The result was a dietary low in calcium and vitamins.

In New York City, the average dietary of the lowest-income families included adequate quantities of fresh and canned vegetables and minimum amounts of milk. However, the period of canvass in New York City extended later into the spring season than did that in the five cities. In these families which had a food supply with less caloric value than the minimum need, the use of such cheap high-caloric foods as bread and cereals, dried legumes and potatoes was less than is recommended for a low-cost diet.

The families in the mining towns of West Virginia and the cotton-mill villages of South Carolina whose weekly income was less than $2 per person purchased less than half the requirements for milk in a restricted diet and also used too little fruit. The average amount of fresh and canned vegetables reported by families in the mining towns was below minimum requirements, and that for mill-village families approximately equalled the minimum requirements.

In Birmingham, the food supply of the lowest-income families was deficient chiefly in milk.

The United States Public Health Service furnishes medical service for the Office of Indian Affairs of the Department of the Interior, and this office is attempting to improve the nutrition of the American Indian. Efforts are being made to give Indian children in boarding-schools and in day-schools a balanced ration in conformity with budgetary allotments. It has been observed that the Indian children in boarding-schools gain in weight and are physically much better after a sojourn in the school than at the time of arrival. It is believed that the boarding-school diets are largely responsible. The same thing is true of day-school pupils to whom hot lunches are furnished. Hot lunches are common throughout the Indian day-schools. The field personnel, as a part of the regular public health programme, stress the importance of nutrition and proper diet through their health educational work and the extension division is teaching Indian pupils to can and preserve foods, which is regarded as an important phase of the question and is being carried out on a large scale.

The problem of the Indian boarding-school is to provide food for optimal nutrition at a moderate cost. Usually adequate nutrition will be indicated by the normal growth of the children in weight and height,

the best index of good health and good nutrition during childhood. The fact that the Indian boarding-school feeds the children only ten months out of twelve must be considered when planning the diet. Many of the children report to school in poor physical condition. Cases of malnutrition are not unusual ; because too great a change in diet may cause illness when the children first come to school, they must be watched carefully during the period of adjustment and new foods added to the diet gradually. On the other hand, new foods may not be readily accepted by the children, and much educational work is necessary in carrying out the nutritional programme.

The Indian day-school has another problem, because, in the day-school, children have only the noon meal five times a week. Even greater care, therefore, must be taken in planning this meal, because the meals provided at home are often inadequate for growing children. The meals eaten at school must supply growth and protective foods to supplement the home diet, and should not be a repetition of foods eaten at home, even though the children may not accept new foods at once.

Enquiries into Family Expenditure on Food.

For more than forty years, the Department of Agriculture has concerned itself with the content, cost and nutritional adequacy of American diets. Information on family food expenditures and on food consumption patterns has also been collected by the Bureau of Labour Statistics and other public and private agencies. However, many of the studies made in the past are not useful in making a complete summary of food consumption, because the data have not been published in sufficient detail.

Estimates of consumption based on ten studies made during the period 1913-1933 have been analysed by Dr. Hazel K. Stiebeling, of the Bureau of Home Economics, and the results have been compared with a detailed analysis of seventy-three selected winter dietary records collected in 1934-35 in cities of the North Atlantic region. The latter are a part of a current nation-wide study of the disbursements of wage-earners and salaried workers, being conducted by the United States Bureau of Labor Statistics.

As part of its 1934-1936 investigation of the disbursements of families of wage-earners and low-salaried workers, the Cost of Living Division of the United States Bureau of Labor Statistics is collecting supervised weekly records of family food purchases. These records are being made at each season of the year in many cities scattered over the country. The primary purpose of the study is to secure data basic to the construction of satisfactory seasonal indexes of food costs. In order to make the data useful also for evaluating the economy and nutritional adequacy of the diets, the data include, in addition to records of food purchases, inventories of the food on hand at the beginning and end of the week, records of edible and non-edible waste, and information

regarding some of the factors affecting food habits and needs, such as income, food-buying procedures, occupation, as well as the number, age, sex, weight and height of persons consuming the food.

It is found that, with increasing *per capita* expenditures for food, the families studied in 1934-35 tend to buy more food, and more expensive food. The increases in the quantities purchased were most pronounced in the case of milk, meats, eggs, fruits and vegetables (other than potatoes and dried legumes). At the three expenditure levels studied in detail, about the same average prices were paid for milk, eggs, potatoes and dried legumes ; but at the higher expenditure levels more expensive forms, as well as larger quantities, were purchased of other vegetables, fruits, meats, fats, sweets and grain products.

The winter diets of wage-earner's families in the North Atlantic region were relatively lower in grain products, eggs and the succulent fruits and vegetables, according to a study made in 1935-36, than are the estimates of year-round consumption based on studies made during 1913-1933. More potatoes, dried legumes, citrus fruit and meat, poultry and fish were included in winter diets ; this might be expected, since these foods are usually cheaper in the winter than at other seasons. The consumption of milk, fats and sugars is quite comparable in the two sets of figures.

The nutritive value of the winter diets of North Atlantic wage-earners improved as expenditures for food increased. The more expensive diets had the higher vitamin and mineral values. But, if at each expenditure level the food was eaten in the proportions reported and in quantities just sufficient to satisfy energy requirements, the quality of the diets at the two lower expenditure levels would leave much to be desired. They would be comparatively low in minerals and vitamins, especially in calcium, and vitamins B and C, as judged by present knowledge of nutritional needs. Diets can be reinforced in these factors by careful food selection. To do so without adding to food expenses requires a knowledge of food values in relation to food prices.

Nutrition of Children.

In order to combat the effects of the economic depression on the health and welfare of children, the Secretary of Labour, in October 1933, convened a Child Health Recovery Conference. As a result of this conference, the Children's Bureau of the United States Department of Labour prepared a physical examination record blank, together with instructions for its use, which many communities used in their attempts to locate under-nourished children.

For more than two years the Children's Bureau has been accumulating from many sources evidence of various kinds—some statistical, some reports of small groups of cases, some opinions of individuals—tending to show that the depression is having a very real and increasingly severe effect on the health and nutrition of children.

It is, of course, obvious that the figures from one community are not necessarily applicable to another, and because the effects of privation are demonstrable in one region it does not necessarily mean that they exist in another. But the sum of the evidence at hand points to the fact that the nutritional condition of children in many communities is showing increasingly serious effects of the long periods of unemployment and want. Striking corroboration of this was given at the recent conference of State and provincial health officers of North America when replies to a questionnaire sent out by its child-hygiene committee were reported. These showed that twenty-two of thirty-nine State health officers considered the nutritional needs of children as the needs outstanding above all others.

A report issued in July 1933 gives the following indications as to the nutrition of children of school and pre-school age :

> " Reports of malnutrition among children of school age have come from a number of cities. The figures from New York City, as given in the *Weekly Bulletin* of the Department of Health for November 26th, 1932, supplemented by a personal communication from the city health commissioner, show an increase in malnutrition among schoolchildren in the Borough of Manhattan from 16% in 1929 to 29% in 1932, and an increase in the Borough of the Bronx from 13 to 23% during the same period."

In other words, the proportion of schoolchildren in these districts of New York City who showed malnutrition at the end of 1932 was nearly twice as high as the proportion four years before. More than 300,000 New York City children were examined each year. The percentage of malnutrition found in each of six consecutive years is shown in the following table :

	1927	1928	1929	1930	1931	1932
New York City .	13.5	13.6	13.4	16.1	17.0	21.1

Another example from the Community Health Centre of Philadelphia, where children coming under the care of certain Jewish welfare organisations are given careful physical examination, shows that, in this group, malnutrition has increased among children of school age (6 to 16 years) from an average of 30% of those examined from 1928 to 1930 to 42% of those examined in 1932.

Information with regard to the condition of pre-school children is no more encouraging. In New York City, the East Harlem Nursing and Health Service has reported that steady improvement in the nutrition of pre-school children attending its clinics took place from 1923 until 1931, at which time only about 13% of those examined were found to be under-nourished. During 1932, however, the amount of malnutrition doubled, and 24% of the children examined showed the effects of poor nutrition. The work has been under the direction of the same pediatricians since 1923.

In Philadelphia, among children under 6 years of age examined at the Community Health Centre, the percentage of malnourished children shows a definite rise—from 11% in the period 1928 to 1930 to 24% in 1932. In this age-group, there is an increase of more than 100% in the amount of malnutrition.

From even the fragmentary information available, it is probably quite safe to estimate that to-day somewhere in the neighbourhood of one-fifth of all pre-school and school children in the United States are showing the effects of poor nutrition, of inadequate housing, of lack of medical care, and, in many cases, the effect of the anxiety and the sense of insecurity that prevails wherever there is no work. In some regions, without question, the proportion of below-par children is far greater than this, reaching truly appalling figures ; in others, where conditions have been more favourable or where the effects of unemployment have been more satisfactorily mitigated through relief measures, the proportion is possibly lower.

At the present time, the Children's Bureau is conducting a study of the physical fitness of schoolchildren in New Haven, Connecticut. Its purpose is to attempt to compare and evaluate the various methods of estimating the physical fitness and nutritional condition of schoolchildren now in use by school physicians, nurses and teachers, or recommended for such use.

Education in Nutrition.

Public authorities have assumed major responsibility for an educational programme in nutrition. The Extension Service has a nutrition programme in every State, co-ordinated by a nutrition specialist from Washington working through the nutrition specialists in the States, and extended down into more than 1,350 counties through the home demonstration agents.

Nutrition is taught in the schools in a so-called " integrated " home economics programme in the lower grades and directly in junior and senior high schools. In many States, classes for mothers are an important form of adult education.

The Foods and Nutrition Division of the Bureau of Home Economics, and the home economics divisions of many State experimental stations and private institutions have conducted studies in human nutrition. The results of these studies have contributed largely to the development of educational programmes in wise food choice.

The American Red Cross has for many years had a nutrition programme. Under this agency, educational work in nutrition in different areas has been stimulated, and in some cases local chapters have made available nutrition workers for the local community. The American Child Health Association has stimulated both research and educational work in the field of child hygiene.

The Millbank Foundation and the Association for improving the Condition of the Poor in New York, the Elisabeth McCormick Memorial Fund in Chicago, and the Heller Foundation in California are examples of local foundations that have done both research and educational work in nutrition and have worked very closely with Governmental agencies.

Popular Instruction.

The Bureau of Home Economics of the Department of Agriculture publishes, not only technical bulletins reporting results of nutrition and diet studies, but popular bulletins which may be used directly or in modified form by individuals or organisations for educational work. Many of the States and private organisations prepare their own bulletins. In addition to the printed publications, a weekly news release known as *The Market Basket* is distributed to a number of newspapers in the various States. Radio talks are prepared and distributed to be broadcast from local stations, and a talk on nutrition is given weekly over a national network. Charts and film-strips are available for educational work.

The Children's Bureau has, since its establishment, distributed literature containing information as to the planning of adequate diets and the value of certain foods for pregnant women and for children. These publications include bulletins in which certain sections deal with diet during pregnancy, and with the feeding of the infant and child, as well as special pamphlets on milk and other foods and on nutrition. Large numbers of these publications have been distributed : " Prenatal Care ", 3,769,969 ; " Infant Care ", 8,478,780 ; " Child Care and the Child from 1 to 6 ", 3,114,619 ; " What is Malnutrition ? " 70,000 ; " Milk, the Indispensable Food for Children ", 31,000 ; " Why drink Milk ? " 365,000.

Other leaflets outlining adequate family food budgets have been prepared in co-operation with the Bureau of Home Economics of the United States Department of Agriculture. These leaflets deal with " Emergency Food Relief and Child Health ", " How to spend your Food Money ", " Family Food Budgets for the Use of Relief Agencies ". They are used chiefly by relief agencies and other social agencies working with children. A " Programme for an Undernourished Child, 2 to 16 Years of Age ", of which approximately 700,000 copies have been distributed, may be quoted by way of illustration :

" *Programme for an Under-nourished Child, 2 to 16 Years of Age.*

" The diet *must* include the following protective foods :

" *Milk.* — One quart of whole milk daily, either fresh or prepared by diluting evaporated or dried milk. To this *may* be added other

milk products, such as dried skim milk, cream and cheese. *Milk is indispensable in the child's diet.*

" *Butter.* — On bread or other foods.

" *Egg.* — One daily.

" *Vegetables.* — At least one serving daily of a green leafy vegetable and one serving of some other coloured vegetable : spinach, turnip-tops, beet-tops, cabbage, kale, chard ; carrots, green beans, peas, beets, tomatoes (fresh or canned, squash).

" Many vegetables may be used raw, such as cabbage, carrots (grated), lettuce, celery, watercress, tomatoes. Other vegetables, such as turnips, onions, parsnips, cauliflower, may be used, but not to the exclusion of green leafy or other coloured vegetables.

" *Fruit.* — At least one serving daily of a fresh fruit. Oranges, bananas, apples, or other fresh fruit in season. Cooked dried fruits, such as raisins, prunes, apricots and peaches, are valuable foods and should be used frequently in addition to fresh fruits. Other cooked fruits may be given.

" *Cod-liver oil.* — Two to four teaspoonfuls daily, especially in the north temperate zone.

" In addition, *other energy and body-building foods :*

" *Bread.* — Two or three times a day ; whole-grain bread at least once a day.

" *Cereals.* — Hot cooked cereal once or twice a day, served with milk or cream.

" *Starchy vegetables.* — Potatoes, sweet-potatoes, rice, barley, macaroni or hominy once a day.

" *Meat or fish.* — Fresh lean meat or fish once a day, if possible."

" The foods recommended for under-nourished children are the same for any age group ; but the older child, especially the child in his teens, needs larger quantities of each food than does the younger child. Under-nourished children of all ages should have a quart of milk ; children in their teens may drink more."

American National Red Cross Organised Activities in Nutrition.

In an effort to improve existing health conditions, to combat malnutrition, and to safeguard the physical welfare of the family, Red Cross Chapters conduct organised activities in nutrition. A Nutrition Consultant is maintained at national headquarters to whom Chapters may refer problems relating to these activities.

Nutrition Activities.

(*a*) Programmes in nutrition utilising the services of a well qualified nutritionist on a full-time or part-time paid basis are conducted as a part of a general health programme in a community. The type of nutrition work developed depends upon the health and nutritional needs of the community and Chapter funds.

(*b*) Food and nutrition classes are offered as short-time low-cost projects with an instructor authorised by national headquarters serving on a volunteer or paid basis. The instructor must be a graduate from an accredited school in home economics with satisfactory teaching experience. These classes provide practical instruction on adequate diets at minimum and moderate costs, the wise spending of food dollars, meal planning and the proper methods of preparing foods.

Nutrition in the Service Programmes of Red Cross Chapters.

Assistance is given by the Nutrition Consultant to public health nurses and home hygiene and care of the sick instructors, home service and civilian home service secretaries on effective ways of applying nutrition which will enable them to render a broader social and health service to their families.

Local home economists in Red Cross Chapters are invited to serve on such Chapter Committees as Nutrition, Disaster Preparedness, Home Service, Civilian Home Service and Canteen in an effort to further safeguard the health and nutrition of the families for whom the Chapter has assumed responsibility.

Uruguay.

The services of the Ministry of Health which deal with the problem of nutrition are the Department of Nutrition and Dietetics and the National Commission for Rational Nutrition.

Department of Nutrition and Dietetics.

Created in 1934, this Department is responsible for the organisation of rational nutrition throughout the ramifications of the Ministry's work, for establishing a national nutrition index based on data regarding various groups, classes and communities.

In the current year, the Department has reorganised the dietaries of the hospital services of the Public Health Department. In the first place, it laid down health rules for staff handling foodstuffs, for meal-times and for the standardisation of diets so as to harmonise the dietetic prescriptions with the practical resources of the kitchens and their staff. The good results of this work have already been noted at the Pasteur Hospital.

The Department is at present organising an enquiry to determine the nutrition coefficient of the country. For this purpose, it is preparing a family nutrition record card to be filled in with particulars as to total monthly income, the number of members of the family, and giving detailed daily menus.

The enquiry will, as the preliminary step, be confined to the capital ; the cards will be distributed to various official and private institutions having a large staff which will be instructed how to fill them in. Thus, in a short time, documentary material will be collected relating to at least 5% of the population of the capital.

The Department is also continuing the dietetic reorganisation begun at the Pasteur Hospital. When this has been terminated, all the hospital services of the Public Health Department will benefit by the results.

The Department is also preparing a publication on " Foodstuffs and Nutrition " which will be used as a textbook for the courses in nutrition and dietetics at the School of Social Service. This publication will be widely circulated and will thus assist the popular educational work undertaken by the Commission for Rational Nutrition.

National Commission for Rational Nutrition.

This organisation, which plays an active part in spreading knowledge of nutrition, has been attached to the Ministry of Pubilc Health. From April 1935, it has been in command of funds to enable it to carry out an extensive scheme covering various aspects of the problem of popular nutrition.

The Commission consists of an executive sub-committee, and an advisory sub-committee composed of experts in nutrition, national economy, agriculture, banking, etc., whose opinion is sought whenever any problem arises that comes within its technical competence.

The Commission has included the following points in its programme of action for the immediate future :

(*a*) Continuation of popular education in the principles of rational nutrition ;

(*b*) Effective participation of the Ministry of Public Health in the control of milk and in the organisation of similar services prescribed in the organic law concerning the inspection of foodstuffs.

Research Work.

In the domain of science, there has been established in the Ministry of Health a Laboratory for biological research in matters of nutrition ; in this Laboratory, which is attached to the Commission on Rational Nutrition, the scientists of the country continue their fundamental and permanent work of determining the composition and nutrient value

of national products, the knowledge of which is becoming gradually more complete, and also carry out researches to serve as the basis of technical improvements for the benefit of the whole community. The Laboratory has already published data connected with experiments concerning " Poisonous Varieties of Mushrooms in Uruguay ", the " Influence of Vitamin A on the Growth of the Fur of White Rats ", the " Action of Diphtheria Toxin on Vitamin C of the Tissues ", " Hypervitaminosis A ", the " Pathology of Equine Scurvy ", the " Vitamin C Content of Foodstuffs in Uruguay ", " Vitamin C in the Diet of Infants ".

It is intended to publish during the year a first series of results obtained in connection with the " Chemical Composition of Foodstuffs ". The Laboratory will continue its research work in the various branches of experimental dietetics, in particular " Vitamins ", " Avitaminosis ", " Fluorisis ", the " PH of the Soil and Vegetable Growth ", the " Nutrient Value of Cereals and Native Vegetables ", etc. The plan to attach an experimental kitchen to the Laboratory as an important adjunct to dietetical research will also be carried out this year. At present, consideration is being given to the possibility of using the technical services of the Agronomic Section of the Ministry of Public Health with a view to improving equipment and alimentary products in public health establishments.

Education.

Educational propaganda has been conducted with a view to inculcating into the population definite ideas on a properly balanced dietary and the necessity for consuming, in addition to protein foods, such as meat—of which the country has ample supplies—also vegetables, fruits, etc. The propaganda pamphlets issued by the Commission for Rational Nutrition and the important nutrition exhibitions and various series of lectures which are broadcast every year throughout the country are of importance in this connection.

In 1935, the Official Broadcasting Service organised two series of lectures on modern problems connected with the nutrition of infants and schoolchildren, the rôle played by fruits and vegetables in human nutrition, the pasteurising and hygienic preservation of milk, nutrition and physical development, etc.

In educational circles, future schoolmistresses are required under the regulations to follow a course of domestic economy, which includes theoretical and practical lessons on the composition of foodstuffs and their preparation ; these courses are given by trained teachers. Lessons on the preparation and food value of a standard bill of fare are also included in the curriculum of a number of private schools.

The School of Rational and Economic Dietetics gives mothers theoretical and practical training in the preparation of foodstuffs and their composition at the milk dispensaries in various parts of the capital ;

this training is in the charge of a specialised woman dietician. Similar courses, with the same educational objects, are also given by the Uruguayan Red Cross and a number of private institutions.

In 1936, at the School of Social Service, a course on nutrition and dietetics for nurses was begun. In the first year, lectures will be given concerning the composition and properties of foodstuffs and the general preparation of dietaries ; in the second year, the students will study special dietetics. This course is accompanied by numerous practical demonstrations and the lectures are given by the technical members of the Commission on Nutrition.

Popular Instruction.

Propaganda compaigns have been organised to encourage the consumption of Uruguayan fruit and honey.

The third " People's Nutrition Exhibition " is being prepared. This exhibition, as in previous years, will be a demonstration of the country's resources in the production of natural and prepared foodstuffs, and will also provide an excellent opportunity for disseminating the essential principles of rational nutrition.

Yugoslavia.

Research.

There is a special State organisation in Yugoslavia in connection with public health which covers all questions of hygiene and medico-social problems. The public health institutes and institutions are engaged on a thorough study of all these questions.

Statistical material with regard to nutrition is assembled by the Central Health Institute at Belgrade, the Public Health School at Zagreb and other public health institutions. The material is derived from direct enquiries by special experts regularly visiting the homes of the rural population, or is based on the reports of reliable observers (schoolmasters or peasants) instructed to note daily the dietary standard in each house in the villages.

Education.

The domestic economy schools in the country for women and young girls are founded and maintained by the Ministry of Public Instruction and by a number of private women's associations, by the Central Health Institute at Belgrade, the Public Health School at Zagreb and other public health institutions throughout the country.

The teaching staff for such schools and courses are trained at the higher domestic economy school at Stari Futog, which is attended by eighty students. There are 497 domestic economy schools and courses, all permanent. Many of them are maintained by the State, while a

smaller number are maintained by the banovines. There are also travelling courses, where the municipalities ask for them; the municipalities in such cases have to take a share in their maintenance. In 1935, in the different banovines, there were 104 courses of this kind with 2,333 pupils. There are also a considerable number of private schools and courses of domestic economy.

Popular Instruction.

Permanent health exhibitions have been organised at the health institutes of Zagreb and Belgrade, and there are similar exhibitions also in the fifty public health institutions. They are of an itinerant nature and move from village to village, carrying an ample supply of propaganda material in favour or rational nutrition. They are well attended; all schoolchildren and soldiers are required to visit them.

The Yugoslav Temperance Association organises "fruit weeks" every year in towns of a certain size, during which propaganda is carried on to encourage the consumption of fruit.

REPORT OF THE SUB-COMMITTEE ON FOOD STATISTICS OF THE MIXED COMMITTEE ON THE PROBLEM OF NUTRITION.

General Remarks

In accordance with the decision taken by the Mixed Committee on the Problem of Nutrition at its first session in February 1936, the Sub-Committee on Food Statistics held a meeting at the International Institute of Agriculture, Rome, on March 13th to 16th, 1936, under the Chairmanship of M. J. J. L. van Rijn.

The purpose of the meeting was :

(*a*) To enable the Mixed Committee on the Problem of Nutrition to obtain as clear a picture as possible of the statistical material available on the production, human consumption and prices, including the trends in recent years, of foodstuffs (cereals, sugar, milk and other dairy products, meat, poultry and eggs, fresh vegetables and fruit), with special reference to the " protective " foods ;

(*b*) To suggest the directions in which Governments should be urged to improve their statistical information in this field.

The Sub-Committee also discussed the collection of data concerning the extent and purpose of the financial assistance received by national agriculture directly or indirectly from Governments and/or other public authorities.

REPORT.

The Sub-Committee considered the moment opportune for drawing attention to statistics of food consumption and for stimulating the interest of Governments in view of the fact that, during the year, both the annual Conference of the International Labour Organisation, the Assembly of the League of Nations and the General Assembly of the International Institute of Agriculture would discuss questions of nutrition in relation to agriculture. Moreover, the meeting of representatives of Government statistical services, which the International Institute of Agriculture proposes to call this year for the purpose of preparing for the World Agricultural Census of 1940, might provide the means of taking practical steps towards realising some of the measures proposed in this report.

The Sub-Committee decided to exclude from its consideration, at this stage, the position in Asiatic and tropical countries.

Food Supply Statistics.

The Sub-Committee considered for each of the principal groups of products the available statistics of production, of imports and exports, of stocks, of supplies used for purposes of non-human consumption, and also the information available from household budget enquiries as to the actual quantities of food purchased for household consumption. In view of the difficulties encountered in obtaining the quantities of certain foodstuffs actually used, the Sub-Committee recognised that household budget enquiries had considerable value in supplementing and correcting the information available from statistics of national production and trade. Such enquiries form, moreover, the only means of showing how food consumption varies in different social classes of the community. The Sub-Committee therefore hopes that the International Labour Office will continue to make available the results of such enquiries and to urge Governments which have not conducted such enquiries in recent years to do so.

Cereals.

It was considered that production statistics for cereals were fairly complete and reliable. Consumption statistics, on the other hand, were very difficult to obtain. They can, in some cases, however, be obtained from production, trade and stocks figures, after allowance has been made for quantities utilised for seed and animal feeding. Of these items, statistics for stocks are not, in most cases, available, though it can be said that, in recent years, there has been some improvement in the collection of these data. Another difficulty is the uncertainty as to the quantity fed to animals, which varies greatly as between different countries and from one year to another.

It was recognised that a more solid basis for estimating human consumption of cereals might be provided by adequate milling statistics. As a general rule, these statistics are not at present sufficiently complete, while in many countries they are not available.

The Sub-Committee came to the decision that the Governments of countries in which statistics of cereal stocks and production of flour are not collected should be urged to compile them, while those which do compile such statistics already might be asked to improve them and to make them more regular and comprehensive.

The Sub-Committee's attention was drawn to the fact that an exhaustive report on human consumption of wheat had been prepared by the International Wheat Advisory Committee.

Sugar.

The available data on production, imports and exports of sugar are, apart from some gaps in the figures of stocks, sufficiently accurate and complete in most countries to provide a satisfactory basis for estimating human consumption.

Milk.

The statistics of milk production were recognised to be very unsatisfactory. Very few countries possess regular annual data of milk production, and the reliability of these data is often doubtful, as the total production figures are normally arrived at indirectly from the number of milk cows and the estimated average yield per cow.

The absence of adequate production statistics makes estimates of national consumption of milk in most cases impossible. A basis for judging the trend to consumption may, however, be obtained from the quantities entering certain towns, and the Sub-Committee expressed the desire that, in order to supplement national consumption data, an attempt should be made to make use of such data. At the same time, Governments should be urged to collect or to improve their national statistics of milk production and consumption.

As regards condensed milk, statistical data of production and consumption can be obtained fairly easily, as factory output and exports can be ascertained reasonably closely and the countries where this commodity is produced in substantial quantities are few in number. It is, however, desirable to ascertain whether there are other countries which are of importance as condensed-milk producers and for which statistics are at present lacking or incomplete.

Other Dairy Products.

For butter and cheese, the statistical position is somewhat better than for milk, because data on production exist for a larger number of important producing countries. However, statistics are not always comprehensive, since, in many cases, they do not include production on farms, but are confined to factory production or to co-operative dairies. Improvements in the statistical data collected by the Governments are considered highly desirable in this branch, in view of the great importance of these products.

Meat.

The technical difficulties of a statistical study of the production and consumption of meat were discussed. It was agreed that a starting-point for estimating production could be found in slaughter-house statistics, but that it would be necessary to have uniform data, not only for the numbers of animals slaughtered, but also for the actual weight of meat produced. Moreover, slaughter-house statistics should be supplemented by reliable estimates of other slaughterings. It was considered desirable to urge Governments to improve their collection of meat production statistics in this sense, or to start collecting them where they are not at present available. For this purpose, it would be useful to furnish Governments with examples of the methods adopted in countries where these statistics are best organised.

Poultry and Eggs.

Regular statistics of poultry and egg production exist in very few countries. The chief difficulty in compiling statistics of this branch of production arises out of the small-scale character of a large proportion of the poultry industry.

At the same time, the importance of this rapidly growing branch of production is such that an improvement in its statistics is considered highly desirable.

Vegetables.

The statistics of potato production may be considered fairly complete and accurate, but they cannot supply a reliable basis for estimating human consumption, because the quantities used for feeding to animals and for industrial uses vary greatly according to countries and from year to year.

For fresh vegetables in general, the difficulty of obtaining complete statistics of production was recognised to be particularly great owing to the large quantities grown in small home gardens and allotments.

In the case of some products, such as onions and tomatoes, for which there exist sufficiently complete production statistics for several important producing countries, the position is somewhat better. For other vegetables, a possibility of approximately estimating the trends of consumption can be found in the use of municipal data on quantities brought to market in some large cities.

Fruit.

For those fruits, such a citrous fruits or bananas, for which most European countries depend upon imports, trade figures supply a satisfactory basis for estimating actual consumption. For other fruits, such as apples, pears, etc., there exist only scattered data of very unequal value.

For apples, in the case of those countries whose exports represent a substantial part of total production, the trend of production can be obtained from the trade figures.

In recent years, a certain improvement in fruit production statistics has been noted in some countries, and, though the special difficulty of compiling these statistics is recognised, the Sub-Committee considered it highly desirable that this example should be followed by other countries.

Prices.

It was agreed that statistics of prices, particularly of those relating to the productive foods, should be collected and studied. These prices should be related as far as possible to the trends during recent years in various countries, including changes in production and consumption. A comparison of wholesale and retail prices should also be made both nationally and for the principal importing countries.

Financial Assistance to Agriculture.

The Sub-Committee discussed the desirability of a study of the financial aspects of the various measures of assistance received by agriculture in different countries and of the effects of such measures upon the development of the production, imports and exports of foods in the countries concerned. Such a study was considered very useful and the Sub-Committee recommended that it should be undertaken.

Conclusions : Requests to the International Institute of Agriculture.

In conclusion, the Sub-Committee decided to ask the International Institute of Agriculture : [1]

(*a*) To furnish such information as exists on the consumption of cereals, sugar, meat, milk and other dairy products, poultry and eggs, fresh vegetables and fruit ;

(*b*) To show as far as possible the trends of production, consumption and prices of these products in those countries for which reasonably complete statistics are available ;

(*c*) To obtain municipal data on the quantities of milk and fresh vegetables entering certain large cities and to utilise these data to supplement the information referred to under (*a*) and (*b*) ;

(*d*) To continue its established policy of improving agricultural statistics, giving special attention to the deficiencies in the material now available on the protective foods, and to draw the attention of each Government to the particular directions in which improvement is desirable ;

(*e*) To collect data bearing on the financial aspects of the assistance received by the national agriculture of various countries and on the effects of such assistance on the production, imports and exports of foods ;

(*f*) To collect and study wholesale and retail prices, particularly of the protective foods, and to relate such price data to the trends in production and consumption in various countries.

* * *

Annex.

MEMORANDUM BY THE CHAIRMAN ON THE NEED FOR INVESTIGATING THE EFFECTS OF A WIDESPREAD IMPROVEMENT OF POPULAR NUTRITION UPON THE DEMAND FOR AGRICULTURAL PRODUCTS.

During the discussions in the Sub-Committee, the question was raised whether an attempt should not be made to indicate by a few

[1] The results of the enquiries undertaken in accordance with these requests are contained in Volume IV of the report of the Mixed Committee entitled, "Statistics of Food Production, Consumption and Prices."

examples the extent to which the demand for agricultural products might be increased, if it were found possible to effect improvements in nutrition on the lines advocated by the hygienist and the physiologist. From the hygienic standpoint, it should not be difficult to convince the authorities in the different countries of the great social importance of improvements in nutrition, alike for Governments and for the great mass of the population.

From an economic standpoint, it appeared desirable that a connection should be established between the movement which the League of Nations desires to organise and the agricultural departments and associations in the different countries.

The Sub-Committee's report indicates the statistical information which is available and which might be introduced into the Mixed Committee's preliminary report, and formulates recommendations to be made by the League to the Governments and to municipal authorities for the improvement and completion of their statistics, particularly as regards the production and the consumption of protective foods.

The Sub-Committee was unanimously of opinion that it is highly important that certain statistical information should be collected, having reference to the probable consequences of an improvement in nutrition on the demand for agricultural food products. In present conditions, it is, as a matter of fact, impossible for the time being to give a complete and accurate statistical picture in this regard, or to consider the question from a world point of view. It is, however, believed to be possible to present certain illustrations indicating the probable increase in demand which would follow on the adoption of an optimum regime of nutrition by the majority of the population in different countries. If it were successfully demonstrated to all who are principally interested in an increase in the demands for agricultural, horticultural, animal and dairy products, how and to what degree an improved nutrition would in the end lead to an increase in consumption and therefore to an increase in demand for such products, the collaboration alike of agricultural authorities, of farmers and of the rural population would be ensured. Such collaboration would be beneficial, not only from the moral as also the social standpoint, but also in view of propaganda for better feeding in the rural areas.

Such are the reasons which have led the Sub-Committee to request the International Institute of Agriculture to add a special appendix on this subject to the statistical information to be supplied by the Institute to the Mixed Committee. To this end, an endeavour should be made to select two or more countries as to which the documentation available is sufficient to make it possible to arrive at a satisfactory conclusion. It is considered that, in addition to statistical documentation on production, consumption and stocks, a valuable source of information is to be found in the information on family budgets for certain groups of consumers collected by the International Labour Office.

Fruit Preserves.

It has also been considered that it might be desirable to investigate the question to what extent fresh fruits are converted into the form of jams and marmalades, for it has been suggested that, by such conversion, it is possible that the protective value of the fruits may be destroyed. The Institute will endeavour to obtain some information on this subject.

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