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#### LEAGUE OF NATIONS

# ANNUAL REPORT

#### OF THE

# HEALTH ORGANISATION

# FOR 1929

The present report describes the work of the Health Organisation of the League of Nations during 1929, and is the fifth of a series prepared by the Health Section to give effect to a resolution adopted by the Health Committee in April 1925.

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#### Chapter I.

#### I. INTRODUCTION.

Requests for collaboration on specified subjects in connection with public health have been addressed to the League by various Governments in the past.

For the first time in 1929, the technical resources at the disposal of the Health Organisation, together with the experience gained and the information accumulated since its inception, were made available at the request of Governments to formulate a plan for the reorganisation of their health services <sup>1</sup>. The first task of this kind undertaken was in Greece. The enquiries which preceded the drawing up of the final plan occupied the first four months

of the year, during which time the members of the Commission whose services were placed at the disposal of the Greek Government, together with the Director and members of the Health Section

and the experts who accompanied them, visited various parts of Greece to study local conditions. During the year the Health Ministry of the National Government of the Republic of China invited the Medical Director to become a member of an International Committee of Technical Advisers, and in September 1929 an official request was received from that Government asking that a Committee of Experts from the Health Organisation should visit China to make a survey of health conditions in the ports and of maritime quarantine. Accordingly, in October the Medical Director, accompanied by a member of the Section, proceeded to China to consider with the competent authorities a scheme for co-operation between the Chinese Ministry of Health and the Health Organisation.

The assistance of the Health Organisation has also been sought by the Government of Bolivia in the reorganisation of the health services of that country

In March the Radiological Sub-Committee of the Cancer Commission met in Geneva and adopted proposals for the compilation of accurate statistics and for the organisation of a campaign against cancer of the uterus.

A report has been printed describing the methods of treatment used in three important Radiological Clinics at Paris, Munich and Stockholm and containing recommendations as to treatment for the guidance of other clinics.

During the same month, the Expert Committee on Infant Welfare met at Rome and prepared a report in which were summarised the general principles which had emerged from the enquiry into infant mortality in the European countries.

The Commission of Expert Statisticians held their second session at Berlin at the beginning of April. Among the matters considered were: preparation for the fourth revision of the International List of Causes of Death, uniform definition of still-birth, morbidity statistics, statistics concerning the results of vaccination by BCG.

Later in April the Joint Commission, comprising members nominated by the International Institute of Statistics and by the Health Organisation, met in Paris and, after consideration of the replies from Governments, prepared three revised draft lists of causes of death for the consideration of the International Conference.

An interchange for the study of industrial hygiene began at Lyons on April 3rd and terminated at Lucerne on May 10th, after visiting important industrial centres in Northern Italy, Bavaria and Switzerland. This interchange was organised jointly by the International Labour Office and the Health Organisation.

The Sub-Commission on Social Medicine of the Mixed Committee for the Study of the Relationship between Health Insurance Associations and Health Administrations made a tour in April to study the methods of co-operation between health services and insurance institutions in Germany and Austria.

The Health Organisation held a session at Geneva from May 2nd to 8th, which was followed by a meeting of the Office international d'Hygiène publique in Paris from May 13th to 23rd.

The Commission on the Fumigation of Ships met in Paris on May 15th and discussed the information and programme of studies presented by its President.

In June, an interchange for the study of the problems of rural hygiene began at Copenhagen. Rural districts in Denmark and the Netherlands were included in the tour, which ended at The Hague with a Conference on July 9th.

In the early part of July a number of experts were called together in Paris to prepare a plan

of future investigations into specific immunisation against scarlet fever and diphtheria. Malaria courses were organised in Hamburg, London, Paris and Rome. Scholarships for the courses were offered by the Health Organisation to a number of medical officers nominated by their health administrations.

<sup>1</sup> Bolivia, China, Greece.

On the invitation of the Government a delegation of the Malaria Commission sailed for India in August. A comprehensive programme of study was carried through, terminating on December 28th.

In September a consultation of Scandinavian Experts on tuberculosis met in Copenhagen, when a discussion took place regarding the mortality from tuberculosis in their respective countries, and the efforts made to combat the disease were explained.

#### II. COUNCIL DECISIONS ON THE WORK OF THE HEALTH ORGANISATION.

During the fifty-fourth session the Secretary-General informed the Council that the Minister of Health in the National Government of the Republic of China had invited the Medical Director to become a member of an International Advisory Council of Three whose duty it would be to advise the Chinese Minister of Health as occasion demanded. The invitation expressed the hope that the Medical Director would be able to accept an invitation to visit China in the near future.

The Council expressed its approval of the action of the Secretary-General in authorising the Medical Director to accept this invitation.

At its fifty-fifth session the Council accepted with thanks a gift of \$500 from Mr. James Forstall towards the expenses of the Eastern Bureau of the Health Organisation.

At this session, the Council approved a report on the work of the Health Organisation during its fourteenth session. The report dealt with various activities of the Health Organisation. In regard to sleeping-sickness, the Council noted that the assistance of the Health Organisation had been made available for the Administrations of African possessions in their work of safeguarding human life in Africa.

The Council expressed its pleasure that the enquiry into the causes of infantile mortality had been completed in the European countries, where it was undertaken, and had yielded results of particular importance to the various health administrations.

Reference was made to the recommendation that the health administrations of other countries should be invited to undertake similar studies and to the fact that these studies had been concluded in Brazil and were being carried out in Argentine, Chile and Uruguay.

The Council noted with satisfaction that the plan for the sanitary reorganisation of Greece framed by the Health Organisation at the request of the Greek Government had been adopted by that Government, and invited the Health Organisation, in conformity with the Council resolution of December 1928, and in accordance with the desire expressed by the Prime Minister of the Greek Republic on April 18th, 1929, to offer all its technical assistance for the subsequent development of the plan.

At its fifty-sixth session the Council accepted the grant made by the International Health Division of the Rockefeller Foundation to the Health Organisation for the period 1930-1934, and expressed its thanks to the Foundation.

At this session, the Council decided to forward to the Health Organisation for examination and report the letter of the Belgian Government concerning the establishment of an international organisation for the unification of pharmacopœiæ.

The Council had also before it a letter from the President of the Republic of Bolivia requesting the assistance of the Health Organisation in the reorganisation of the sanitary services of his country. The Health Organisation was invited by the Council to assist the Bolivian Government in the preparation of a plan for this work as well as in its later development.

The Council further complied with the request of the President of the Health Organisation that a Portuguese expert be attached to the Committee which is co-ordinating sleeping-sickness investigations.

At its fifty-seventh session the Council extended the term of office of the members of the Health Organisation for six months from January 1st, 1930.

At this session, with a representative of China present, the Council adopted the report of M. Quiñones de León concerning the request of the National Government of the Republic of China for a Commission of Experts from the Health Organisation to visit China to make a survey on health conditions in the ports and maritime quarantine. In accepting this request, members of the Council expressed their satisfaction at learning of the establishment of co-operation between the National Government of China and the Health Organisation.

#### III. DECISIONS OF THE ASSEMBLY ON THE WORK OF THE HEALTH ORGANISATION.

M. Fierlinger, Rapporteur for health questions to the Second Committee of the Tenth Assembly, referred in his report to the generous assistance given by the Rockefeller Foundation. He told the Committee that a new agreement had been concluded by which the Foundation would place at the disposal of the Health Organisation for a period of five years from January 1st, 1930, an annual

subvention equal to the total already granted to the Organisation in a given year. He went on to point out the progress realised in international co-operation in health matters, and gave various examples from the work done by the Organisation, drawing the Committee's attention to the fact that States Members of the League were now making requests for collaboration with the Health Organisation. These requests, however, caused increased demands on the budget, and he proposed to ask for supplementary credits.

he proposed to ask for supplementary credits. During the discussion which followed, the proposal for supplementary credits was fully approved. Speakers referred to specific aspects of the work of the Organisation in which their countries took a particular interest, and several definite proposals were made. The Japanese delegate, in discussing the relations established between the Health Organisation and Far-Eastern countries, requested that a study-tour might be organised, to be attended by doctors in the quarantine service of the principal Eastern ports. The Indian delegate said that infant mortality was a grave problem in his country and his Government intended to have the question studied with the help of the Health Organisation. The delegates of the Irish Free State and of Italy referred particularly to the work on rural hygiene, and the Italian delegate hoped that it might be possible to establish close relations with the International Institute of Agriculture. The Roumanian delegate proposed the creation of an international institute to study the physical, intellectual and moral development of children in all countries. The French delegate proposed that the Health Organisation should undertake to codify the results obtained in all countries through health instruction and that it should study the problems raised by influenza, which had caused such serious epidemics.

The Second Committee adopted the following resolution, which was subsequently approved by the Assembly (see Report of the Second Committee, document A.67.1929.III):

" The Assembly:

"Notes with satisfaction the results achieved by the policy, which the Health Organisation has persistently followed, of concentrating on certain well-defined branches of international public health;

"It notes, in particular, that the Health Organisation systematically draws practical conclusions from the comparison of national experiences and places those conclusions at the disposal of Governments;

"It desires to express its appreciation to the health administrations of the different countries as well as to the members of the Health Organisation and to the experts who have contributed to this work;

"It considers that the Health Organisation is pursuing, from an international point of view, a work of great importance by co-operating and consulting with national health administrations in the different continents;

"It approves the work carried out by the Health Organisation since the last Assembly;

"Takes note of the work of the Health Organisation in Latin America and in the Far East; which necessitates the provision of supplementary credits; and

"Approves the budget estimates relating thereto which have been placed before it."

On the report of the Fourth Committee, the Assembly also agreed to the request for supplementary credits for liaison with Latin America and for technical enquiries in the Far East. Mention was made of the Health Organisation in the report of the Fifth Committee concerning the traffic in opium and other dangerous drugs. The Assembly decided that the report of the Advisory Committee on the Traffic in Opium and other Dangerous Drugs " will be submitted to the Council, which will decide on the convening of a Conference of the Governments, in whose countries the drugs are manufactured, and of the principal consuming countries in a number not exceeding that of the manufacturing countries, and whether certain experts proposed by the Opium and the Health Committees should be included ".

#### Chapter II.

# I. THE SERVICE OF EPIDEMIOLOGICAL INTELLIGENCE AND PUBLIC HEALTH STATISTICS.

#### A. GENEVA.

During the year, the demand for copies of the *Weekly Record* has increased. The *Record* is now appearing in an enlarged form and the subject-matter is somewhat differently arranged. The first pages are devoted to the communiqué received each week from the Director of the Office international d'Hygiène publique. This communiqué contains a comprehensive statement of information received under Articles I, 2 and 4 of the International Sanitary Convention 1926, together with information concerning rodent plague, miscellaneous intelligence items and a list showing for ports the date of the last case, notified during the month preceding the communiqué, of plague, cholera, yellow fever, typhus and smallpox.

The pages which follow contain a summary of information received during the week by the Health Section. This summary takes the form of a short description of the epidemic situation of those diseases which are of primary importance at the time in the countries in respect of which information is available.

During the year the situation in regard to influenza, poliomyelitis, cerebro-spinal meningitis, and encephalitis lethargica in Japan has been especially described in many successive issues of the *Record*. Short descriptions of the position in regard to malaria and of psittacosis have also appeared.

The last pages of the *Record* contain the information received by telegraph from the Eastern Bureau at Singapore.

In addition to the *Weekly Record* daily reports have been issued. During the influenza epidemic the information received was of such importance as to warrant the issue of a report each day until February 19th. Subsequently special reports have been issued somewhat less frequently to supplement the *Weekly Record* when the nature and importance of the information received has made this necessary.

Up to the beginning of December direct telegraphic information was received weekly from the Regional Bureau at Alexandria and inserted in the *Weekly Record*. Since that date, the information has been communicated direct to the Eastern Bureau at Singapore.

The Monthly Epidemiological Report has, during the year, contained a number of articles devoted to the more important communicable diseases: enteric fever, diphtheria, scarlet fever (2), smallpox (2) and typhus.

In addition, an extensive bibliography has been added.

At periodic intervals the epidemiological situation in relation to the so-called dangerous infectious diseases has been reviewed.

The development of the monthly report along these lines makes it possible to limit the matter contained in the *Annual Epidemiological Report* to statistical tables.

These are sent to the various health administrations and statistical departments for correction before publication.

#### B. EASTERN BUREAU AT SINGAPORE.

#### Intelligence Service.

The Intelligence Service has shown further development during 1929 as evidenced by the increase in the amount of information collected and distributed.

Two additional ports have been added to the list from which information is received, namely, Baghdad and Vladivostock. It should be mentioned, however, that the list of ports published in the *Weekly Fasciculus* of the Eastern Bureau does not include some of minor importance which also send telegraphic information, the total now being 145.

The actual position is that the occurrence of grave infectious diseases in any of the ports (except certain Chinese ports) within the zone of the Bureau is notified telegraphically. In regard to these the position has improved as a result of the study of port services made by the Health Organisation on the request of the National Government of China.

Information in regard to Particular Diseases.

1. Cerebro-spinal Meningitis. — The outbreak of this disease at Shanghai in 1929 led to an enquiry regarding the possible spread of the disease to other ports, and inclusion of the information so obtained in the weekly broadcast.

2. Epidemic Encephalitis. — The position in regard to this disease in Japan was reported in the weekly cables received from the Central Sanitary Bureau, Tokio, from the commencement of the outbreak in September.

3. Plague, Cholera and Smallpox. — The number of cases and deaths in various Indian provinces has been communicated weekly through the Office of the Public Health Commissioner for India.

4. Information received by Post. — There has been an improvement in the regularity with which postal returns from health administrations have been received, which has facilitated the compiling of information.

Thirty-two countries 1 are now sending, for their whole area, information regarding the epidemiological situation.

5. Distribution of Epidemiological Intelligence by Wireless Broadcasts. - There has been no change in the number of broadcasting stations 2, messages from which are being regularly picked up by thirty health administrations.

Since March 1929, a summary in clear of infectious diseases and quarantine notifications from ports within seven days' steaming from Hong-Kong has been broadcast from Cape d'Aguilar station. The International Office of the Telegraphic Union, Berne, has agreed to enter in the next issue of the "List of Stations performing Special Services", under a new sub-heading, namely, "Epidemiological Intelligence", the names of the wireless stations broadcasting the Singapore message in clear.<sup>3</sup>

Information received from ships' captains and ships' surgeons indicates that it is desirable:

I. That the summary in clear should include information as to the number of cases and deaths from plague, cholera or smallpox in infected ports;

2. A complete list of ports, against which quarantine measures are actually in force, should be given;

3. The broadcast should be sent so that every ship may be able to pick it up.

Compliance with the second of these suggestions is not always possible, as various Eastern ports do not issue quarantine notifications against foreign ports.

#### Ships having on board Patients with Infectious Diseases.

It was possible in thirty-seven instances to telegraph to the next port of call advising the arrival of a steamer on which a major infectious disease had occurred.

During the year 174 ships have notified the presence of infectious disease on board. In 64 instances the disease was smallpox; in 31 chickenpox; and in 27 cholera.

#### Functions as a Regional Bureau under the Terms of the International Sanitary Convention, 1926.

During the year New Caledonia and dependencies signified their intention of becoming associated with the Bureau for the purposes of the Convention. Reciprocal arrangements for the supply of notifications under the Convention have also been made with the health administrations of the Union of South Africa, Tanganyika and Ceylon.

#### Co-ordination of Medical Research Work in the Far East.

I. Use of Dry Smallpox Vaccine. -- Information which has been collected on the use of this form of vaccine indicates that satisfactory results have been obtained in a number of countries (eleven in number)<sup>4</sup> where it has been tried, but that others found it unsuitable.

<sup>1</sup> Anglo-Egyptian Sudan,	Iraq,	New
Austral-Pacific Zone,	Japan,	Nor
Australia,	Nyasaland,	Joh
British Somaliland,	Kedah,	Pan
Ceylon,	Kelantan,	Pers
Egypt,	Kenya,	Phil
Federated Malay States,	Korea,	Sha
Formosa,	Kwantung Leased Territory and	Siar
French Indo-China,	South Manchurian Railway Zone,	Stra
Hong-Kong,	Madagascar,	Tan
India,	Netherlands East Indies,	Uni

Zealand, th Manchuria, ore. ama Canal Zone, lippine Islands, nghai, its Settlements, ganyika. on of South Africa.

<sup>2</sup> Antanararivo (Madagascar), Karachi, Malabar (Java), Nauen, Saigon.
<sup>3</sup> Hong-Kong, Karachi, Madras, Malabar, Sandakan, Shanghai, Tokio.
<sup>4</sup> Angola, Belgian Congo, China, French Equatorial Africa, French India, French Indo-China, French Somaliland, Mozambique, Netherlands East Indies, Philippine Islands, Portuguese India.

A point in its favour which medical officers strongly emphasise is that, if kept in vacuo, it remains potent indefinitely.

2. Plague. — Professor K. Ishiwara, Chief of the Plague Division, Government Institute for Infectious Diseases, Tokio, has been appointed a member of the Plague Expert Commission. Experimental work on the susceptibility of local rats to plague is to be carried out by

Dr. Gilmour, Municipal Bacteriologist, Singapore.

Copies of the plague number of the National Medical Journal of China (June 1929) containing a report on an expedition into the plague focus of Tungliao as well as clinical and laboratory observations made there by the staff of the Manchurian Plague Prevention Service have been transmitted to members of the Expert Commission.

Bacteriophage. - The results obtained by various workers with bacteriophage strains isolated by Dr. d'Herelle and Lt.-Col. Morison have been collected in the form of a note, which also gives an outline of the present position.

#### Risk of Accidental Spread of Yellow Fever in the East.

Information has been received from the Philippine Islands, Japan, Formosa, Siam, Federated Malay States, Straits Settlements and Indo-China that it is not intended to undertake experimental work on the virus of yellow fever.

It is understood that the Government of the Netherlands East Indies proposes to prohibit the importation and possession of any material containing this virus.

#### Action by the Health Organisation.

The Far-Eastern Commission during the fourteenth session of the Health Organisation in May 1929 considered the Minutes of the fourth session of the Advisory Council and the annual report of the Director for 1928. The Commission approved the resolutions adopted by the Advisory Council and expressed appreciation of the action of those countries which had continued their financial contributions towards the upkeep of the Bureau. It suggested that Mr. Forstall's donation of 500 gold dollars be devoted to some special object of research in which the Bureau is interested. The Health Organisation subsequently adopted the following resolution:

"The Health Organisation approves the report of its Far-Eastern Commission and the resolutions adopted by the Advisory Council of the Eastern Bureau at its fourth session held in Singapore from February 14th to 16th, 1929, together with the budget estimates for 1930 attached thereto.

Fifth Session of the Advisory Council, held at Bandoeng, February 18th to 28th, 1930.

The generous invitation of the Government of the Netherlands East Indies to hold the fifth session at Bandoeng was accepted. During that session the following were elected:

Chairman for 1930:	Dr.	VAN LONKHUYZEN, Chief of the Medical Servi	ce o	of the
<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Dutch East Indies;		
Vice-Chairman for 1930:	Dr.	GUÉRIN, Director of the Health Service at Cho.	lon (	Indo-
<i></i>		China).	`	

The resolutions which were adopted will be found in Appendix VII.

#### II. PUBLIC HEALTH STATISTICS.

The Annual Report for 1928 (page 10) gives particulars of the earlier preparatory work carried out by the Health Organisation in connection with the revision of the International List of Causes of Death.

The meeting of the Commission of Expert Statisticians at Berlin on April 3rd, 1929, had under discussion:

I. Preparation of the fourth revision of the International List of Causes of Death (co-operation between the Health Organisation and the International Institute of Statistics).

 Questions relating to the uniform definition of dead-birth.
 The problem of morbidity statistics and the establishment of a nomenclature of diseases.

4. The collection and analysis of data concerning the results of BCG vaccination.

#### Fourth Revision of the International List of Causes of Death. Τ.

The Commission of Expert Statisticians considered the replies of Governments on the two lists of causes of deaths previously proposed by that Commission (with 90 and 27 rubrics respec-tively). In view of the agreement reached between the International Institute of Statistics and the Health Organisation for joint study in the preparation for the fourth revision, the Commission

referred the replies received to the Joint Committee with a request to prepare a short statement on the history of the International List. It further expressed a wish for a permanent co-operative arrangement for the study of questions relating to the International List of Causes of Death.<sup>1</sup>

#### Uniform Definition of Dead-birth.<sup>2</sup> 2.

The definition of dead-birth, as proposed by the Health Organisation in 1925, having been found satisfactory, was recommended for adoption by countries in which there are no important legal or practical objections. In other countries, in addition to the statistics of dead-births based on the legal definition another tabulation should be made, based on the definition proposed by the Health Organisation, in order to find out the effect of the difference existing between the two definitions.

#### 3. Morbidity Statistics.

The Commission of Expert Statisticians had received a considerable amount of information on the situation of morbidity data in various countries. After consideration of: (a) the results of the preliminary enquiry regarding morbidity statistics in various countries, (b) a memorandum from Dr. Roesle on the comparative study of morbidity (document C.H. 730), and (c) a report by Dr. Teleky on the morbidity statistics in the Rhineland sickness-insurance funds (document C.H. Exp. Stat./88), the Commission came to the conclusion that at present, since the available data on morbidity were incomplete and referred either to small areas of a country or to a limited group of population, a complete solution of the question was not yet possible. The special Sub-Commission appointed for the study of morbidity statistics recommended:

That alphabetical lists of the names of diseases and pathological conditions used (a)by physicians be prepared by each country.

 $(\vec{b})$  That each country be invited to undertake the preparation and application of a systematic classification of diseases and pathological conditions according to some such list as the International List of Nosology and Causes of Death, as adopted in October 1929 in Paris for the following ten years, or a list which may be specially proposed for the purpose of morbidity statistics and based upon the International List.

(c) That the Health Organisation collect data relating to causes of morbidity from various countries together with such classifications as are in use for the eventual preparation of an international list suitable for general application.

(d) That special studies be undertaken into the prevalence of those diseases which present an important public health problem, taking into consideration all relevant factors such as age, sex, social standing and mortality.

#### Statistical Appraisal of Data Concerning the Results of Vaccination by Means of BCG.

The resolution of the Clinical Commission of the International Conference on Vaccination against Tuberculosis by Means of BCG (held in Paris in October 1928) was submitted to the Commission of Expert Statisticians with the request that the latter should indicate the most reliable methods of collecting and collating morbidity and mortality data concerning infants who had been vaccinated against tuberculosis by means of BCG as well as of infants not so vaccinated.

To facilitate the work of the Commission in this regard, the Chairman, Dr. Westergaard, held a preliminary consultation with Dr. S. Rosenfeld and Professor A. Schlossmann (Director of the Clinic for Diseases of Children, Düsseldorf).

After considering the views expressed by these experts the Commission adopted the following resolutions:

" The Commission of Expert Statisticians has considered the request for advice presented by the Clinical Committee of the BCG Conference on the best statistical method for appraising the prophylactic value of BCG vaccination against tuberculosis and the suggestions offered by the special Sub-Committee formed to study this point.

#### " It is of the opinion that:

"I. Any enquiry for the purpose of appraising the prophylactic value of a specific procedure, such as BCG, must be conducted according to the procedure of scientific experiments, and its results must be judged by the application of rigorous statistical methods:

"(a) It is essential to use the method of sampling in selecting experimental (vaccinated) and control (unvaccinated) groups, preferably by vaccinating alternate infants in tuberculosis families, in which the factors referred to in the special Sub-Committee's report (document C.H.BCG.37) are comparable.

<sup>&</sup>lt;sup>1</sup> See end of the chapter for description of the International Conference called by the French Government, and held in Paris in October 1929, to revise the International List of Causes of Death. <sup>2</sup> A dead-birth is the birth of a fœtus, after twenty-eight weeks' pregnancy, in which pulmonary respiration does not occur; such a fœtus may die either: (a) before, (b) during, or (c) after birth, but before it has breathed (report of the Committee studying the definition of dead-birth, April 1st, 1925).

"(b) Both experimental and control groups should be *continuously* observed for the entire period of the study with the utmost care by competent diagnosticians and other qualified persons for the detection of tuberculosis in the infants and in persons with whom they are in contact, and for observing changes in the conditions that may affect the tuberculosis situation in the households considered.

(c) Provision should be made for adequate statistical assistance throughout the entire study in order that proper consideration be given to its statistical phases, such as the preparation of forms suited to local conditions for recording all observations, the significance of the numbers included in the groups, the use of life tables or other methods in expressing and estimating results, etc.

" It is assumed that uniform practice in diagnosis, in autopsy determination of causes of death, and in other details of professional observations, will be strictly followed for the experimental and the control groups of infants and for the households in which they are found.

"2. For the scientific conduct of such an enquiry it is essential that it be made under a responsible director with competent medical, statistical and other associates who will assist in collecting and analysing the original records.

"3. While observations carried on according to this procedure for a comparatively short period, such as two years, on a sufficiently large number of infants should yield definite conclusions as to the protective value of BCG vaccine within these ages, it is desirable to continue such observations for a period of not less than five years in order to ascertain the duration of the protection conferred.

"4. In accordance with the recommendations of the Clinical Committee of the BCG Conference, the detailed results of each enquiry, together with the original records, should be forwarded before publication to the Health Organisation."

#### III. STATISTICAL PUBLICATIONS.

In the Statistical Handbook Series, No. 11, "Official Vital Statistics of Ireland" (the Irish Free State and Northern Ireland, document C.H.741), and No. 13, the "Official Vital Statistics of Scotland " (document C.H.771) have been published. The "Statistical Handbook for Canada" is now being printed, while that for the German

Reich is being revised by the competent German authorities.

#### IV. INTERNATIONAL CONFERENCE FOR THE FOURTH DECENNIAL REVISION OF THE INTERNATIONAL LIST OF CAUSES OF DEATH.

#### Held at Paris from October 16th to 19th, 1929.

This Conference was called by the French Government, which had invited the Health Organisation of the League to co-operate with the International Institute of Statistics in the preparatory work entailed by this revision. The Conference <sup>1</sup> adopted three lists—a detailed, an intermediate, and a short list—containing

200, 85 and 43 headings respectively, as well as the Nomenclature of Causes of Dead birth (with 13 headings divided into three groups) as recommended by the Joint Commission consisting of representatives of the Health Organisation and the International Institute of Statistics.

As regards a nomenclature of morbidity, no separate list was compiled, but a division of certain headings in the List of Causes of Death was established for the use of morbidity with a view to securing comparability of the statistics of causes of death.

The Conference recommended that causes of death should be tabulated according to age and sex and the following age-groups were suggested: Under one year; one to four years; five to nine years, etc.; 65 years and over.

In the case of countries unable to employ so detailed a method, the age-groups recommended were: Under one year; one to four years; five to fourteen; fifteen to twenty-four, etc., sixty-five and over. In case of inability to use either of these methods, it was recommended that at least deaths under one year should be shown separately.

The Conference further recommended that:

(I) Practising physicians and medical students should be instructed in the principles of filling in the death certificates;

The consideration of a uniform death certificate should be postponed until further (2)experience had been gained in various countries;

<sup>&</sup>lt;sup>1</sup> Delegates from the following countries were present: Australia, Austria, Belgium, Brazil, British India, Canada Chile, Chia, Cuba, Czechoslovakia, Denmark, Dominican Republic, France, Great Britain and Northern Ireland, Greaced, Hungary, Italy, Japan, Latvia, Luxemburg, Mexico, Morocco, Netherlands, Norway, Panama, Paraguay, Persia, Poland, Portugal, Spain, Sweden, Switzerland, Tunis, Turkey, United States of America, Union of Soviet Socialist Republics Uruguay, and Venezuela. The following international organisations were also represented: the Health Organisation of the League of Nations; the Learner of Red Cross Sociation: and the Office international d'Huniàne.

the International Institute of Statistics; the League of Red Cross Societies; and the Office international d'Hygiène publique.

(3) In cases of death occurring after a surgical operation, the nature of the operation as

(3) In cases of death occurring after a surgical operation, the nature of the operation as well as the cause of death should be stated in the certificate;
(4) The death certificate should give the last professional occupation of the deceased, as well as the circumstances which preceded or accompanied death by accident; and this should be given at least for the principal causes of death and accident, if the accident were considered as due to the occupation followed by the deceased;
(5) Morbidity statistics should be studied by a special international conference when these had become more complete in a larger number of countries.

The Government of the United States of America was requested by the Conference to collect and compile the codes regarding the classification of joint causes of death used in various countries.

#### Chapter III.

#### TECHNICAL CO-OPERATION WITH THE HEALTH ADMINISTRATIONS OF VARIOUS COUNTRIES.

#### I. PROPOSALS OF THE NATIONAL GOVERNMENT OF THE REPUBLIC OF CHINA FOR COLLABORATION WITH THE LEAGUE OF NATIONS IN HEALTH MATTERS.

On August 29th, 1922, the Health Committee, on the proposal of its Japanese member, decided:

". . . to collect information regarding the incidence of epidemic diseases, especially those of international importance in important ports (of the Far East), and the measures taken to prevent the transmission of these diseases to other ports."

A member of the Health Section was despatched to the Far East for this purpose, and his report contains detailed information on these subjects in the ports of Canton, Shanghai and Newchang, as well as an outline of the central sanitary administration existing in Peiping at that time.

These studies of port health conditions in the Far East led to the establishment of the Eastern Bureau of the Health Organisation at Singapore (1925), which has since kept in touch with the central and local sanitary authorities in China.

In 1925, the Medical Director of the Health Organisation, who was in Japan during the "Interchange", was invited to visit Peiping to discuss the possibilities of setting up a national quarantine service which might serve as the nucleus of a modern public health service. Discussions took place with the Minister of the Interior, who was responsible for the direction of the Central Sanitary Bureau, with other State officials and with public health and medical leaders. Further action along this line was delayed during the ensuing period of civil war, but in October 1928 a Ministry of Health was established in the National Government, and this Ministry, as a result of the previous discussions, decided to avail itself of the experience of the League's Health Organisation.

In January 1929, the Medical Director of the Health Organisation was appointed member of an International Advisory Council of Three by the Chinese Ministry of Health and was invited to come to Nanking, as soon as possible, to discuss plans for co-operation. Official correspondence ensued and resulted in a telegraphic request addressed to the Secretary-General of the League by the Foreign Minister of China, on September 14th, 1929, for the:

"Despatch of a sanitary mission from the Health Organisation to make a survey on port health and maritime quarantine."

This request having received the approval of the Council, the Secretary-General, after consultation with the President of the Health Committee, instructed the Medical Director and a member of the Health Section to proceed to China to discuss with the competent authorities a detailed project to be submitted to the Health Committee.

#### SCOPE OF THE ENQUIRY IN CHINA.

The programme of the enquiry as well as the itinerary was established by the Minister of Health, who detailed members of his staff to accompany the mission. His programme included:

A preliminary survey of the quarantine arrangements at certain ports, and an examination of the steps to be taken for the establishment of a National Quarantine Service.
 A general study of the organisation and working of medical and sanitary institutions in variance and the organisation and working of medical and sanitary institutions in the organisation.

2. A general study of the organisation and working of medical and sanitary institutions in various special municipalities and administrative divisions, with special reference to medical education, to the training of sanitary personnel, to the status of a provincial health organisation, to the work of the National Epidemic Prevention Bureau, and to the problem of the control of cholera and smallpox in the Shanghai area.

The itinerary included visits to the following ports and centres between November 9th, 1929, and January 4th, 1930:

Ports: Shanghai, Tientsin, Tsingtao, Antung, Amoy and Canton. Other centres: Nanking, Peiping, Wusih and Hangchow. Before leaving China on January 4th, 1930, the Medical Director received the following letters from the Ministers of Health and Education containing the proposals of the National Government of the Republic of China for collaboration with the League of Nations in health matters.

" MINISTRY OF HEALTH,

#### " Nanking, December 26th, 1929.

"In acknowledgment of your letter of December 16th, confirming your understanding of our proposals for collaboration, I am pleased to be able to inform you that this programme was approved by the Government on December 24th, and that steps are being taken to secure an extraordinary appropriation for the establishment of the various institutions necessary for its success. I am attaching the approved proposals for you to present to the League of Nations Health Committee for confirmatory action. I am seeking the necessary authorisation to attend the forthcoming session of the Health Committee at Geneva, when the plan is coming up for discussion.

"May I avail myself of this opportunity to express the appreciation of the Government for the spirit in which the League acceded to its invitation to send your Mission to China. The members of the Government, most of whom had had opportunities of discussing pertinent phases of the proposals with you, expressed not only admiration for the manner in which the Mission had acted upon our specific suggestions, but felt that, almost as important as the results of your visit, has been the increased appreciation of the League itself. To the Mission, and especially to yourself, the Ministry of Health wishes to record its appreciation for the very signal service that has already been rendered.

"The Ministry of Health would gladly follow your suggestions as to the designation of medical and health leaders in China for association with specific studies engaged upon by the League and would recommend that Dr. F. C. Yen, the Dean of the Central University Medical College, be associated with studies of the Commission on Education in Hygiene and Preventive Medicine; Dr. Robert Lim, Professor of Physiology at the Peiping Union Medical College, and President of the National Medical Association, with the work of the Health Committee on vitamins and cognate subjects; Dr. Tsu Min Yi, Member of the Central Executive Committee, with the studies on physical education; and Dr. Shisan F. Fang, former Director of the National Epidemic Diseases Prevention Bureau, with the work of the Commission on social medicine.

"The Government has learned with satisfaction of the appointment of one of the Ministry's officers to the Health Section of the Secretariat, and more especially that you yourself could visit China periodically.

" (Signed) J. HENG LIU."

### " Proposals for Collaboration with the League of Nations Health Organisation.

"I. The presentation to the Government of the proposals of the Ministry of Health for collaboration with the League of Nations Health Committee was made the occasion for re-defining the general scope of the work of the Ministry, including the manner in which the League's assistance would contribute to its success. It was pointed out that, before effective nation-wide results could be achieved in such fields as child, school, and industrial health, social hygiene, vital statistics, general sanitation, epidemiology and communicable diseases control, etc., there were two necessary prerequisites: first, the development of administrative principles best adapted to local means and conditions and, second, the provisions of facilities for training personnel in the different branches of medical practice.

"2. While the Ministry, within the limitations of the reconstruction period, is undertaking the functions of a central health authority in regard to initiating policy and activities in the above general fields of public health, it feels that the collaboration of the League at this time would prove invaluable in the following six activities:

"(a) The previous decision of the Government to transfer the Quarantine Service, now administered by the Ministry of Finance, to the Ministry of Health, in concurrence with established precedent, led to the request for the League's collaboration in obtaining the benefit of the experiences of health services in other countries and in accelerating the building-up of confidence in the reorganised technically improved port health administration. It is requested that the Health Organisation should study, in conjunction with the Transit Organisation of the League, the steps that should be taken in the transfer and reorganisation of the present Quarantine Service. It is understood from the Director of the Health Organisation that a scheme may be elaborated during 1930 and that the preliminary study begun by the present Mission will be completed this year. The Ministry hopes also to participate in the forthcoming Port Health Officers interchange and for two or three officers to be trained abroad by the League for responsible posts in the reorganised service.

"(b) The Ministry of Health has decided to use its technical headquarters staff for field activities and to begin by establishing a central field health station as the nucleus of an eventual national field health service. The important rôle that will be played by this central station is appreciated and, as such, even the fundamental activities will take time to build up. Collaboration is desired in drawing up the detailed plan for this station; in providing facilities

for study abroad of officers selected for important positions in this station and the association of an expert from the Health Organisation during the initial stage of its organisation and development.

"(c) In view of the necessity of providing a national institution for undergraduate instruction and for post-graduate training, as well as to create national traditions in administering such institutions, the Government has decided to promote the establishment of the First National Hospital.

"(d) While the central field health station and the First National Hospital will serve the purpose of establishing the principles of fundamental health activities for the country, and while, already, institutions elsewhere have undertaken health work on a more limited scale, it is felt that the elaboration of a provincial health administration should be taken up for serious study, and the Government has decided on collaboration with one of the provinces where conditions are favourable. It is already the intention of the Chekiang Government to establish a provincial hospital, which will also be utilised as a base for the development of preventive medical activities. It is hoped the latter will be extended gradually to the districts of the province, and also throughout the country by utilising existing educational institutions as bases for public health work.

"Assistance is desired in planning the first National and Chekiang Hospitals, in providing facilities for their senior administrators to study abroad and especially in advising as to the gradual extension both of the preventive activities of the Chekiang unit as well as in the extension of the activities to other areas.

"(e) The Ministry of Education regards medical education as a major question which requires urgent reform in providing suitable facilities both in regard to undergraduate and post-graduate instruction. It is hoped to secure the collaboration of the competent commission of the Health Organisation in preparing a memorandum on the recent progress in the reform of medical teaching; for the provision of facilities for a study-tour of the officer who is to have charge of post-graduate instruction, and for the delegation to China, for a period of some months, of a League expert to advise with the National Commission on Medical Education of the Ministry of Education.

" (f) While the foregoing will build up the foundations for a modern health administration, there is the immediate problem of smallpox and cholera control in Shanghai. During the stay in China of the League's Mission, the Ministry invited the collaboration of the Health Services of the two Foreign Settlements, and it is hoped it may be also possible that, as a member of its Advisory Council, the Chinese Government may secure the collaboration of the Far-Eastern Bureau of the League. Collaboration is also desired in a joint epidemiological study of the cholera and smallpox situation in Shanghai, and the services of the Director of the Far-Eastern Bureau for a time during the application of a secure the control memory. for a time during the application, in 1930, of control measures.

"3. It is therefore hoped that it may be possible for the League to provide advice and assistance along lines on which it has been made available to other countries, namely:

"(a) The technical collaboration of the Health Organisation and its commissions, as well as other technical organisations of the League, for consultation in drawing up specific health schemes;

" (b) To make available opportunity for participating in the advantages offered through the League interchanges of technical officers, and study fellowships;

"(c) Collaboration in the establishment and the development of the central field-station by stationing a technical officer of the Health Organisation in an advisory capacity during the initial stage;

"(d) Collaboration with the Commission on Medical Education of the Ministry of Education. A request from the Minister of Education is attached herewith.

"4. It is especially desired that the services of the Health Organisation for the study of these problems, as well as in a general advisory capacity, will be available through an acceptance by the League of this Government's invitation for continued collaboration.

"Nanking, December 24th, 1929."

" MINISTRY OF EDUCATION,

"Nanking, December 27th, 1929.

"Realising that the subject of Medical Education in China needs to be studied thoroughly so that standards may be improved and a sufficient number of competent physicians trained to meet the medical needs of the country, the Ministry of Education, with the collaboration of the Ministry of Health, is organising a National Commission on Medical Education. "We request that the Health Organisation of the League will give this Commission assistance in:

"(a) Supplying information on the programme of similar National Commissions in other countries; and

" (b) Collaboration of the League's Commission on Education in Hygiene and Preventive Medicine, which perhaps may be able to delegate an expert for several months in the coming year to China to work in conjunction with our National Commission.

> " (Signed) CHIANG MON-LIN, Minister of Education."

The extraordinary appropriation referred to in the letter of the Minister of Health amounting to one million dollars (Mexican) has since been granted for the establishment of the institutions necessary to the carrying out of these proposals.

#### ACTION OF THE HEALTH COMMITTEE.

The Health Committee met in special session on March 5th to 8th, 1930, to consider these proposals and to discuss the report of the Medical Director on his visit to China (see document C.118.M.38.1930.III). In addition to the proposals of the Government of China, this report contains chapters on public health and modern medicine in China, on medical education and on health organisation and procedure in certain Chinese ports. The following resolutions were adopted by the Health Committee:

#### " The Health Committee, Α.

"After studying the proposals of the National Government of the Republic of China for collaboration which it desires with the League of Nations on health matters, and having examined the report of the Medical Director concerning the Mission carried out on the invitation of

the Government of China; "Approves the report as a whole and expresses appreciation of the attitude adopted by the Government of China.

" The Health Committee,

" Considering that the Council of the League of Nations has expressed the wish that all necessary assistance should be afforded in the development of China,

necessary assistance should be afforded in the development of China, "That the collaboration requested is entirely in harmony with the programme and aims of the technical organisations of the League of Nations, and, while fully appreciating the difficulties of the task with which it would be entrusted and the length of time required to accomplish it; "Recommends to the Council the approval of the entire programme of collaboration presented by the Government of China as set forth in the report of the Medical Director, and requests the latter

to make arrangements for providing the assistance of the Health Organisation in giving effect to that programme if approved by the Council."

#### B. Reorganisation of the Quarantine Service of the Chinese Ports.

#### " The Health Committee,

" After study of the proposals of the National Government of the Republic of China concerning the collaboration of the League of Nations in the reorganisation of the quarantine services of the Chinese ports, and on the advice of the Commission for Quarantine Measures in China nominated during the present session:

"I. Accepts the proposals made by the Chinese Government to obtain the benefit of the experiences of health services in other countries in the reorganisation of the present quarantine services.

"2. Approves the arrangements proposed by the Health Section that Dr. Park should 2. Approves the arrangements proposed by the Health Section that Dr. Park should visit China forthwith in order to complete the survey which has already been begun and report to the Commission thereon at an early date. In his report, Dr. Park should give special consideration to the possibilities of the satisfactory application of the provisions of the International Sanitary Convention of 1926.
"3. Notes that the Commission has given Dr. Park certain guiding lines for this survey. These include the sanitary equipment of ports; the nature of the action to be taken against the importation and exportation respectively of infectious diseases and the measures needed to deal with the special conditions of coastal traffic.

to deal with the special conditions of coastal traffic. "Notes that, on the completion of Dr. Park's survey, he will submit proposals for consideration by the Commission regarding the scheme to be submitted to the Chinese National Government.

"4. Requests that the Commission, in so doing, should confer with any experts who may be delegated by the Communications and Transit Organisation of the League, in conformity with the request of the Chinese Government, before submitting the scheme to the Health Committee.

These resolutions came before the Council of the League at its fifty-ninth session on May 15th, 1930. The following resolution was adopted:

#### " The Council,

"After examining the proposals of the National Government of the Republic of China for co-operation with the League in health matters;

Accepts the recommendation of the Health Committee that the Council should approve of the entire programme of collaboration presented by the Chinese Government, as set forth in the

Medical Director's report, and "Decides that the Medical Director should be asked to ensure the assistance of the Health Organisation in carrying out that programme.

The following steps have already been taken to give effect to the proposals of the Government of China:

Facilities have been granted for the training abroad of Chinese medical officers who will occupy important posts in the quarantine, central and provincial health services. Four of these

officers are already studying in Europe according to a programme arranged by the Health Organisation.

2. The survey of port health conditions in China is now being completed by a member of the Health Section, and Chinese medical officers will participate in the interchange of port health officers in the Far East to be held in July and August 1930.

A draft plan for the Central Field Health Station to be established by the Ministry of Health has been submitted for advice to a Conference of Directors of Schools of Hygiene held in Paris from May 20th to 23rd, 1930.

An expert from the Health Organisation is proceeding to China in June 1930 to be associated with the work of the Central Field Health Station during the initial stage of its organisation and development.

5. A memorandum is being prepared by the Health Organisation on recent progress in the reform of undergraduate and post-graduate medical instruction in various countries for the guidance of the competent authorities in China.

An epidemiologist from the Health Organisation, after a local study of the material available 6. concerning cholera in the Shanghai area, advised on a plan of further studies in order to elucidate the sources of the disease.

The Director of the Eastern Bureau at Singapore arrived in Shanghai at the end of April 1930 to assist in the co-operative campaign against cholera and smallpox in the Shanghai area.

#### II. COLLABORATION WITH THE GREEK GOVERNMENT IN THE SANITARY **REORGANISATION OF GREECE.**

The annual report for 1928 contains full information concerning the request of the Greek Government, which was placed before the Health Committee in October and approved by the Council of the League on December 13th, 1928.

To give effect to the resolution adopted by the Council and in conformity with the indications of the Greek Under-Secretary of State for Health, the Health Organisation of the League sent to Athens the Medical Director and a member of the Health Section, accompanied by Professor Haven Emerson of the University of Columbia; Dr. Allen McLaughlin of the United States Public Health Service; Dr. C. L. Park of the Public Health Service of the Commonwealth of Australia; and Professor B. Borčič, Director of the Institute and School of Hygiene at Zagreb.

These experts arrived at Athens on January 25th, 1929, and were requested by the Under-Secretary of State for Health to visit the following districts for the purpose of making detailed enquiries into health conditions:

Macedonia, including the city of Salonika; Thrace The Athens-Piræus metropolitan region; Patras (city and district); Corfu (island and city); City of Canea and western region of Crete; Epirus (city and prefecture of Janina).

These districts were selected by the Under-Secretary of State for Health as being typical of the country and as lending themselves, for financial and other reasons, to a serious development of the activities of preventive medicine and public health within the near future.

Between January 25th and April 7th, these districts were visited and studied by one or more of the experts, with respect to public health conditions and other factors of importance to their sanitary reorganisation.

The President and Vice-President of the Health Committee, together with Professor Léon Bernard, Sir George Buchanan and the Chairman of the Malaria Commission, who had been asked by the Health Committee to place themselves at the disposal of the Council of the League of Nations and the Greek authorities, in order to study the situation and give advice to the Greek health administration, assembled at Athens on April 7th, 1929, where they were joined by Professor G. Pittaluga, member of the Health Committee and of the Malaria Commission, who was to make a study of certain malaria problems in Greece.

After examination of all the data collected by the experts and an exchange of views with the Under-Secretary of State for Health and his colleagues in Athens, this Commission presented a series of recommendations embodying the advice it had been requested to give. These recommendations (see document C.162.M.63.1929.III) contain the following provisions:

I. The public health service, to be effective, should be arranged on a new basis and should have new objectives.

2. The technical personnel of this service should consist of men thoroughly trained in the modern practice of hygiene.

3. To meet these needs, the establishment of new technical services and a school of hygiene is indispensable.

4. Pending the completion of this centre, selected Greek medical officers should be given immediate facilities for practical studies abroad. Meanwhile, the principal officers of the centre should be appointed without delay. They should include three instructors with wide experience in general hygiene and preventive medicine, malaria prevention and sanitary engineering, respectively. It is understood that the Greek Government intends to call upon experts from abroad for these posts.

5. The appointment of the latter will place at once at the disposal of the Government as well as of the authorities administering the special regions competent technical advisers who can be consulted on any matter of public health development, and who would be in the closest association with the health of the investigation when these offerer extent former head and with the health officers referred to immediately above when these officers return from abroad and take up their duties.

6. Simultaneously, suitable men should be selected to be trained as sanitary inspectors, and suitable women to be trained with the aid of the Hellenic Red Cross as hospital nurses and as health visitors.

7. This process of forming a trained public health personnel from which the health service would be recruited would be the first step towards the formation of a Permanent Hellenic Health Service in a few years—say, in 1933.

The experts, after consideration of many alternatives, have outlined a series of proposals regarding the nature and responsibilities of such a service, which the Commission endorses.

The practical measures which can be taken now with this as the ultimate objective, in order to make a substantial beginning with public health administration on new lines, are the subject

In effect, the nucleus of the Permanent Hellenic Health Service should be formed at the earliest practicable date. It would consist at the centre of the new Technical Services and the School of Hygiene and in the provinces of the personnel responsible for the areas selected for the application of the scheme. The remaining areas of Greece for the time being would continue under the present administrative regime of detailed recommendations. administrative regime.

It seems necessary, however, at once to transfer to the existing Central Sanitary Administration those central services which are at present included in other Ministries. These sanitary services could provisionally retain their offices in the several Ministries concerned, but they should be considered as units detached from the Central Sanitary Administration, and they would receive their instructions from the permanent head of that Administration.

The existing Central Sanitary Administration would consequently come to be composed of:

- The present administrative sections of the Under-Secretariat of State for Health.
- Detached services now with other Ministries. (b)
- The new Technical Services which will be created, including the School of Hygiene.

10. It is an indispensable condition for the working of a modern and effective health service that it should be fully protected from political influences; such a service ought to be a purely technical service, having at its head a permanent technical chief, and should form the advisory and executive organ of the Government on health questions.

organ of the Government on health questions. In all countries especially in those which go through a period of intense economic reconstruction, public health activity ought to be considered as an instrument of national progress and, to secure its success, should be systematically co-ordinated with the activities of other State departments. Looking to the authority exercised by the President of the Council of Ministers over every department of the State, there would be advantage in the present Under-Secretariat of State for Health, with its new services, being attached to the Prime Minister's office.

II. It is impossible to form a modern health service without requiring public health officers to give the whole of their time to the requirements of the service or without ensuring that they should to give the whole of their time to the requirements of the service of without ensuring that they should receive adequate pay. Temporary contracts should be made with the medical officers who would be necessary when the scheme begins to operate, and they ought to be assured that their salaries will be periodically increased, and that they will receive preferential treatment in the nomination of members of the Permanent Hellenic Health Service if their work has been satisfactory.

12. Finally, it is essential that a special committee should be set up with the object of studying Greek sanitary legislation in order to codify existing laws and render the legislation easier of comprehension and facilitate its enforcement.

The scheme for the reorganisation of the sanitary administration, which follows the above recommendations, describes in detail the proposed new technical services and school of hygiene, to be known collectively as the "Athens Centre", mentioning its functions, enumerating its divisions and giving the personnel of its advisory committee.

The scheme also includes a description of the health services in the prefectures selected for the first application of the plan, gives the budgetary requirements and contains recommendations regarding hospitals, malaria prevention, the campaign against tuberculosis, the quarantine service, labour conditions and social insurance (on the basis of a note prepared by M. A. Tixier, Chief of the Insurance Services of the International Labour Office).

The following correspondence was exchanged between the Prime Minister of the Greek Republic and the President of the Health Committee:

## The President of the Health Committee to the Prime Minister of the Greek Republic.

" Athens, April 18th, 1929.

[Translation.]

" Sir,

"The Commission of Enquiry appointed by the Council of the League of Nations at the Greek Government's request to assist in the reorganisation of the public health services of Greece has concluded the work with which it was entrusted and has forwarded its report, together with its recommendations, to the Under-Secretary of State for Health. A copy has also been sent to Your Excellency's chief secretary.

The Commission, while tendering its thanks to the Greek authorities for the welcome extended to it and the facilities it has been granted, would be very grateful if it could be informed of Your Excellency's views on the conclusions submitted, so that, when it presents its report at the League Health Committee's May session, it may be in a position simultaneously to make known your decision. " I am, etc.

" (Signed) Th. MADSEN, " President of the Health Committee."

The Prime Minister of the Greek Republic to the President of the Health Committee.

[Translation.]

" Athens, April 19th, 1929.

#### " Sir,

" I have the honour to acknowledge the receipt of your letter dated the 18th instant, forwarding a plan for the sanitary reorganisation of the country, together with recommendations drawn up by the Health Committee of the League of Nations, in conjunction with the Greek Under-Secretary of State for Health.

I note with satisfaction that this plan and the recommendations are entirely in agreement with the principles of the programme for the sanitary reorganisation of the country which my Government has had in view ever since it came into power. "I shall be very pleased, therefore, to ask the Chambers to take the legislative decisions required

to give effect to this plan, and to adopt all measures necessary for the application of the recommendations you have submitted to me.

" I concur with your view that it is not possible to establish a modern health service without requiring the medical officers of health to devote their whole time to this service, and consequently without giving them adequate remuneraton. Although the application of this principle runs counter to existing administrative rules, the fact that these medical officers give up their right to practise medicine entitles them to special compensation. "The Greek Government is fully aware that the execution of this plan will have to be proceeded

with methodically, and will require a very thorough technical preparation. For this reason, the Government requests the Health Organisation of the League of Nations, in accordance with the

Government requests the Health Organisation of the League of Nations, in accordance with the Council's invitation in December last, to place at the disposal of the Greek Government all its technical facilities, including its technical commissions, in order to ensure complete co-operation in the subsequent development of the plan which has just been agreed upon. "I would take this opportunity to tender my heartfelt thanks to you and to the eminent members of the delegation over whose work you preside with such signal ability, as also to the Medical Director of the League of Nations and the highly qualified experts, for the important work they have already accomplished with a conscientiousness and rapidity that do the greatest credit to the organisation of the technical services of the League of Nations. "I am, etc.

" (Signed) E. K. VENIZELOS, " Prime Minister."

#### STEPS TAKEN TO GIVE EFFECT TO THE PLAN OF REORGANISATION.

The legislation necessary to give effect to the proposals outlined above has been adopted

by the Greek Parliament, together with the necessary budgetary provisions. The Government has also called upon experts from abroad to act as principal officers of the Athens Centre. Dr. Norman White, seconded from the Health Section, has been appointed Director, and Dr. Balfour and Mr. Marshall Wright have been appointed to the Divisions of

Malariology and Sanitary Engineering, respectively. A number of Greek public health officers have been given facilities for training abroad by the Health Organisation of the League.<sup>1</sup>

It is expected that courses will be given by the new School of Hygiene, beginning in October 1930.

Attempts to secure a high type of recruit for the nursing services have been successful, and courses for nurses are being arranged.

Steps have been taken to arrange the work in the areas selected for the first application of the plan.

#### ACTION OF THE HEALTH COMMITTEE AND THE COUNCIL.

The Health Committee, which had the report of its Commission before it at its May session in 1929, together with a covering letter by the President (documents C.162.M.63.1929.III and III (a)) adopted the following resolution:

" The Health Committee,

"Approves the action taken by the Commission and accepts the conclusions of its report;

" Expresses its high appreciation of the work of the experts who have undertaken the preparatory work of the Commission;

"And offers its sincere thanks to the Greek authorities, including their technical officers, for the invaluable assistance which the Commission received at their hands."

<sup>&</sup>lt;sup>1</sup> Four Greek health officers attended the theoretical and practical malaria courses arranged under the auspices of the Health Organisation. A fifth officer studied in Denmark, Holland, Roumania, Hungary and Italy. The group united for a six weeks' study in Yugoslavia, followed by a visit to Geneva and studies in France, after which they returned to Athens. Other Greek health officers have since taken advantage of these opportunities for study abroad.

At its fifty-fifth session, the Council approved the manner in which the delegation of the Health Committee had acquitted itself of its task, and invited the Health Committee to offer all its technical assistance with a view to the subsequent development of the plan.

#### III. THE SANITARY REORGANISATION OF BOLIVIA: REQUEST OF THE PRESIDENT OF THE REPUBLIC OF BOLIVIA FOR CO-OPERATION WITH THE LEAGUE.

On August 20th, 1929, the President of the Republic of Bolivia, in a letter to the Secretary-General, proposed that:

I. The Health Committee of the League should send as its delegate, for a period of six to eight months, a health expert to co-operate with the Bolivian Director-General of Health in the scientific organisation of the public health services.
2. While this preliminary work was going on, the Health Committee would select a health expert to co-operate technically with the Director-General of Health for a further period of two years.

The delegate mentioned under (1) might fill the office mentioned in paragraph 2, if so decided by common consent, in which case he would continue to discharge his duties until the completion of the further two years.

The letter went on to state that in the meantime the Directorate-General of Health would carry on certain urgent preparatory work and, if the proposal were accepted, he would draw up a programme of work and the basis of an agreement to ensure its successful conclusion.

The preparatory work referred to would consist of:

Vaccination against smallpox; Survey of malaria; Prevention of hookworm; Child welfare; The organisation throughout the country of departmental health services.

The work of organisation would deal mainly with the following important problems:

Establishment of a public health laboratory;

Prevention of malaria and hookworm;

Child welfare and perhaps vaccination of infants against tuberculosis by Calmette's method (BCG).

Subsequently, the programme of organisation would include the establishment of a public health institute, consisting of laboratories and a school of hygiene, the latter for the technical training of health officers.

These proposals were accepted by the Council at its meeting on August 31st, 1929, in the following terms:

"The Council expresses its satisfaction that the Bolivian Government, in its desire to extend its action in the reorganisation of the health service of this country, has appealed for the help of the Health Organisation of the League.

"It invites the Health Committee to give, in accordance with the terms of the Bolivian Government's letter, its assistance in the preparation as well as in the later developments of the plan for the reorganisation of the health service of Bolivia" (Minutes of the fifty-sixth session).

In April 1930, delegates of the Health Organisation were sent to Bolivia to co-operate with the Director-General of Health in the work described above.

#### IV. REQUEST OF THE BULGARIAN GOVERNMENT FOR THE CO-OPERATION OF THE HEALTH ORGANISATION IN THE CAMPAIGN AGAINST SYPHILIS IN CERTAIN AREAS OF BULGARIA.

On September 6th, 1929, the Bulgarian Government addressed a letter to the Secretary-General asking for the co-operation of the Health Committee in the campaign against syphilis in certain parts of Bulgaria.

Accordingly, a member of the Health Section visited Bulgaria in October 1929 and, after getting in touch with the central health authorities and the Bulgarian Refugees Settlement Commission, went to an area thought to be specially affected in the department of Burgas near the Turkish frontier in company with the chief of the Venereal Disease Service of the Bulgarian Government and the representative in Bulgaria of the Rockefeller Foundation.

The details of the information obtained during this journey are found in document C.H.837.

The problem of syphilis was brought to the attention of the Bulgarian Government through surveys it had undertaken in various places, and the problem had also attracted the attention of the Commissariat for the Settlement of Refugees in connection with its work. Accurate information concerning the prevalence and distribution of syphilis is not known, however, and one of the objects of the campaign is to secure precise data on these points.

Twelve brigades, each consisting of a doctor and two assistants, have been engaged in this survey for some time, but as all cases found are given treatment immediately, the work proceeds slowly. The brigade in the Burgas district, for instance, after four years' work has only completed the survey of a relatively small number of villages. In this district, forty-two villages with a population of 33,000 were examined and 2,343 cases of syphilis were found. The incidence in the different villages, however, appears to vary enormously, so that some were found in which no less than 50 per cent of the people were clinically positive or gave positive Wassermann reactions.

While all forms of the disease were found, the majority of the cases are said to be congenital.

In this district, the rough and isolated character of the country renders surveys and the application of remedial measures difficult, for beyond the sea-coast towns there are no roads, and journeys have to be made in wagons and on horseback.

During the stay of the representative of the Health Organisation in Bulgaria, plans were made by the Bulgarian Government and the Refugees Settlement Commission for more effective survey and treatment of the disease, particularly in the Burgas district, along the following lines:

The Central Health Administration would:

I. Provide personnel immediately for four or five brigades to start work in this district;

2. Provide a bacteriologist for the Public Health Institute at Burgas in order to afford facilities for serological diagnostic work;

3. Send a preliminary report to the Health Organisation of the League at the end of January on the results of the survey up to that time and a final report on the completion of the survey;

4. Send monthly reports to the Refugees Settlement Commission for transmission to the Health Committee;

5. Release the twenty malaria doctors in the Burgas district for two months during the winter to permit them to attend a course in venereal diseases to be arranged by the central health services;

6. Require these malariologists to carry on anti-venereal as well as anti-malaria work, and eventually to consider their suitability for appointment as district medical officers under the new law.

It was understood that the Commissariat for the Settlement of Bulgarian Refugees would:

1. Provide salary and material for the four extra brigades in the Burgas district;

2. Pay the travelling expenses and subsistence allowance of the twenty malaria doctors who would attend the course at Sofia;

3. Consider the possibility of paying the salaries of the extra staff required for treatment purposes when the survey is completed, after the Health Committee has given its advice on this subject;

4. Consider the possibility of continuing to supply the Government with materials necessary to the anti-malaria and anti-syphilitic campaigns from April 1930 to April 1931;

5. Pay the salary of the bacteriologist at the Burgas Institute.

The first report submitted by the Commissioner for the Settlement of Bulgarian Refugees gave some results of the preliminary enquiries undertaken (document C.H.855). This report contained information concerning the examination for syphilis of 75,550 persons, or about one-sixth of the total population of the district.

Of those examined, 1,932 were found to be suffering from syphilis, which represents 2.5 per cent of the total population. Nevertheless, from 40 per cent to 50 per cent of the population of certain villages were found to be affected.

At its fifteenth session in March 1930, the Health Committee adopted the following resolution:

" The Health Committee,

"Having noted the report of the Health Section (document C.H.837);

"Recommends the acceptance of the proposal made by the Bulgarian authorities for the collaboration of the Health Organisation in a campaign to be undertaken against endemic syphilis prevalent in certain areas of Bulgaria;

" Is glad to note that the Commissariat of the League of Nations for the Settlement of Bulgarian Refugees is prepared to assume responsibility for the expenses involved in the preliminary enquiry, the training of the necessary personnel and the carrying out of the prophylactic campaign;

"Invites its Commission of Experts on Syphilis and Cognate Subjects to afford all requisite technical assistance, including the placing of the services of an expert at the disposal of the Bulgarian authorities."

#### V. CO-OPERATION OF THE HEALTH ORGANISATION WITH THE HEALTH ADMINISTRATIONS OF LATIN-AMERICAN COUNTRIES.<sup>1</sup>

In the annual report for 1928, reference was made to the departure of the secretary of the Leprosy Commission for Latin America early in 1929. The primary object of this visit was to ascertain the position regarding past and present investigations into leprosy and the possibility of co-operation between these countries themselves and, through the Leprosy Commission, between them and other countries which possessed centres for research, particularly in the Far East.

The visit also gave an opportunity of discussing the possibility of establishing more direct relations with the health administrations of the different Republics, more particularly in regard to health problems which were being investigated in European countries under the auspices of the Health Organisation, such as infant mortality, the treatment and serological diagnosis of syphilis, nutrition, etc.

From March to September 1929, Dr. Burnet visited the Argentine, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela. In each State he found that considerable attention was being devoted to public health and social medicine. Difficulty in solving health problems was due to the sparseness of the population in many regions, the long distances that had to be covered, the uncertain means of transport and communication, and the primitive conditions under which large sections of the population lived. Health administrations were handicapped by the lack of full-time health workers, and by incomplete information concerning the incidence of disease and the causes of death.

Nevertheless, considerable interest was everywhere displayed by Governments and public health and medical leaders in the problems selected by the Health Committee for international work. These problems were: infant mortality, leprosy diagnosis and treatment of syphilis, and the preventive aspects of health insurance. In Chile, in consequence of the recent visit of a Japanese expert on nutrition—which was arranged by the Health Organisation—very keen interest has been aroused in that problem.

#### INFANT MORTALITY.

Enquiries into the causes of infant mortality, applied to selected areas along the lines of the European enquiry conducted under the auspices of the Health Organisation, have been completed in the Argentine, Brazil, Chile and Uruguay. A final conference of the experts in charge of these enquiries will be held at Lima in 1930 in order to sum up the results, to decide what preventive measures shall be applied on the basis of the findings, and to agree upon the form of the final reports.

A number of child welfare experts from other Latin-American countries<sup>2</sup> will be invited to this conference in order to discuss the possibility of extending the enquiry to those countries. In view of the widely varying conditions obtaining in some of these countries, the possibility of carrying on more limited enquiries may have to be considered. In *Peru*, where in 1927 the infant mortality rate reached 155 per 1,000 births in some districts, the subject is already receiving attention from the public as well as from the Government. A new children's hospital which has been erected in Lima might form a suitable centre for an enquiry similar to that undertaken by the Health Organisation in Europe. In Bolivia, this problem is a pressing one, the infant mortality rate at La Paz during the last ten years having been 461 per 1,000 births. There exists an organisation for child welfare whose work might be utilised and extended. In *Colombia* and *Venezuela*, this problem also demands attention, the infant mortality rate in the latter being given as 144 per 1,000 births. *Ecuador* has a special infant welfare service in its public health administration.

In addition to the Latin-American experts, representatives of the Health Organisation will attend the Lima Conference, when the questions set out above come up for discussion.

#### SYPHILIS.

In Uruguay there is a well-organised service against syphilis, there being 60 dispensaries throughout the country, subsidised by a special tax. The serological branch of this work is an important one, carrying out from 1,000 to 1,300 tests per week.

A South American Serological Congress will be organised at Montevideo in September 1930 by the Uruguayan Institute for the Prevention of Syphilis, and the Health Committee has been invited by the Government of Uruguay to send a delegate to preside over the Congress.

<sup>&</sup>lt;sup>1</sup> See also reorganisation of Health Services of Bolivia earlier in this chapter (No. 3).

<sup>&</sup>lt;sup>2</sup> Bolivia, Colombia, Ecuador, Peru, Venezuela.

This invitation was accepted by the Health Committee during its fifteenth session held at Geneva in March 1930, and the President was asked to do everything possible to facilitate the work of the Congress as well as to select its presiding officer.

In Peru, the anti-venereal organisation has not been perfected, but the authorities are alive to the necessity of improving it.

In Uruguay, Brazil and Peru enquiries into the treatment of syphilis along the lines suggested by the Commission of Experts on Syphilis and Cognate Subjects might be undertaken to obtain a comparison with European and North American results.

#### LEPROSY.

The secretary of the Leprosy Commission collected much information on leprosy in each Republic. This related to all phases of the subject, such as incidence, epidemiology, legislation, provision of leprosaria and dispensaries, methods of treatment and research work, as well as the resources available in the different countries for the creation of centres for scientific research and its practical application.

From the point of view of leprosy, South America may be divided into three areas:

A northern area, comprising the Guianas, Venezuela, Colombia and Ecuador; A western area, comprising Peru, Bolivia and Chile;

A south-eastern area, comprising the Argentine, Uruguay, Paraguay and Brazil.

The chief foci in the north are in Venezuela and Colombia. In neither country has a census of lepers been taken, but they are known to be numerous.

In Ecuador the disease is much less prevalent. One centre for the study of leprosy in the north could cover these three Republics.

In the west the disease is much less common. This area, however, might form the centre for epidemiological investigations.

In the south-east, leprosy is a pressing problem in the Argentine and Brazil. In both countries considerable work is being done, but the gravity of the problem in Brazil, the importance of the institute under the control of Professor Carlos Chagas, and the interest shown by M. G. Guinle, who has promised to found an institute devoted to leprosy research, indicate this country as the best site for a centre for scientific, epidemiological, therapeutic and experimental studies. Professor Chagas has already organised researches at his institute into the chemo-therapy of leprosy.

The Health Committee has promised to send a European expert to work at that centre, and he is expected to arrive in 1930.

At Sao Paulo serological researches are being carried out.

At Montevideo, Dr. Scaltritti has decided to extend his serological studies to leprosy with a view to adapting complement-fixation reactions to its early diagnosis.

#### NUTRITION.

There is a proposal to create an institute for the study of nutrition in Chile, in order to undertake a laboratory and field study of this important problem along the lines described by Professor Saiki in the course of his recent visit. The institute of Professor Saiki in Japan was created for a similar purpose.

#### INTERCHANGES AND INDIVIDUAL MISSIONS.

The Health Organisation has continued to utilise these means for establishing a closer liaison with the Health Administrations of Latin-American countries.

#### VI. SURVEY OF HEALTH CONDITIONS IN CERTAIN ISLANDS OF THE PACIFIC.

The International Pacific Health Conference which met at Melbourne in 1926 recommended that the Health Organisation of the League should undertake a health survey of certain islands in the Pacific, and this proposal was approved by the Assembly and welcomed by the Health Committee.

The offer of the Government of the Commonwealth of Australia to make available the services of one of its medical officers was also accepted. The survey was made between October 1928 and April 1929 by the medical officer mentioned above and a second medical officer from the French

colonial service. The investigation took place in Papua, New Guinea, the New Hebrides, New Caledonia, the Solomon Islands and Fiji.

The report (document C.H.829), which has now been published, reveals that three diseases were found to be almost universally prevalent in the areas visited: filariasis, frambœsia and hookworm. Malaria has a definite distribution north of 200S. and west of 170°E. Leprosy is prevalent in South Melanesia and is also present in northern areas.

Generally speaking, the problems are:

- Control and investigation of specific diseases such as those mentioned; I.
- Education of the natives in medicine; 2.
- 3. Survival and increase of native races.

The members of the mission were of opinion that within the financial resources at their disposal the health administrations of the islands visited were carrying out routine sanitation along generally accepted lines. Several problems appeared suitable for co-ordinated research:

(a) Disease problems requiring synchronised local investigations along accepted lines-e.g., hookworm, dysentery, typhoid fever, leprosy and food deficiencies. (b) Disease problems beyond the resources of local administrations—mosquito surveys with

special reference to malaria and filaria.

(c) Problems in regard to native education in medicine—infant mortality, depopulation and repopulation, co-operative and auxiliary medical factors.

One of the most important items raised by the enquiry is the need for a comprehensive entomological survey of the whole of Melanesia, which is beyond the resources of the administrations concerned and would require aid from outside.

A copy of the report has been forwarded to the Prime Minister of Australia.

The subject will be discussed at a meeting of the Health Committee when a member of the mission may be present to give explanations.

Questions of special interest raised in the report will be referred to the competent commissions of the Health Organisation.

#### Chapter IV.

#### WORK OF THE COMMISSIONS

#### I. MALARIA COMMISSION.

#### A. TOUR IN INDIA.

On the invitation of the Government of India, a delegation of the Malaria Commission visited India in 1929 and made a careful study of malaria according to a programme prepared by the competent authorities. The study lasted from August 23rd to December 28th, 1929, and the following participated:

Dr. W. A. P. SCHUFFNER, Director of Tropical Hygiene, Royal Colonial Institute, Amsterdam; Professor at the University of Amsterdam; Chairman of the group.

Dr. N. H. Swellengrebel, Chief of Laboratory of Tropical Hygiene, Royal Colonial Institute, Amsterdam; Professor at the University of Amsterdam.

Surgeon Louis WILLIAMS, Head of the Anti-Malaria Service, United States Public Health Service, Richmond, Virginia, U.S.A. Dr. S. DE BUEN, Professor of Parasitology, Institute of Hygiene, Madrid.

Major M. PELTIER, Professor of Social Hygiene, School of Sanitary Service for Colonial Troops, Marseilles.

Dr. M. CIUCA, Professor at the Faculty of Medicine, University of Jassy, Roumania; Secretary of the Malaria Commission.

The Commission was accompanied by the Director, and later by the Assistant Director of the Malaria Survey of India, and its work was greatly assisted by the competence of its guides and by the fact that the provincial directors of public health and their colleagues spared neither time nor trouble in placing at the Commission's disposal their extensive knowledge of the local problem, based on long experience and the results of their work, which are of the highest scientific value.

The programme of the investigation, drawn up in its general lines by Major-General Graham, Colonel James and Colonel Christophers, started on August 24th, 1929, with an examination of the epidemiological factors involved in the spread of malaria in the city of Bombay. The study continued in over 140 villages and in a number of towns in the malarial regions of the Presidency of Bombay, the Punjab, the town and province of Delhi, the United Provinces, Assam, Singhbum, Bengal, Burma, the Vizagapatam Agency, the Presidency of Madras, and Mysore. These studies, carried on for the most part at the height of the malaria season, enabled the Commission to secure first-hand information concerning the nature and extent of the problem.

More than 4,000 children and as many adults were examined by the Commission for the purpose of establishing the endemic nature of the disease and the degree of immunity acquired by the inhabitants.

On the one hand, the "human" factor, which includes the widely differing customs, social organisation and working conditions prevailing in the various provinces, and, on the other, the orohydrographic and climatic conditions in their bearing on local anophelism, constitute a variety of local problems which were of the greatest interest to the Commission.

The Commission encountered four main local malaria problems, which were classified as follows:

- I. The urban malaria problem;
- The Punjab problem; 2.
- The Bengal delta problem; 3.
- The hill malaria problem. 4.

The solution of the *urban malaria* problem has been found by Bentley and Covell in Bombay, their work has been confirmed by the findings in other cities. The main vector is A. stephensii, and their work has been confirmed by the findings in other cities. The main vector is A. stephensii, which breeds in wells inside houses and in cisterns on house-tops. While it may also breed in other natural and artificial breeding-places, for practical purposes in urban areas it is considered as a well and cistern-breeder only. Apart from complicating factors, dealing with this problem is intrinsically simple and comparatively cheap.

The Punjab is characterised by a waterlogged soil subject to serious flooding. This waterlogging and flooding form numerous pools, and these, together with the smaller distributing channels, river-beds, disused wells and rice-fields, form the chief breeding-places for anopheles. In the Punjab A. culici/acies is in all probability the chief carrier. However, ordinarily malaria affects the population very little, and the real problem is the occasional outbreak of a severe and widespread epidemic, sweeping over the whole province and causing the mortality to rise to unprecedented heights.

The Bengal delta problem is just the reverse of the Punjab problem. The crops in Lower Bengal—rice, cane and jute—are all wet crops. The floods here improve the soil and suit the crops. As a rule, the low-lying flooded areas are healthy and the dry and elevated ones malarious. The two main vectors here are A. philippinensis and A. fuliginosus. Curiously enough, these vectors occur in both malarious and non-malarious districts with apparently equal density.

The *hill malaria* problem is characterised by a spleen rate of over fifty per cent among the population affected. Moreover, in many instances, malaria is associated with blackwater fever among the immigrants who are common in this region. Malaria in these areas appears in its worst form, if this immigration is not accompanied by adequate medical and economic measures. The anopheline vectors belong to the *funestus* group requiring clear water for breeding.

anopheline vectors belong to the *funestus* group requiring clear water for breeding. The Commission prepared a report (document C.H./Malaria/147) on its studies, which will be presented to the full Malaria Commission at Algiers in May 1930, in the presence of members from the public health services of India. This report contains chapters on general aspects of malaria in India, the four chief local malaria problems, examples of malaria control, malaria research in India, and conclusions. The Commission points out that the real malaria problem is in the rural districts, as 90 per cent of the population of India lives in villages.

In the districts through which it travelled, the Commission examined 3,957 children in 79 villages. Its findings are given in the following table:

Descriptos	Healthy over 10	areas not per cent	Areas of endemicity 10 per c 25 per	moderate between ent and r cent	Areas of endemicity 25 per of 50 per	of high between ent and cent	Areas of hyper- endemicity over 50 per cent			
FIOVINCE	Number of villages examined	Number of children examined	Number of villages examined	Number of children examined	Number of villages examined	Number of children examined	Number of villages examined	Number of children examined		
Bombay Punjab Delhi United Provinces . Bengal Vizagapatam . Madras Mysore	2 3 1 1 		I 2 4 I  I 	19 56 205 113 	2 4 2 I 3 I I I	54 132 120 45 	I I 3 22 8 9 3 2	7 112 137 748 295 560 205 94		
Total	7	720	9	455	14	624	49	2,158		

Splenic Index Among Children.

Total: 79 villages; 3,957 children.

B. THE ORDINARY WORK OF THE MALARIA COMMISSION DURING 1929.

Malaria research has been carried out in several countries along the lines agreed upon by the Commission in June 1928.

The reports of studies made by Dr. W. Fletcher on the "treatment of malaria with cinchona febrifuge, quinidine and cinchonine" and on "plasmochin in the treatment of malaria" by the same worker and Dr. K. Kanagarayer (from the Institute for Medical Research, Kuala Lumpur) have been received from Dr. A. N. Kingsbury, Director of the Institute. The study on anophelism and malaria in the delta of the Ebro, by Professor G. Pittaluga

The study on anophelism and malaria in the delta of the Ebro, by Professor G. Pittaluga and his assistants, Dr. Zozaya and Dr. G. Vollado, is practically concluded after three years of painstaking observations in the low-lying parts of the delta.

The effect of "intensive quinine treatment" was studied in Rome at the Reale Clinica Medica, by Professor V. Ascoli.

A study of "the movement of infected mosquitoes" was carried out in Palestine by Professor Kligler.

A survey of the literature on the relationship between housing and malaria has been undertaken, at the request of the Health Organisation, by Lieut.-Col. Clayton Lane, I.M.S., London.

Two samples of cinchona febrifuge received from plantations of the Government of India were analysed through the courtesy of Dr. H. H. Dale, F.R.S., by Dr. T. A. Henry and Dr. J. A. Goodson.

Dr. J. A. Goodson. The interest of these analyses lies in the extreme differences in alkaloid and especially quinine content of the two samples, differences which must be taken into account in studies on the efficiency of such cinchona bark febrifuges.

Further information on the clinical effects of alkaloids other than quinine in the treatment of malaria, are expected from Dr. S. de Buen (Navalmoral de la Mata). This will be inserted in Professor Ciuca's general report on the efficacy of "secondary" alkaloids of cinchona.

In order to standardise the method of determination of the species of animal on which anophelines feed, a note was prepared by Professor E. Missiroli and Dr. L. W. Hackett, giving details of the technique for this determination (document C.H./Malaria/131). Professor Ciuca, Dr. Baillif, Dr. M. Vieru, and Dr. A. Stirbu have reported on the control

of immunity in malaria through transfusion of virulent blood (document C.H./Malaria/134). Professor N. H. Swellengrebel, Professor A. de Buck and Professor I. M. H. Swellengrebel de Graaf have contributed a note on the latency during winter of an artificially induced malaria infection in man (manifesting itself in the following summer) (document C.H./Malaria/136).

#### MALARIA COURSES.

Courses in malariology were for the fourth time organised in 1929 under the auspices of the Health Organisation. The theoretical courses in 1929 took place in four schools. A sufficiently large group of medical officers from the British possessions being available, a course was arranged at the London School of Tropical Medicine through the courtesy of Sir Andrew Balfour. This course lasted from May 28th to June 28th.

Theoretical courses were also given: (a) at the Laboratory of Parasitology of the Faculty of Medicine, University of Paris (Director: Professor Brumpt), from June 5th to July 13th; (b) at the Institute of Tropical Diseases at Hamburg (Director: Professor B. Nocht), from June 10th to July 15th; and (c) with a large attendance at the Scuola superiore di Malariologia in Rome (Director: Professor V. Ascoli), from July 1st to September 30th.

As in previous years, the theoretical courses were followed by two periods of field work of one month's duration in the anti-malarial stations of Italy, Spain and Yugoslavia. In Italy the field work was jointly organised by the Stazione sperimentale per la Lotta antimalarica and the Scuola superiore di Malariologia.

The theoretical instruction given in these four schools was intended for medical men and malariologists. In addition to these courses, the Scuola superiore also gave a special course of instruction in malaria control to civil engineers and agricultural experts.

Ten scholarships were given to participants in malaria courses by the Health Organisation, four of which were granted to Greek physicians under the plan of co-operation between the Health Organisation and the Greek Government.

Other scholarships were given by the Rockefeller Foundation and Governments interested.

#### II. PERMANENT COMMISSION ON THE STANDARDISATION OF SERA, SEROLOGICAL REACTIONS AND BIOLOGICAL PRODUCTS.

No meeting of this Commission was held during the year, but progress was made in the work carried on by the Danish State Serum Institute, which acts as the central institute on behalf of the Health Organisation.

#### A. Sera.

1. Anti-diphtheria Serum. — In February, May and November 1929, the Institute compared and found identical the English, German and Danish standards.

2. Anti-tetanus Serum. - The Danish and English standards were compared in July and were found to be identical. Samples were distributed to the following establishments and institutions:

AFRICA.

South Africa:

ASIA.

British India:

EUROPE.

Poland : Czechoslovakia: U.S.S.R.:

State Institute of Hygiene, Warsaw. State Institute of Hygiene, Prague. State Bacteriological Institute, Minsk.

Official Institution.

South African Institute for Medical Research, Johannesburg.

Bengal Chemical and Pharmaceutical Works Ltd., Calcutta.

Commercial Establishment.

Official Institutions.

3. Anti-dysentery Serum. — This serum was distributed to the following twenty-six institutions and establishments:

AFRICA.	Official Institution.
South Africa:	South African Institute for Medical Research, Johannesburg.
America.	Official Institutions
Argentine :	Bacteriological Institute of the National Department of Hygiene, Buenos Aires
Brazil:	Brazil Vital Institute, Nictheroy. Brazil Institute of Microbiology, Rio de Janeiro.
United States of America	: Department of Hygiene, Albany (N.Y.).
Asia.	Official Institutions
	Ville 1 E ilusis Disesses Provention Purson Polying
China :	Covernment Conoral Hesuital Keijo (Seoul)
Korea: Dutch Fast Indias:	Posteur Institute Bandoeng
Japan:	Government Institute for Infectious Diseases, Tokio.
	Commercial Establishments.
British India:	Bengal Chemical and Pharmaceutical Works Ltd., Calcutta. Bacterio-Clinical Laboratory Ltd., Calcutta.
Europe.	Official Institutions.
Germany :	Institute of Experimental Therapy, Frankfort-on-Main.
Austria:	State Serum Institute, Vienna.
Bulgaria :	Bacteriological Institute, Sofia.
France : 📡	Pasteur Institute, Paris.
	Bacteriological Institute, Lyons.
Great Britain:	National Institute for Medical Research, London.
Poland:	State Institute of Hygiene, Warsaw.
Roumania:	State Institute of Hygiene Prague
Czechoslovakia. Τμπβρω:	Institute of Hygiene, Istanbul.
IISSR ·	State Bacteriological Institute, Moscow.
0.0.0.1(	State Bacteriological Institute, Minsk.
	Institute of Experimental Therapy and for the Control of Sera and Vaccine for the Commissariat of Public Health, Moscow.

Commercial Establishments. Behring Institute of Experimental Therapy, Marburg (Lahn). Saxon Serum Factory, Dresden.

#### B. Pharmaceutical Preparations.

I. Digitalis. — The standard is preserved and distributed by the National Institute for Medical Research, London. This international standard was distributed to the following eleven institutions and establishments:

Official Institutions

A	M	F	R	T	C	A	
× ×	747	~	10	*	<u> </u>	6 A	*

Germany:

Official Institution. United States of America: The State University of New Jersey, Newark.

EUROPE.

Germany:	"Reichsgesundheitsamt", Berlin.
Austria:	University Institute of Pharmacology, Vienna.
Belgium:	University Laboratory of Pharmacology, Louvain.
Hungary:	Pharmacological Institute, Budapest.
Netherlands :	University Laboratory of Pharmacology, Utrecht.
Poland:	University Institute of Pharmacology, Warsaw.
Czechoslovakia:	Pharmacological Institute of the Veterinary College, Brno.
0.400.000000000000000000000000000000000	State Institute of Hygiene, Prague.
USSR:	Trust for the Sale of Pharmaceutical and Medical Products,
0.0.012111	Leningrad.
	State Institute for Chemico-pharmaceutical Research, Moscow.

2. Insulin. — The standard is preserved by the National Institute for Medical Research, London, and has been distributed to the following thirteen institutions and establishments:

ASIA.

British India:

Commercial Establishment. The Bengal Immunity Co., Calcutta.

#### — 29 —

EUROPE.

#### Official Institutions.

- 30 -

	5
Germany : Austria :	University Institute of Pharmacology, Berlin. University Institute of Pharmacology, Vienna.
Great Britain:	National Institute for Medical Research, London.
Hungary:	University Physiological Institute Pecs.
Poland:	State Institute of Hygiene, Warsaw.
	University Institute of Pharmacology, Warsaw.
Czechoslovakia :	State Institute of Hygiene, Prague.
U.S.S.R.:	Trust for the Sale of Pharmaceutical and Medical Products, Leningrad.
	Commercial Establishments.
Germany :	Seax Ltd., Berlin
· · · · · ·	I.G. Farbenindustrie A.G., Hoechst-on-Main.
Great Britain:	Boots Pure Drug Co., Nottingham.

3. *Pituitary (Posterior Lobe)* — The international standard is preserved by the Hygienic Laboratory, Washington. A standard identical with this has been distributed by the National Institute for Medical Research, London, to the following nine establishments and institutions:

ASIA.		
		Commercial Establishment.
British I	ndia :	The Bengal Immunity Co., Calcutta.
Europe.		
		Official Institutions.
Germany	:	Pharmacological Institute of the Academy of Medicine, Dusseldorf.
Austria:		University Institute of Pharmacology, Vienna.
Poland :		University Institute of Pharmacology, Warsaw.
Czechoslo	vakia :	State Institute of Hygiene, Prague:
U.S.S.R.	:	Trust for the Sale of Pharmaceutical and Medical Products.
		Leningrad.
		State Institute for Chemico-Pharmaceutical Research, Moscow.
		Commercial Establishment.
France:	•	Poulenc Frères Establishment, Paris.

4. Salvarsan. — This standard is preserved by the Institute of Experimental Therapy of Frankfort-on-Main, and has been distributed to the following six institutions and establishments:

ASIA.

Official Institution.Japan:Kitasato Institute for Medical Research, Tokio.

EUROPE.

Official Institutions.Spain :Government Pharmacological Department, Madrid.France :University Pharmacological Laboratory, Paris.Great Britain :National Institute for Medical Research, London.Switzerland :Federal Health Service, Berne.Czechoslovakia :State Institute of Hygiene, Prague.

#### C. Preparations alleged to contain Vitamins.

During its fourteenth session held in Geneva in May 1929, the Health Committee invited this Commission to consider the elaboration of standardised methods for the examination of preparations placed on sale alleged to contain vitamins. The Medical Director was also asked to obtain information on the methods employed by health administrations to suppress the abuses to which the sale of such products might give rise.

#### III. CANCER COMMISSION.

#### I. GENERAL WORK.

The Cancer Commission received during the year various communications of interest. An enquiry in the Netherlands by Professor Deelman, who carried on parallel investigations of the families of cancerous and of correspondingly non-cancerous persons, revealed that the factor of heredity was conspicuous in the cancer group. While the data are not sufficiently large to justify the drawing of definite conclusions, they suggested the interest of enquiries along similar lines in other countries. The Polish Congress which met at Warsaw submitted interesting information on the influence of race, and a memorandum on the same subject was received from Japan.

#### 2. OCCUPATIONAL CANCER.

This study was undertaken by a special Sub-Commission under the chairmanship of Dr. Major Greenwood. The secretariat was furnished by the International Labour Office as well as by the Health Section. The Sub-Commission is attempting to determine why certain well-recognised types of occupational cancer-such as cancer of chimney-sweeps, mule-skinners, etc.--should occur to such varying degrees among the same class of workers in different countries. It is also attempting to bring to light the existence of forms of occupational cancer not hitherto suspected. The Sub-Commission is following with interest an English enquiry into cancer of the skin, in which an attempt is being made to trace back the particular occupation which might have been responsible for exposure to the skin of irritation.

An enquiry has been undertaken to ascertain whether certain classes of miners are liable to cancer of the lung, as at Schneeberg (Austria). Cases of the disease among Czechoslovak cobalt miners were established, but the results in other countries were negative (document C.H./Cancer Prof./3).

#### 3. RADIOTHERAPY OF CANCER.

This work is being carried on by a special Sub-Commission of radiologists and gynæcologists. The greater recognition in recent years of the curative properties of radium and of its specific action, in certain circumstances, on cancer tissue has given rise to the demand that the supply of radium should be adequate. As radium is so costly, it is essential that methods calculated to produce the maximum benefit should be employed. Only a few institutions, however, possess the necessary experience in this matter.

The form of cancer for which many countries desire this information is cancer of the uterus. Consequently, the Sub-Commission applied to three clinics which had had the necessary experience in treating this form of cancer-those at Munich, Paris and Stockholm.

The Directors of these three clinics described in detail the methods followed at their clinics, and followed this up with a description of the various methods which had been fully tried out and finally abandoned. Their object was to prevent newcomers to this field repeating the same mistakes which others had made.

The experts also agreed on a statement of general principles, relating to the standard classifications of stages of cancer, the standard case-record, and the way in which radium should be distributed and used.

The Sub-Commission of Radiologists drew attention in its report (document C.H.788) to the necessity of ensuring further international co-operation with regard to the radiological treatment of cancer.

#### IV. COMMISSION ON THE FUMIGATION OF SHIPS.

A meeting of this Commission was held in Paris on May 15th, 1929.

Major-General Graham was represented by Colonel Phipson and in addition Dr. Rupert Blue and Dr. Villejean were present.

The Commission considered a report presented by its Chairman. This included a summary of the action decided upon at a previous meeting with a note on the progress made.

The President had written to members of the Commission requesting information on the methods of fumigation at the ports with which they were familiar and comments based on their experience.

An abstract of the replies received accompanied the report which also contained information on the following points:

 Suggested programme of experiments on ship fumigation.
 Tentative programme of investigation on ship fumigation at the New York quarantine station.

3. Abstracts of the first, second and third progress reports of investigations at the New York quarantine station.

4. Accidents resulting from fumigation of ships with hydrocyanic acid gas in the United States.

References to the literature on fumigation of ships with reviews of certain articles. 5.

The suggested programme of experiments was approved, and the Chairman promised that the investigations would be actively pursued in the United States.

The programme is as follows:

A. Absorption of HCN in living quarters by blankets, mattresses, curtains, etc.:

I. The exact amounts absorbed under various conditions of gas, length of exposure, temperature, humidity, etc.:

(a) How this HCN is released—heat, humidity, artificial, natural, heat of body, effect of ventilation.

- 2. The methods to avoid this danger:
  - (a) Removal of absorbing material, airing afterwards, shaking, beating, etc.;
  - (b) Introduction of substance to compel longer ventilation, formalin, etc.

B. Absorption of HCN in non-living quarters by water in bilges, refrigerating room, various kinds of cargo and foodstuff:

I. Exact amounts absorbed under varying conditions as under A (I);

2. Methods to avoid this danger:

(a) All details as under A (2).

C. Review chemical tests for presence of HCN after fumigation and compare these with animal tests:

I. Get exact figures to show comparative delicacy and reliability of each;

2. Compare the two from a basis of actual practical work as done at a typical American quarantine station.

D. Test methods of neutralisation as distinguished from warning gas and get results:

I. As a theoretical study;

2. As a practical application to modern fumigation. (These studies should include formaldehyde, ammonia, methanol or any other substance that may give promise.)

E. Experiment with sulphur and HCN. Compare the two:

I. Test especially penetration. (Penetration of sulphur can be improved by having it burn out quickly. This depends upon the shape of pan.)

2. Try to cut the time of exposure necessary for sulphur. Compare especially with Zyklon-B.

F. Investigate liquid  $SO_2$  and experiment if costs permit.

G. Test penetration of various gases when air is agitated as compared with still air.

H. Test the effect of Zyklon-B with special reference to the warning gas on tea, tobacco and any other delicate article.

I. Series of experiments to determine the point of highest efficiency considering two factors, viz., strength of gas and length of exposure.

In working out the relation between these two, we should consider:

(I) The value of the ship's time; and

(2) The relatively short time required for fumigation proper as with the time necessary for preparation of the ship. The point of maximum efficiency will vary in relation to strength of gas and time of exposure with certain factors, especially the structural conditions of ship.

J. The effect of heat and humidity:

- 1. Upon generation;
- 2. Upon release from containing material (Zyklon-B);
- 3. Upon penetration;
- 4. Upon killing effect of HCN.

K. A substitute for Zyklon-B should be sought for; at least, HCN absorbed in carbon tetrachloride should be thoroughly tested.

L. Mechanical. A ventilating machine should be worked out. This may come under three heads:

- I. Gasolene;
- 2. Electric;
- 3. Hand.

M. Experiments with live rats released on board ships. These rats should be wild and of the *rattus* or *alexandrinus* variety. The method of raising these rats, as well as their transportation, should receive careful consideration as many difficulties are involved. Several lines of investigation may be followed and others will suggest themselves.

I. Release of a definite number of rats on a vessel which will be fumigated in a foreign country, checking the results.

2. Release of a definite number of rats on a vessel which will not be fumigated in a foreign country but which will be fumigated at a home port upon its return trip.

3. Release of a definite number of rats on a similar vessel, subjecting it, however, to other deratisation methods, such as trapping.

4. Release of a definite number of rats on a similar vessel, subjecting it to fumigation plus trapping.

The above can be repeated on vessels of varying construction such as non-rat-proof, partially rat-proof or entirely rat-proof. It may also be repeated on vessels carrying grain on the outward trip to see how many return with the vessel.

5. Release of rats on a vessel about to discharge cargo at the dock, endeavouring to see how many get off. By comparing several such ships, the effect of rat guards, breasting off and similar measures could be tested.

6. Release of rats on board a rat-proof ship, tracing what becomes of them. This would be of especial value if they could be released without the knowledge of the crew and if a check could be kept of any rats killed by them and the ease or difficulty with which they were killed.

It was recommended that the programme should be communicated to those public health administrations which were especially interested in ship fumigation, for their observations.

These administrations were to be asked if they were carrying out experimental work on

any of the problems enumerated or if they would be prepared to do so. Dr. Stock (Great Britain) and Dr. Jitta were invited to prepare a memorandum on the work already carried out concerning the absorption of hydrocyanic acid gas by footstuffs and the danger involved to human life.

The Commission recommended that Mr. Monier Williams, of the British Ministry of Health, should be invited to join the Commission as a technical expert.

#### V. JOINT COMMISSION ON ANTHRAX. 1

At a meeting of this Commission at Geneva in June 1929, Professor Ottolenghi gave details of the work carried out by M. Casaburi and his assistants from the bacteriological point of view (document C.H./Anthrax/15).

As the results obtained by the use of sodium sulphide were not satisfactory in practical tests, an endeavour had been made to ascertain if the disinfectant action of sodium sulphide could be increased.

The following are the directions along which this work has proceeded:

1. The possibility of associating sodium sulphide with other substances capable of increasing its power of destroying spores is being explored.

The resistance of the different strains of anthrax spores is being investigated.

 The resistance of the different strains of anthrax spores is being investigated.
 Experiments on hides, considering both the bacteriological and technical aspects of the question, are being carried out.

The combinations which have shown the greatest activity are with sodium fluoride, sodium arsenite, potassium sulphate and potassium arsenite.

2. The strains dealt with have been received from fifty-two sources.

They are classified as relatively feeble, moderately resistant and highly resistant.

The first group are killed by sodium sulphide alone. The second group are killed by a combination of sodium sulphide and other salts.

The third group, after treatment by a combination, still contain living spores.

3. Experiments on skins have been made using the guinea-pig, rabbit and goat artificially infected:

In 75 per cent of skins spores survived treatment with sodium sulphide alone;

In 40 per cent of skins spores survived treatment with sodium sulphide combined with sodium sulphate;

And in 25 per cent of skins spores survived treatment with sodium sulphide combined with other salts.

From the bacteriological standpoint, experiments have shown that sodium sulphide, even when employed with other salts, does not kill all the spores.

However, the number which survive is so small that the skins no longer present a grave danger.

Several speakers referred to the influence of the temperature at which treatment took place on the resistance of the spores and on the necessity of determining the time required to disinfect

<sup>1</sup> Set up by the Health Organisation of the League and the International Labour Office.

a skin at a given temperature. Dr. Hailer gave particulars of the application of Ascoli's serum reaction for the detection of infected skins.

The experimental work is to be continued during 1930, when these two points will be given due consideration.

#### VI. COMMISSION FOR THE STUDY OF LEPROSY.

At its meeting in Paris in May 1928, the Leprosy Commission concluded that more information was needed on the prevalence of leprosy in various countries and on the methods of prevention in use, as well as on the investigations being carried out by various agencies.

Before the visit to Latin America, Dr. Burnet, the Secretary of the Leprosy Commission, visited a number of centres in Europe to discuss various phases of the Commission's work. In London interviews took place with the Secretaries of the British Empire Leprosy Relief Association and with Sir Leonard Rogers.

Dr. Reenstierna of Stockholm and Dr. Lie of Bergen were consulted and, later, a visit was made to Tartu to obtain full details of the new method of treatment of leprosy which Dr. Paldrock is carrying out with apparently promising results. During his tour in Latin America, a large amount of information was collected and on his

return Dr. Burnet prepared a report for presentation to the Leprosy Commission at its next meeting. This report deals with the following subjects:

- Interpretation of epidemiological enquiries into leprosy. Consideration of urgent matters to which the Commission drew attention at its session in May 1928.
- (iii) General conditions of prophylaxis.
- (iv)Conclusions:
  - (a)Suggested programme for next session;
  - (b) General programme of work and study.
- (v) Appendices: Epidemiological Information:
  - (a)Europe and Africa;
  - (b)Asia and Oceania;
  - $(\mathcal{C})$ America.

The Secretary is now obtaining further information by personal observation and enquiry in British India, Japan, the Netherlands East Indies, and the Philippines. At its next session, the Commission will thus have before it the data needed to enable a

general programme of international study to be prepared.

#### VII. OPIUM COMMISSION.

A question was put to the Health Committee regarding the interpretation of a decision taken at its thirteenth session in regard to the application of Article 10 of the Opium Convention signed at Geneva in 1925 to the esters of morphine.

During its fourteenth session, the Health Committee placed its opinion on record that the recommendation made at its thirteenth session concerning the application of the Convention to benzoylmorphine and the morphine esters generally should apply to all morphine esters without However, the Committee reserved the right to exempt, under Article 8 of the exception. Convention, those esters the innocuous character of which might hereafter be clearly demonstrated

(document C.175.1929.III). Three new lists of preparations were submitted to the Health Committee for exemption under Article 8 of the Convention from the British, German and Swiss Governments. They have been duly transmitted to the Office international d'Hygiène publique for opinion and report.

The Siamese Government requested the Health Committee to indicate the best physiological and chemical methods of identifying the drugs to which the Committee had extended the provisions of the Opium Convention, namely, eucodal, dicodide, dilaudide, benzoylmorphine and other esters of morphine. The Health Committee accordingly entrusted Professor Knaffl-Lenz with the preparation of a detailed memorandum on this question, which has been duly transmitted to that Government.

#### VIII. SUB-COMMISSION ON PREVENTIVE MEDICINE.

The first session of this Sub-Commission, held at Geneva in December 1928, was described in the annual report for that year.

From April 8th to April 24th, 1929, the Sub-Commission made a study-tour in Austria and Germany in order to observe the working of the health institutions set up by the health services and insurance organisations at Berlin, Hamburg, Cologne, Nuremberg and Vienna.

On the basis of the observations made during the study-tour, as well as on the personal opinions of its expert members, the Sub-Committee reached the general conclusions which appear below. These conclusions are necessarily of a provisional nature and subject to alterations which further experience in other countries might suggest.

" The Sub-Committee is of the opinion that, for the protection of public health, the co-operation of the institutions of social insurance and health welfare organisations, both public and private,

"This co-operation is necessary to prevent duplication of effort, to secure the fullest results from each of the institutions concerned and to apply really rational measures of disease prevention and early treatment.

"This co-operation is of benefit both to the institutions themselves and to the general public. "The public authorities should establish the policy necessary for the application and development of common measures for the protection of the public health.<sup>1</sup> They must also give

to the institutions interested the necessary powers for the profection of the public hearth. They must also give "The measures taken in common by the insurance and health institutions for the benefit of the insured persons and the members of their families should only be made compulsory for these institutions after a sufficient time has elapsed to show that such measures are efficient and economical.

#### 2.

"A fundamental principle in public health work is that ' prevention is better than cure '; it is therefore the duty of social medicine to apply to the whole population the needed preventive measures. "In order to apply these fundamental principles, it is first necessary to discover the persons in need of protection. Such persons, after a thorough medical examination, must be given for a sufficiently long and uninterrupted period, under proper supervision, the benefit of the curative and other methods which their state of health may necessitate. "Principles of economy should form the basis of all measures tending to the protection and betterment of public health.

betterment of public health.

#### 3.

" The chief aim of public health work is the control of so-called ' social diseases '. " It is, however, necessary to extend the meaning of the term ' social diseases ' so as to include: Those diseases which cause heavy losses of life and health to the population affected

" I.

(such as tuberculosis, syphilis and other diseases, generally called ' social diseases'); "2. And also those which, by their frequency, the necessity of prolonged and costly treatment and the repeated working disability they entail, constitute a heavy financial burden for the community.

" It is essential to organise or to intensify the campaign against diseases of these two types since, although their modes of action are different, in the final analysis they both result in a heavy

drain upon the social capital of the people. "In order to set out clearly which are these diseases, it is necessary to gather statistics giving information on the following subjects:

"1. Mortality and morbidity; "2. The expenditure entailed by medical care of these illnesses, their frequency and

duration, the cash expenditure in sickness benefits; "3. The social factors in disease, their influence on the causation, evolution and termination of the diseases in question.

"These statistics should be established in accordance with scientific requirements and in conformity with the principle to be laid down by the Commission of Expert Statisticians of the Health Organisation of the League of Nations, through the common action of the Health Services on the one hand and the social insurance institutions on the other.

#### 4.

" In order to obtain the collaboration of all institutions capable of playing a useful rôle in the

protection of public health, it is necessary to bring them together into 'Councils of co-operative action for social medicine '(Arbeitsgemeinschaft für Gesundheitsfürsorge). "Unity in method and action is essential for success and all steps taken by the Council of co-operative action must be guided by scientific principles laid down by experts specially competent in the fold of social medicine.

in the field of social medicine. "The activity and the field of action of these Councils must of necessity depend upon the constitution and administrative structure of the various countries. It may be possible, for instance, to establish a central national committee dealing with the whole of the country, with the purpose of bringing about unity of action, and regional and local committees, the main duty of which would be the actual organisation and carrying out of the work in their respective spheres. "Each Council of co-operative action should be composed of:

" Competent representatives of social insurance institutions;

" Competent representatives of *public* health and welfare services;

"Representatives of *private* welfare organisations and of any other organisation able to give useful collaboration;

<sup>&</sup>lt;sup>1</sup> Such general instructions have been issued, for instance, by the German Government under the title: "Richtlinien über Gesundheitsfürsorge in der versicherten Bevölkerung" (Erlassen von der Reichsregierung am 27.II.1929. *Reichsgesetzblatt*, I. 69).

"Competent representatives of the medical profession, *i.e.*, whose technical training is in accordance with the requirements suggested by the Sub-Committee of Social Medicine at its session of December 17th to 19th, 1928. 1

"The funds necessary for the action of the co-operation Council must be made up of contributions from the various institutions represented on it, in proportion to their respective budgets.

5.

"The programme of the 'Council of co operative action' should be directed not only to the persons insured by social insurance institutions and their families, but also to all persons who, because of their economic circumstances or state of health, are in need of assistance.

6.

" It will be the duty of the 'Council' to determine which elements of the population are in need of protection, to take the necessary measures of preventive and curative medicine, of social assistance and of health education, and, finally, to allot the available resources.

They will have to consider also:

"(a) The upkeep, development and foundation, according to sound economical principles, of institutions of preventive and curative medicine (out-patient clinics, dispensaries, hospitals, sanatoria, preventoria, etc.) in conformity with the requirements of modern science. The staff of these various institutions—physicians, visiting and bedside nurses, inspectors, etc.—must be duly qualified and trained for their work.
"(b) The extension of health control, particularly through periodical medical examination of young people (infants, school-children, apprentices, etc.).

(b) The extension of health control, particularly through periodical medical examination of young people (infants, school-children, apprentices, etc.).
 "(c) The betterment of living and working conditions, especially through the elimination of slums by the re-modelling of houses, the building of healthy dwellings, the development of 'workers' gardens', campaign against alcohol, etc.
 "(d) Popular health education, which should be systematically extended to the whole population."

#### <sup>1</sup> Resolution VII:

"I. Special training should be given to medical personnel and assistants (midwives, visiting nurses, social workers, etc.) employed by institutions of preventive medicine.

#### Chapter V.

# CO-OPERATION OF EXPERTS IN THE WORK OF THE HEALTH ORGANISATION.

#### I. ENQUIRY INTO INFANT MORTALITY.

A conference of health experts on infant welfare met at Rome from March 25th to 28th, 1929, to consider the national reports received from the several countries.

The enquiry had been carried on for a period of twelve consecutive months in twenty-nine urban and rural districts of seven European countries <sup>1</sup>. The deaths of 7,503 infants had been investigated, of which 5,147 were live births and 2,356 still-births. The experts found that the problems were everywhere the same in districts belonging to the

The experts found that the problems were everywhere the same in districts belonging to the same mortality groups, consequently the districts were classified into four groups (urban and rural districts separately) characterised by low, moderate, high and very high infant mortality rates.

The important problems in each of these groups were set out by the Conference as follows:

GROUP I. - LOW INFANT MORTALITY RATES (3 TO 4.9 PER CENT).

The problems relating to infant mortality in these districts are as follows in the order of their importance:

(a) Deaths associated with the pre-natal period (prematurity, still-birth), with confinement and with the period immediately following birth, usually supervised by obstetricians and midwives, cause almost two-thirds of all the deaths in the various districts.

(b) Deaths due to respiratory affections do not constitute a real problem in these districts.

(c) There are only a few deaths from digestive disturbances in this group of districts.

GROUP II. - MODERATE INFANT MORTALITY RATES (5 TO 6.9 PER CENT).

(a) Deaths associated with the pre-natal period, with confinement and with the period immediately following birth, continue to occur in the same measure as in Group I.

- (b) The number of deaths from respiratory disease also remains about the same.
- (c) Digestive disturbances begin to assume more importance.

GROUP III. - HIGH INFANT MORTALITY RATES (7 TO 9.9 PER CENT).

The characteristics of this group are the importance of :

- (a) Digestive disturbances, both in rural and urban districts, and
- (b) Acute specific infectious diseases.

The influence of tuberculosis and syphilis has become more apparent than in the preceding groups. Deaths due to respiratory disturbances and those associated with confinement are of still greater importance than in the preceding groups.

GROUP IV. -- VERY HIGH INFANT MORTALITY RATES (10 PER CENT AND OVER).

In this group, the mortality due to digestive disturbances has become very much greater. A larger number of deaths is also due to acute specific and non-specific infectious diseases, while prematurity and conditions immediately following birth are responsible for more deaths than in previous groups.

The Conference, after analysing the causes of infant mortality as elicited by the enquiry (document C.H.779), went on to make a number of recommendations.

<sup>&</sup>lt;sup>1</sup> Austria, France, Germany, Great Britain, Italy, the Netherlands and Norway.

The enquiry had revealed the value of measures of infant and maternal protection, such as welfare centres and social legislation, but these were insufficient in all the districts.

In view of the obscurity surrounding prematurity, still-birth and early infant death, these problems should be investigated scientifically by obstetricians and pediatricians. Pediatricians should unite with hygienists to throw light on the prevention of respiratory infections.

A number of practical suggestions were based on the results of the enquiry with respect to the chief causes of infant mortality, as follows:

#### A. The Prevention of Prematurity, Still-birth and Early Infant Death.

There should be improvement in the medical supervision of women during pregnancy.
 This may be brought about by means of maternal welfare centres, physicians and midwives. Special training should be provided for this purpose.

3. More maternal welfare centres should be organised to provide for the medical supervision of the expectant mother.

4. Such supervision implies a better understanding on her part of its necessity from the very beginning and throughout the whole period of pregnancy.

5. There should be a campaign against the employment of untrained women as midwives, and in certain countries the social status of the midwife should be raised.

6. There should also be medical supervision of women in industry who become pregnant.

#### Social and Legislative Measures for Pregnant Women.

Financial and other forms of assistance to pregnant women, and legislative measures, such as health insurance (with provision for dependents), should permit such women to rest during the latter months of pregnancy—a means of preventing still-birth and prematurity.<sup>1</sup>
 In the majority of the districts under consideration, the existing laws and financial

assistance have been insufficient to permit pregnant women to take sufficient rest.

#### Measures during Confinement.

1. Untrained women should be prevented from acting as midwives, and midwives and physicians should be given a better training in obstetrics.

2. Access of parturient women to maternity hospitals should be facilitated whenever there is sufficient medical or social need.

3. Small maternity hospitals should be established in rural districts.

#### Prevention of Deaths during the First Days of Life.

Attention should be called to the necessity for consulting child specialists with regard to new-born children, and to the need for improving public instruction and the training of midwives in the care of infants at and immediately following birth, especially of premature and weakly infants.

#### B. Campaign against Respiratory Diseases.

I. Apart from better housing conditions, the prevention of cross infection implies improvement of hygienic conditions and medical supervision of all infants gathered together in groups, as in hospitals, nursing-homes, etc.

2. The public should be better informed regarding these diseases and the danger of their spread from adults to infants, as well as in the methods of preventing such transmission.

#### C. Campaign against Acute Specific Infectious Diseases.

I. Attention should be called to the dangers of whooping-cough and measles, and to the need for employing the classic preventive measures, such as isolation, as well as the more recent methods, such as serum-prophylaxis and vaccination.

2. Every possible effort should be made to apply to infants all known preventive measures against syphilis and tuberculosis.

#### D. Measures against Digestive Disturbances.

I. The success obtained in the districts with low mortality in the prevention of this group of causes of death indicates clearly the action to adopt. In these districts the campaign should

<sup>&</sup>lt;sup>1</sup> Social remedies should be applied without partiality to legitimate and illegitimate children.

be continued and extended to districts with higher infant mortality. Breast-feeding should be encouraged by measures of education and material assistance given to the nursing mother.

2. In the interests of artificially fed infants, infant welfare agencies which give advice to mothers and assist by other means, etc., should be developed.

3. Measures for the supervision and improvement of the milk supply should be organised.

#### E. General Measures.

#### (a) Education of the Public in Hygiene.

r. This implies the teaching of certain aspects of hygiene concerning infants, as a part of elementary and secondary school instruction.

2. The interest of teachers and professors should be developed in this direction, especially when women teachers are employed.

3. The establishment of schools of hygiene with courses not limited to physicians, midwives and nurses, but also open to the public. Education of the public may be carried on by means of infant welfare centres, which should undertake still more widely than at present the training of mothers by dealing more fully with all the subjects relating to infant welfare.

#### (b) Education of Physicians and Midwives in Hygiene.

This training should not be limited to medical students and student midwives, but should extend to practising physicians and midwives, for whom systematic continuation courses should be organised. In medical schools, physicians and midwives should learn of the practical difficulties which will confront them in practice. Courses in pediatrics and particularly in diseases of infants should be compulsory.

#### (c) Supervision of Infancy by Public Health Nurses.

The enquiry shows that it is most desirable for infants living in each district to be visited by a public health nurse, who should persuade the mother to visit the family physician or the infant welfare centre even though the child is quite well. The public health nurse should also advise the mother on infant hygiene and breast-feeding. The influence of such nurses and of infant welfare centres is particularly valuable in dealing with certain groups of the population which resist the application of measures for the protection of infancy.

If proper provision be made for pregnant women and new-born children in the form of maternal and infant consultations, public health nursing, legislation providing for compulsory absence from work and a subsistence allowance before and after confinement, as well as an allowance for breast-feeding, a large proportion of the women and infants in need of these services will take advantage of them voluntarily.

Every central health administration should realise the advantages inherent in these provisions for infant and maternal welfare, and should develop them or encourage their development as rapidly as possible.

In view of the results secured by the enquiry, it is recommended that the Health Administrations of the different countries should carry on studies of a similar character, which will serve as a basis for the establishment and application of preventive measures, and will complete the official statistical information on infant deaths which the enquiry has proved to be insufficient in many districts.

In view of the fact that the enquiry has stimulated the greatest interest in all the districts in the prevention of infant mortality, it is also recommended that the investigators should furnish periodically information on the various districts and on the progress achieved.

#### Action of the Health Committee.

The report of the Conference was submitted to the Health Committee by Professor Debré in May 1929. The Committee approved the report, offered its best thanks to the experts and workers, and decided to associate itself with the recommendation that health administrations of other countries should be invited to undertake studies of a similar nature. It also recommended that the report should receive as wide publicity as possible.

M. Quiñones de León (delegate of Spain), who presented the Health Committee's report to the Council at its fifty-fifth session, said that a similar enquiry was being started in Spain. Similar action will be taken in Czechoslovakia, Denmark, Roumania and Yugoslavia, and in different countries of Asia.

In view of the Health Committee's desire to assist in the conduct of such studies, the Health Organisation has granted fellowships to the experts who will be entrusted with these studies in the new countries, to enable them to study the methods used in the districts where the enquiry has been completed.

The Health Section has also prepared a memorandum for the information of health administrations desiring to undertake the enquiry.

Reference to the enquiries in Latin America is made elsewhere in this report (Chapter III).

#### II. IMMUNISATION AGAINST DIPHTHERIA AND SCARLET FEVER.

During the discussion in the Health Committee in October 1928 of the report on the Conference on Infant Mortality, it was decided to ask experts to report on the results obtained in certain countries of Europe and in America by specific immunisation against scarlet fever and diphtheria.

Professor Debré was asked to undertake the report on scarlet fever, and Professor Gorter the report on diphtheria.

Both these experts visited a number of European countries and prepared preliminary memoranda on the information collected. Amongst the many interesting facts that emerged from the enquiry, the most striking feature was the universal agreement concerning the urgent need for a technical discussion and the exchange of material between the various research workers and clinicians in the different countries visited.

In order to develop further the enquiry along these lines, the President and the Medical Director were authorised by the Health Committee to obtain expert advice, and a number of experts were invited to a consultation in Paris on July 4th, 5th and 6th, 1929.<sup>1</sup>

Before the meeting, a copy of Professor Debré's report on scarlet fever and that of Professor Gorter on diphtheria was circulated to all participants with a request for observations.

I. Diphtheria. — With regard to material for immunisation against diphtheria, it was agreed that Ramon's anatoxin should be chosen and that experiments should also be made with toxoid supplied by O'Brien. It was further agreed that, in those countries, namely, the Netherlands and Germany, where toxin-antitoxin (T.A.) was used, this preparation should be contrasted in its results with that obtained in those countries with Ramon anatoxin.

It was agreed that comparative tests between Ramon's anatoxin and O'Brien's toxoid might be done in England and Hungary.

With reference to the Schick test, it was suggested that O'Brien's borated solution should be used in all cases and that the toxin should be supplied by one laboratory. This would leave it open to the various workers to test the toxin received against the toxin ordinarily used by them, that is to say, to compare standard Schick solution in respect of the minimum skin reaction dose and the combining power test.

As regards active immunisation against diphtheria, it was decided to study in the first place the number of injections advisable. It was considered that, if three injections were given as a general rule, a sufficient number of two-injection cases would be automatically secured through the unwillingness of many individuals to come forward for the three injections. It was also proposed that, where possible, the question of the interval between the injections should be studied on the comparative basis.

Three age-groups were suggested, viz., I to 6 years, 6 to 12 years and 12 to 25 years. It was urged that the number of children to be immunised in each experiment should be not less than 1,000 with controls. A proportion of these, say 10 per cent, should be Schick-tested before and after vaccination and also tested for blood content of antitoxin before and after immunisation. It was considered essential to make the tests on alternate children in the same group in order to make sure that the environmental condition of the controls was the same.

It was thought desirable to check results not only by the Schick test and antitoxin determinations, but also by statistical methods, *i.e.*, control groups.

It was agreed that the Schick test should be performed three months after the beginning of the injection and that some children should be tested two months after that date in order to ascertain whether immunity was conferred more quickly by one product than by another. If possible, a number of children should again be tested after nine months and as regards the antitoxin determination that this also should be performed, when possible, at the three intervals mentioned (two, three and nine months).

It was agreed that the usual dose of anatoxin, *i.e.*,  $\frac{1}{2}$  c.c., I c.c. and  $\frac{1}{2}$  c.c., should be used for children of all ages. In the case of toxin-antitoxin, it was suggested that some proportion might be laid down, *e.g.*,  $\frac{1}{100}$  th of a unit of toxin to 0.085 of antitoxin, and the suggestion was also made that the toxin content of the toxin-antitoxin might be adjusted so as to be equivalent to the anatoxin used in the enquiry.

The details of the toxin-antitoxin experiments were, however, held over for later discussion.

<sup>1</sup> See list in Annex III.

2. Scarlet Fever. - It was proposed that the same procedure be followed as for diphtheria and that no discussion be held on the value of the Dick test. The following working hypotheses were taken for granted:

- I. The Dick test enables the susceptible to be distinguished from the non-susceptible.
- 2. It is possible by using a suitable chosen antigen to produce immunity to Dick toxin.
- Such immunity appears to correspond to a protection against scarlet fever. 3.

The following points were particularly discussed:

- The method of appraising Dick test results. I.
- The supply of toxin for the experiments. 2.
- The procedure as regards pseudo-reaction. The procedure as regards pseudo-react
   The methods of active immunisation.
- The appraisal of the results of such immunisation.

It was suggested that a standard toxin be supplied prepared from the original Dick strains in one laboratory and that this toxin should be compared in each country with the toxins locally used; that is, patients immunised against this toxin in which the reaction had changed from Dick positive to Dick negative might be tested with the reaction to the local toxin. It was thought that it would be valuable to compare on patients who had acquired immunity not only the Dick reaction with the standard toxin supplied to each country, but also the results obtained in such individuals by toxin prepared from original cultures taken from the throat of the patient.

It was agreed that all countries taking part in the experiment should use a common Dick-Dochez antigen and that in Roumania, Hungary and Poland a local antigen should be used as well; that is to say, that in Roumania a local anatoxin would be used in pure form and in Hungary and Poland a local anatoxin mixed with the Dick-Dochez antigen. It was agreed that each country should be supplied with Dick and Dochez strains from a common source and should prepare its own antigen on the lines to be laid down for comparative purposes.

Immunised patients are to be tested before and after vaccination, according to a specified technique, with a Dick-Dochez toxin and with a national toxin. It was suggested that vaccination should be according to the classical American method and with an anatoxin to be prepared according to Professor Ramon's instructions.

Members would receive upon application:

 Toxin for Dick tests;
 Particulars of the Dick test, together with particulars of the method of reading, and details as to pseudo-reactions that might be expected;

- Samples of strains for the preparation of anatoxin;
   The technique for the preparation and titration of anatoxin.

Strains isolated from those who had had scarlet fever after vaccination are to be sent to Professor Friedemann, together with the strains of streptococci used locally for the preparation of toxin and anatoxin.

Professor Friedemann agreed to submit these organisms to a bacteriological-biological examination and to test them for toxigenic properties.

Professor Ramon will supply full particulars as to the technique for the production of anatoxin and samples of standard serum for flocculation tests for the comparative test of the anatoxins prepared.

A programme based on the suggestions of the experts was drawn up and approved at a final session.

#### PROGRAMME OF EXPERIMENTAL WORK.

#### Diphtheria.

As in the case of the test-control reaction in scarlet fever, it was agreed to adopt a uniform toxin and technique for the Schick reaction. The toxin would be supplied from London through Dr. O'Brien, who would also draw up the details of the technique for the Schick test.

The immunisations will be carried out with anatoxin (Ramon), toxoid (O'Brien) and toxinantitoxin (Netherlands' Serological Institute).

The following problems would be specially studied:

(a) Comparison of the different antigens used for active immunisation against diphtheria as contrasted with Ramon's anatoxin;

Effect on immunisation of the intervals between the immunising doses; (b)

(c) Comparative effect of subcutaneous and intramuscular inoculations from the point of view of reaction and efficacity;

(d) Influence of age;

(e) Effect of environment.

Experts from the following countries promised to attempt to undertake work on these lines: Denmark, England, France, Germany, Hungary, the Netherlands, Polands, Roumania, Czechoslovakia and Yugoslavia.

It is anticipated that the work of immunisation could be carried out on some 20,000 individuals.

#### Scarlet Fever.

In the case of scarlet fever, it is suggested that the work be controlled in each country by a Dick reaction in which the toxin used and the technique employed would be similar. The toxin would be supplied by the Danish State Serum Institute from supplies of toxin prepared in London from the original Dick strain. The technique used would be that drawn up by Professor Debré, on the basis of a note by Dr. O'Brien and Professor Madsen. In certain countries (Hungary, Poland, Roumania and Yugoslavia), an additional Dick test will be carried out with toxin derived from local streptococcal strains.

With regard to immunisation, two strains of Dick and one of Dochez would be sent to each of the countries concerned by the State Serological Institute of Denmark, and at the same time Professor Ramon would supply an account of the technique for the preparation of anatoxin from the toxin prepared from these strains. The anatoxin would be prepared in each country from the Dick and Dochez strains supplied and should be compared with anatoxin prepared from local streptococcal strains.

In Yugoslavia, experiments would be made concurrently as to the results of vaccinations with Dick toxin according to the original method of Dick (slightly modified).

In Japan, it is proposed to continue investigation into the properties of the thermolabile toxin and the thermostabile toxin recently isolated by Dr. Toyoda from Dick toxin.

It is suggested that, where possible, investigation should also be made regarding the antitoxin content of the blood.

Finally, it was suggested that Professor Friedemann be asked to undertake a detailed study of the different local streptococci. This investigation would cover not only those streptococci used locally for the preparation of toxin and antitoxin, but also organisms isolated from the throat from cases of scarlet fever, especially those occurring in persons after vaccination.

Experts from the following countries promised to try to undertake work on these lines, viz.: France, Hungary, Germany, the Netherlands, Japan, Poland, Roumania, Czechoslovakia, Yugoslavia.

It is anticipated that the work of immunisation could be carried out on some 10,000 individuals. In order that the results may be comparable, record cards were drawn up and approved by the experts for both scarlet fever and diphtheria.

It is hoped that in all cases the effect of immunisation will be controlled by Dick and Schick reactions carried out before and after immunisation.

#### III. ENQUIRY INTO THE TREATMENT OF SYPHILIS.

As described in the annual report for 1928, in Denmark, France, Germany, Great Britain, and the United States of America the experts on syphilis and cognate subjects have selected clinics from which are being obtained individual case records of venereal diseases. Analysis of the data contained in these records is expected to throw light on the results of treatment by different methods and in different countries.

At the end of 1929, a total of 17,527 case records had been obtained from the participating clinics, and it is expected that this total will finally reach 50,000. The information in these case records is being analysed.

There is a possibility that this enquiry will be extended to Latin America.

Reference will be found in this report (Chapter III) to the co-operation of the Health Organisation with the Bulgarian Government in its campaign against syphilis.

#### IV. STUDY OF TUBERCULOSIS MORTALITY IN SCANDINAVIA.

In previous reports, reference has been made to the study of tuberculosis mortality in Scandinavia being carried on by the experts of the three countries under the auspices of the Health Organisation.

A meeting of these experts <sup>1</sup> was held in September 1929 at the Danish State Serum Institute.

<sup>1</sup> Chairman: Professor Th. MADSEN;

Dr. HEITMAN, Director of the Norwegian Tuberculosis Services;

Dr. NEANDER, Director of the Swedish National Anti-tuberculosis League;

Dr. OSTENFELD, Director of the Danish National Anti-tuberculosis League; Mlle. J. BACKER, Chief of the Norwegian Medical Statistical Service. The experts described the principal factors to which deaths from tuberculosis in their respective countries were attributable, as well as the measures of prevention applied. It was not possible to establish a correlation between this mortality and the anti-tuberculosis campaign, or between mortality and other factors. The experts decided to undertake detailed supplementary investigations for the purpose of interpreting the data collected. Doctor Ostenfeld was selected to act as Rapporteur and to compare the statistical data and experience in the three countries. His report will be submitted to his colleagues some time before the final meeting is held.

the final meeting is held.

#### Chapter VI.

#### SYSTEM OF LIAISON WITH THE HEALTH ADMINISTRATIONS OF THE DIFFERENT COUNTRIES.

During 1929, two collective study-tours were organised, and a number of individual missions offered to public health officers on the nomination of their Health Administrations.

#### I. COLLECTIVE STUDY-TOURS (INTERCHANGES).

#### (a) INDUSTRIAL HYGIENE.

This study-tour was arranged by the Health Organisation of the League in co-operation with the Health Section of the International Labour Office. The group comprised ten participants from as many different countries.<sup>1</sup> The interchange began on April 3rd in Lyons, where the participants attended the International Conference on Industrial Hygiene. After leaving Lyons, the group visited Turin, Genoa, Milan and Bologna in Italy; Munich, Augsburg, Nuremberg, Würzburg and Mannheim-Ludwigshafen in Germany, and Lucerne and Zurich in Switzerland.

The participants had ample opportunity of seeing industries differing widely in character, of gaining first-hand knowledge of the risks to health therein incurred, and of the means of preventing or minimising them. The different systems of workmen's insurance and care for the victims of accidents were also demonstrated in the countries visited. Lectures by experts in the various fields of industrial hygiene added to the knowledge gained by practical experience in the factories.

A new feature of this interchange was the introduction of a rest day or half a day during each week in addition to Sunday. This helped to diminish the fatigue which otherwise inevitably appears during the course of several weeks' travel; it also gave an opportunity for the participants to complete and compare notes, and enabled them to study local conditions to better advantage.

The tour ended at Lucerne on May 8th. Reports on the study-tour were prepared by each participant for presentation to his Health Administration and to the Health Organisation.

#### (b) RURAL HYGIENE STUDY-TOUR IN DENMARK AND THE NETHERLANDS.

This study-group consisted of eleven participants from ten countries.<sup>2</sup> As in the first rural hygiene study-tour (annual report for 1928) participation was not restricted to medical officers, an attempt being made to select the different types of technical officers concerned in rural hygiene. Consequently a veterinary surgeon and an administrator of a rural district were invited, while sanitary engineers had participated in the former interchange.

Publications on rural hygiene in Denmark and the Netherlands were supplied beforehand to the participants. An attempt had been made to show the relationship between the level of rural hygiene and education, economic and social development and other related factors. Thus, in Denmark, attention was paid to the Folk High Schools and the extensive co-operative movement.

The interchange began at Copenhagen on June 3rd with a study of the central health services and the central organisations having to do with rural communities. Films were shown to illustrate social, health and economic conditions. Visits followed to characteristic rural areas in all parts of Denmark. Small farms and large holdings were visited, and every characteristic of rural life in Denmark explained, so that the participants could understand the basic conditions underlying the development of rural hygiene.

 <sup>&</sup>lt;sup>1</sup> Austria, Belgium, Czechoslovakia, France, Germany, Great Britain, Italy, Netherlands, Poland and Switzerland.
 <sup>2</sup> Czechoslovakia, Denmark, France, Germany, Great Britain, Greece, the Netherlands, Hungary, Italy and Poland.

On June 26th, the participants began an equally interesting and instructive visit to the Netherlands. The group was received at The Hague by the Central Advisory Health Office, and given full opportunity to study the central health organisation.

In North Holland, particular attention was paid to the systems of public water-supplies in rural districts, whereby water from the same source is piped to a number of villages. In the south, the work of the Green Cross was studied, as it is this organisation which in places deals with cases of tuberculosis, medical treatment, nursing and school hygiene in rural districts.

Housing was a special object of study in the province of Drenthe, where old villages are being removed and replaced by new. The crippled children's clinics were also shown to the participants.

The collection and distribution of pure milk supplies was studied in both countries, as well as such questions as infectious disease control, administration of rural hospitals, welfare measures for rural children, etc.

The interchange ended with a final conference at The Hague on July 9th.

#### (c) PROGRAMME OF COLLECTIVE STUDY-TOURS FOR 1930.

I. A general study-tour has been arranged to take place in France during the early summer of 1930. There will be from sixteen to eighteen participants from nearly as many countries, and these will include sanitary engineers and public health administrators as well as medical officers.

The group will assemble at Paris on May 26th and will spend the first week studying the central organisation and administration as well as visiting as many medical and health installations as possible. Visits will be paid in the North, to Normandy, the Aisne, to Lorraine and later to the Midi, Haute-Savoie and Burgundy.

There has been a considerable development of public health work in France in recent years, and the tour has been so arranged as to enable the participants to see the newest developments, as in the reconstructed regions, as well as the oldest health organisations, such as the health services of the Department of the Seine-Inférieure. All phases of public health work will be studied including housing, water-supplies, food control and social hygiene, etc.. It is expected that the tour will end at Dijon on July 8th.

2. A study-tour in Roumania and Yugoslavia will be held simultaneously with the French interchange. There will be twelve participants from Bulgaria, Czechoslovakia, Greece, Roumania and Yugoslavia, and these will include a number of the senior officials. The tour will begin in Roumania, and has been planned to show all important public health and medical institutes, as well as the most urgent health problems. Thus, special attention will be paid to malaria, and the secretary of the League's Malaria Commission will have charge of that part of the programme.

In Yugoslavia, visits will be paid to the different regions—Croatia, Serbia, Dalmatia and Macedonia, and to the system of public health institutes which are utilised for purposes of investigation and control.

3. The question of a *study-tour of port health officers in the Far East* was raised by the Japanese delegate at the Assembly as well as by the Japanese member of the Health Committee. The tour will start in June 1930, and visits will be made to ports of China, Japan, the Philippines, the Netherlands East Indies and Singapore. There will be from eight to ten participants, all from Far-Eastern countries, in charge of an expert in matters of port quarantine. The tour will be preceded by a survey of certain ports in order to secure the material necessary for the interchange, which will enable the participants to discuss the equipment and methods most useful to Far-Eastern ports. It is expected that the interchange will last six weeks.

#### II. INDIVIDUAL MISSIONS.

Individual missions were offered to health officers nominated by their Health Administration in connection with lines of work in which the Health Organisation was engaged.

In accordance with the plan for the reorganisation of the public health services of Greece, five Greek medical officers, who will be appointed to posts in the new health services, were given opportunities for study abroad under the auspices of the Health Organisation. Four of these officials took part in the malaria courses arranged by the Health Organisation, while the fifth visited districts in Denmark, Hungary, Italy, the Netherlands and Roumania. All five then assembled at Zagreb for a six weeks' study of conditions in Yugoslavia. This was followed by short periods of study in France and at Geneva.

Two professors of hygiene (Belgian and French) made a study of the new institutes of hygiene in Central Europe, and submitted interesting reports.

A medical officer from the Health Institute of Bangalore, Mysore, studied at Zagreb, Ljubljana and Rome for a period of one month.

The chief of the Sewage Disposal Department of New Brunswick, N.J. (U.S.A.) visited England, Germany and the Netherlands to examine the latest methods of sewage disposal employed in Europe.

A Chinese medical officer studied child welfare methods in the Netherlands, Great Britain, Italy and Yugoslavia. Six more medical officers from China will be given missions in 1930, in connection with the proposals of the Government for collaboration with the League in health matters.

#### III. INTERCHANGE OF LABORATORY STAFF IN AFRICA.

In conformity with a recommendation of the Second International Sleeping-Sickness Conference, an interchange will be arranged of members of laboratory staffs in certain parts of Africa for the study of sleeping-sickness.

#### Chapter VII.

#### I. SLEEPING-SICKNESS.

At its thirteenth session, held at Geneva in October 1928, the Health Committee suggested that the Second International Conference on Sleeping-Sickness, to be held the following month, might deal with questions connected with the health conditions of natives in Africa.

The Conference appreciated the value of enquiries in this direction and asked the Health Organisation to examine the information available on the importance of human trypanosomiasis in relation to other causes of morbidity, and also to study the results of the various medical administrative measures taken in different parts of Africa to deal with trypanosomiasis. The Health Section has accordingly collected information on this subject and will later

present a report to the Health Committee.

During its fourteenth session, in May 1929, the Health Committee adopted the following resolution, concerning the Second International Conference on Sleeping-Sickness:

#### "The Health Committee,

"Having considered the report of the Second International Conference on Sleeping-Sickness, the report by M. Quiñones de León to the Council on the work of that Conference, and the resolution adopted by the Council relating thereto; "Attaches special importance to the recommendation of the Conference that the Health Organisation of the League should collect and analyse facts obtainable in regard to the importance of ware the recommendation of marking the second the terms that

of human trypanosomiasis in relation to other causes of morbidity, and expresses the hope that

of number trypanosomiasis in relation to other causes of morbidity, and expresses the hope that the administrations concerned will co-operate fully in this study; "Recommends that the services of the Health Organisation be placed at the disposal of the administration of those territories and that it employ its usual methods of enquiry and work in complying to the fullest possible extent with the recommendation of the Conference; "Endorses the recommendation of the Conference concerning the appointment of an expert Committee to assist in co-ordinating trypanosomiasis investigations, and recommends that the following experts be invited to serve on that Committee:

- "Dr. A. BAGSHAWE,
- " Professor E. VAN CAMPENHOUT, " Professor Aldo Castellani,
- " Professor MESNIL,
- " Professor G. PITTALUGA,
- " Professor R. Strong.

" Requests the Medical Director to take all practical action to give effect to the recommendations of the Conference concerning individual interchanges between laboratory staffs."

At its fifty-sixth session in September 1929 the Council decided, on the request of the President of the Health Committee, to invite Dr. Damas Mora, Director of the Health Services in the Portuguese colony of Angola, to join this expert committee.

#### II. INTERNATIONAL SECRETARIAT FOR PHARMACOPCEIA.

In June 1929, the Belgian Government asked the opinion of the League with regard to the establishment of an International Secretariat for Pharmacopœia and two committees, one to study the standardisation of methods for the chemical and physico-chemical dosage of heroic remedies and the other to study the unification of methods of preparing heroic galenic remedies.

Resolutions on this subject had been adopted at the second International Conference for the Unification of the Formulæ of Heroic Drugs, which met at Brussels in 1925. The resolutions of this Conference, which was attended by the delegates of thirty-three Governments, were embodied in a draft International Agreement.

The Council, in September 1929, referred the letter to the Health Committee for consideration and report.

#### III. WELFARE OF THE BLIND.

At its eleventh session, the Health Committee approved a proposal by Sir George Buchanan that information on the provision made for the welfare of the blind in various countries should be collected. A circular letter was accordingly sent to the administrations of fifty-six countries, accompanied by a questionnaire concerning the measures in force for the welfare of the blind. By the beginning of 1929, twenty-seven countries had communicated their replies and, on the basis of this official information, a report was drawn up and published in September (document C.H.818).

As regards certain countries whose replies were not received in time, the compilers of the report supplemented this information by particulars obtained from unofficial sources. The Health Organisation secured the services of two experts, one from the British Ministry of Health and the other from the Department of Health for Scotland, to collaborate in the preparation of the report.

As regards the section of the report coming within the sphere of the International Labour Office, the Health Organisation obtained the assistance of the Social Insurance and Disablement Service.

#### ARRANGEMENT OF THE REPORT AND APPENDICES.<sup>1</sup>

"So far as is known, no enquiry on so comprehensive a scale has ever been made into the provision for the blind in various countries, and for this reason, the data now obtained have been set out as fully as possible in the appendices. Each appendix deals with a separate subject and is arranged to show what is being done, under each heading, in the various countries, which are arranged alphabetically. It is hoped that this arrangement will enable ready comparison to be made of the way in which various subjects are dealt with in different countries. Such a presentation must necessarily confine itself, for the most part, to a statement of facts without showing their interrelations or their relative significance. The main body of the report aims at a general description of the work that is being done, showing these interrelations and the relative significance of special methods adopted in particular countries. The report has been arranged so far as is practicable, so that each chapter is illustrated by its corresponding appendix and is consequently not overburdened with detail. By adopting this method, which necessarily involves some repetition, it is hoped that the general reader will be able to obtain from the main report a general survey of the problems of the welfare of the blind and the methods adopted for solving them, and can supplement and verify them from the detailed statement of the facts set out in the appendices. This arrangement also will enable the specialist to turn quickly to that part of this volume which specially interests him.

"It should be observed that the subject of this volume which specially interests min." "It should be observed that the subject of this report is the provision made in various countries for the welfare of persons after they have become blind. It does not therefore aim primarily at discussing the causes and prevention of blindness in detail, but, inasmuch as many of the replies gave valuable information on these subjects in reply to the questionnaire, it has been thought desirable to include such information as is available in a separate appendix.

"The report and appendices are necessarily limited to the replies furnished and to such further information as has been available."

\* \*

In a letter to the Secretary-General dated August 14th, 1929, the League of Red Cross Societies, in its own name and on behalf of the Provisional Committee of International Co-ordination for the Prevention of Blindness and of the President of the International Congress of Ophthalmology, invited the Health Organisation to send a representative to the meeting to be held on September 14th at Scheveningen (Netherlands) at the close of the thirteenth International Congress of Ophthalmology. This invitation was accepted.

A special organisation, to be known as the International Association for the Prevention of Blindness, was set up at Scheveningen at the close of this Conference. The Statutes of this Association were drawn up and adopted and several resolutions were passed, of which the fourth reads as follows:

"The International Association for the Prevention of Blindness expresses to the Health Organisation of the League of Nations its sincere gratitude and admiration for the completion of the latter's enquiry into blindness and its causes, which will be of the greatest assistance to international prophylaxis."

An English organisation for the blind has recently sought permission to publish this report in Braille.

<sup>&</sup>lt;sup>1</sup> This paragraph is taken from the first chapter of the Report on the Welfare of the Blind.

#### IV. DANGERS RESULTING FROM THE USE OF X-RAYS.

Further information has been received during 1929, in addition to that mentioned in the previous annual report, concerning the laws and regulations in force in various countries for the prevention of dangers from the use of X-rays.

The Public Health authorities of Czechoslovakia have forwarded draft regulations prepared by a Commission set up for the study of this subject.

Information received from Bulgaria, Finland, France, Japan and Roumania indicates that there is no special legislation on the matter in these countries.

The Greek Ministry of Health submitted a memorandum by a committee of doctors constituted to study the legislative measures to be taken for protection against X-rays and radium (document C.H.827).

In Hungary, the Ministry of Health has charged a special Committee to study the damage

caused by X-rays and to propose preventive measures. The Director of Health in *Italy* stated that the Ministry of the Interior had decided to bring forward a legislative measure. In *Switzerland*, no Federal law exists on the subject. A copy of instructions established by the Swiss Society of Radiology, Berne 1928, was communicated to the Health Section.

In the United States of America, very little federal legislation exists, since the matter generally comes under State legislation.

Information has been received from the Union of Soviet Socialist Republics that this subject is dealt with by a Decree of the Commissariat of Work of September 9th, 1925. A copy of this Decree has been supplied by Soviet authorities.

The Health Organisation has secured valuable assistance from the eminent radiologist, Professor Wintz, Chief of the University Gynacological Clinic at Erlangen, who is preparing a report with Dr. Jitta. Dr. Jitta is preparing draft regulations which might be recommended for use in the various countries.

#### V. ENQUIRY REGARDING THE DEVELOPMENT OF HEALTH CENTRES.

At a meeting of the Health Committee, in May, 1929, the Secretariat was instructed to collect information regarding health centres in certain countries in Europe, with special reference to the lines along which they were likely to develop.

Since October, preliminary investigations have been under way in Czechoslovakia, Poland, Roumania and Yugoslavia.

It is expected that the matter may be considered by a few experts in the autumn of 1930, with a view to securing definition of certain minimal requirements.

#### VI. RABIES.

The International Rabies Conference, which met in Paris in 1927, directed attention to the necessity for comparing the efficiency and innocuousness of the various methods of antirabic inoculation. For this purpose, a standard form (document C.H.693) for the preparation and publication of statistics was distributed to the Pasteur Institutes of various countries.

Returns on these forms have now been received from thirty-one institutes in seventeen countries. These give particulars of the treatment of more than 31,000 persons. This material has been analysed and a report (now in the press) prepared by Lt.-Col. McKendrick, I.M.S.

The preliminary conclusions reached tend to show that there is no definitive evidence that any one of the methods of preventive treatment has an advantage over the others. This applies in particular to methods employing live vaccines which do not appear to give better results than those using killed vaccines.

It is anticipated that a larger collection of material will be available in subsequent years as several additional Institutes will be using the standard form and making their data available for analysis.

From the information so furnished, it is hoped that, in time, definite conclusions regarding antirabic treatment may be reached.

#### VII. DENGUE.

The severe dengue epidemic which occurred in 1928 in Greece and several other countries of the Eastern Mediterranean area, drew the attention of the Health Committee to the desirability of ascertaining the true prevalence of Ædes Ægypti (stegomyia colopus, vel argenteus, the vector of the disease).

The health administrations and, in some cases, expert entomologists and specialists in tropical diseases of the countries concerned were requested to furnish data on the prevalence of *Ædes*, as well as on local peculiarities which might be of importance should a repetition of the epidemic occur. This data could be obtained personally or from existing literature. Information was received concerning the following countries:

Algeria	Morocco <sup>1</sup>
Bulgaria	Palestine
France	Syria
Greece	Union of Soviet Socialist Republics
Italy	Turkey
Malta	Yugoslavia

This information supplemented the reports made by Dr. Raynaud, Dr. Dienot and Dr. Burnet on dengue in the Mediterranean countries (document C.H.751), by Dr. Lutrario on dengue in Italy (document C.H.755), the bibliographical note by Dr. Wenyon and Dr. McGregor (document C.H.756), and the general note prepared by the Health Section (document C.H.758). Although far from uniform in details and reliability as regards all countries, these data

Although far from uniform in details and reliability as regards all countries, these data constitute a valuable basis for prophylactic measures in the event of a fresh outbreak either of dengue or yellow fever.

#### VIII. DEVELOPMENTS IN THE PUBLIC HEALTH MOVEMENT IN THE UNITED STATES OF AMERICA.<sup>2</sup>

# (a) SURVEY METHOD OF STIMULATING PUBLIC HEALTH ADMINISTRATION IN THE UNITED STATES OF AMERICA.

During the May 1929 session of the Health Committee, Surgeon-General Cumming presented a note on this subject, a summary of which is given in the Minutes (document C.H.805). The Committee decided to include an account of this method in the publications of the Health Organisation.

By the term "survey" is understood the process or result of a critical inspection or examination undertaken for the purpose of ascertaining all the facts, as to quantity, quality or status of the objective of the survey.

In public health, the survey may be likened to the physical examination in the hands of the medical clinician.

To make some differentiation as to the variety of the investigations that have been classed as surveys, the term "public health survey" is applied to those studies that include all the activities, resources and conditions affecting in any way the health of a community. It should include the organisation, administration and work of both the official and the so-called voluntary health agencies.

The term "sanitary survey", on the other hand, is restricted to those studies of various environmental conditions affecting the health of the community either directly or indirectly, such as water-supplies, excreta disposal methods, milk and food sanitation, housing, insect and rodent infestation.

One of the most useful functions of the survey method is the opportunity offered to estimate the progress made from year to year in a given community. For this purpose, "periodic surveys " are essential.

The surveys carried out in the United States of America have made it possible to compare the health services of different cities and to determine some of the defects and shortcomings of public health work.

#### (b) HEALTH DEMONSTRATIONS.

Having established the need for developing and extending whole-time health service, especiallyl in small towns and rural areas, it was evident that more rapid progress might be expected if these communities could be shown, objectively, the advantages of adequate service. Realising that the cost of such a service frequently exceeded the funds these communities were able or willing to contribute, efforts to assist these communities gradually took the form of "health demonstrations".

Nearly ten years ago, following surveys of representative rural areas, the United States Public Health Service began to promote greater interest in better provisions for rural health service. Out of this have grown the "demonstrations" or co-operative projects which undertook to set up whole-time county health units. That this method of stimulation has been fairly effective is evidenced by the fact that, at the end of the calendar year 1928, there were reported a total

<sup>&</sup>lt;sup>1</sup> Dr. Remlinger of Tangiers made proposals for further research.

<sup>&</sup>lt;sup>2</sup> Abstract of reports submitted by Surgeon-General Cumming and Professor C. E. A. Winslow.

- 5I -

The campaigns against hookworm disease and malaria also contributed to improvement in rural hygiene and sanitation. In addition to the Public Health Service, the International Health Board of the Rockefeller Foundation rendered material assistance in these various demonstration projects.

Several private agencies, foundations, and endowment funds have likewise supported various "demonstrations" and mention should be made of the American Child Health Association, the Commonwealth Fund, the Milbank Memorial Fund, and others, including some of the large insurance companies.

The demonstrations have been organised with the intention of transferring full responsibility to the community as soon as it is prepared to maintain it properly. Although it is too early to draw definite conclusions, there is evidence that these demonstrations have contributed very materially to the development and improvement of local health service.

#### (c) The Appraisal Method of measuring Health Services.

One of the earliest attempts to apply specific ratings to various health services was developed in 1914, in connection with studies of stream pollution undertaken by the United States Public Health Service. These studies endeavoured to examine critically the various factors responsible for the prevalence of typhoid fever as indicated by information and data collected by field surveys of all the communities located on the Ohio River watershed.

In order to compare the conditions found in different communities, a scheme of sanitary ratings or relative values was carefully devised by which specific numerical values were assigned to those factors, such as water-supplies, sewage-disposal methods, and other items of sanitation, that seemed definitely related to the incidence of typhoid fever.

After many revisions, a "sanitary rating" schedule was finally adopted and specific weight factors were assigned to the conditions considered responsible for typhoid fever.

#### The Appraisal Form for City Health Work.

The tendency to standardise in other fields has lead to a very definite attempt to establish standards for various items of health service. This idea of standardisation, based upon relative values, has become crystallised in the "Appraisal Form for City Health Work", sponsored by the present Committee on Administrative Practice of the American Public Health Association, the American Child Health Association, together with a group of health officers and representatives of other national voluntary health agencies.

Briefly, this appraisal form "contains a list of the major health activities now common to practically all cities; sets forth their relative values in a public health programme; and presents a set of standards for evaluating the adequacy or inadequacy of the different activities under any branch of public health work".

Combined with the appraisal form, as published, there is a schedule which calls for the collection of data essential to appraisement. This schedule contains fourteen sections, each representing a specific field of public health activity, whether carried on by the official authorities or by non-official agencies. To each section or activity are assigned values totalling IOO points, and a weighted value, or factor, is applied to each section in order to adjust the total score to I,000.

A full record of the progress of this appraisal movement will be found in the third edition (1929) of the "Appraisal Form for City Health Work", published by the American Public Health Association, and in the reports of the Committee published in the Association Journal and elsewhere.

and elsewhere. An "Appraisal Form for County Health Work" has been prepared and published (1926) for experimental use. A similar appraisal form for State health work is now under consideration by a special Sub-Committee. Other Sub-Committees have been arranged for the consideration of (I) standard health department reports; (2) model health department ordinances; and (3) model record forms.

In undertaking to devise appraisal forms for health work, the Committee recognised that it might "invite unjustified and damaging criticism of departments having low scores: and it might . . . lead to undue standardisation and to stagnation on the part of cities having high scores". By applying appraisals only with the approval and on the request of the health officer concerned, by avoiding any comparisons of total scores, and by making provisions for periodic revisions of the appraisal forms, it was expected that these hazards would be avoided.

The present appraisal form has been confined, for the most part, to work the relative value of which can be measured by such criteria as number of visits of infants to clinics, tuberculosis



cases hospitalised, laboratory tests performed, etc. It does not undertake to give any credits to funds available or to the adequacy of efficiency of personnel-items representing resources rather than performance. It does not utilise mortality and morbidity rates as measures of results, nor does it directly measure the "healthfulness" of a community.

#### (d) PLANS FOR "IDEAL" HEALTH DEPARTMENT ORGANISATION.

Growing out of the extensive surveys made by the United States Public Health Service, the American Public Health Association and the American Child Health Association, and to meet the frequent demands for standard or ideal plans of health organisation for cities of different sizes, three such plans have been prepared, as follows:

I. "An Ideal Health Department for a City of 100,000 Population" (1922);
2. "A Proposed Plan of Organisations of Community Health Service for a City of 50,000 Population" (1925);
3. The Organisation and Budget of a Health Department in a City of 20,000 Population (Population to a complete to complete to a complete to a complete to comple

(1924). (Revised to apply to a county or district of 30,000.)

Each of these plans includes all powers of health work whether supported by official or non-official agencies. They do not contain provisions for such services as garbage disposal, street cleaning, plumbing and building inspection, operation of water-supply and sewage-disposal systems, industrial or mental hygiene, or care of sick poor.

Professor Winslow mentioned that an effort had been made to avoid any tendency to over-standardisation. The object was to enable each health officer to measure his own work against a general objective standard and the appraisal form was not imposed by any higher administrative agency but represented the effort of the health officer's own organisation to improve the general standards of practice.

Dangerous stagnation was avoided by the revision of the appraisal form every three years to keep pace with rising standards of current practice. The actual quantitative standards of one country would by no means fit another, but it might be of interest to consider the possibility of applying this general principle in certain European countries with the object of developing locally standards applicable to those countries and of obtaining a comparative idea of the importance of various aspects of public health work in different countries.

#### PROGRAMME OF THE COMMITTEE ON THE COST OF MEDICAL CARE. (e)

Professor Winslow stated that this Committee had been organised to undertake a joint study, with the help of physicians, public health workers, economists and representatives of the general public, of the extent of illness in the United States of America, the type and cost of the treatment given, the remuneration of the medical profession and the success of various experiments in organised medicine to meet the needs of special population groups. The Committee had embarked on a five, year study of these problems and hoped to be able to reach a solution mutually satisfactory to the medical profession, the public health workers and the public.

#### Appendix I.

# LIST OF PRINCIPAL MEETINGS, MISSIONS, INVESTIGATIONS, ETC., DURING 1929.

#### I. MEETINGS OF COMMISSIONS.

		Place	Date
I.	Fourth Session of the Advisory Council of the Eastern Bureau of the Health Organisation	Singapore.	February 14th to 16th.
2.	Commission of Health Experts on Infant Welfare	Rome.	March 25th to 28th.
3.	Cancer Commission: Sub-Commission on Radiology	Geneva.	March 25th to 27th.
4.	Commission of Expert Statisticians	Berlin.	April 3rd to 5th.
5.	Joint Commission of the Health Organisation and the International Institute of Statistics	Paris.	April 9th to 12th.
6.	Fourteenth Session of the Health Committee	Geneva.	May 2nd to 8th.
7.	Commission on the Fumigation of Ships	Paris.	May 15th.
8.	Joint Commission on Anthrax	Geneva.	June 17th.
9.	Consultation of Experts on Immunisation against Diphtheria and Scarlet Fever	Paris.	July 4th to 6th.
10.	Meeting of Experts for the Study of Tuber- culosis in Scandinavia	Copenhagen.	September 25th and 26th.

II. SURVEY OF HEALTH CONDITIONS IN THE PACIFIC ISLANDS.

Departure of the Mission from Sydney	December 26th, 1928. October 31st to November
TIDIE CO I IJI IDICII CO I I I I I I I I I I I I I I I I	18th, 1928.
Visit to New Caledonia and Loyalty Islands	November 25th to December
,	6th, 1928.
Visit to Papua, the Bismarck Archipelago and the Solomon Islands	February 6th to April 1st,
	1929.
Return of the Mission to Brisbane	April 6th, 1929.

III. COLLABORATION WITH THE GREEK GOVERNMENT IN THE SANITARY REORGANISATION OF GREECE.

Arrival of the Commission of Experts at Athens. . . . . January 25th. Arrival of the Delegation of the Health Committee . . . . . April 7th. Departure from Greece . . . . . . . . . . . . . . . End of April.

Theoretical Courses:

IV. MALARIA COURSES.

London . Paris Hamburg. Rome	•	•	•	•	•	•	•	•	•		•	•	•	•		•	•				•		May 28th to June 28th June 5th to July 13th. June 10th to July 15th. July 1st to September 30th.
Practical Work: Navalmora Skoplje Rome	1 d	e l	la ·	Ma	ita •	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	July 18th to August 15th. July 18th to August 15th. August 19th to Sept. 18th.

V. INTERCHANGES AND GENERAL STUDY-TOURS.

Collective Tour for the Study of Industrial Hygiene .	•		April 3rd to May 8th.
Collective Tour for the Study of Rural Hygiene			June 3rd to July 8th.
Tour of the Sub-Commission on Preventive Medicine.			April 8th to 24th.

Tour of the Malaria Commission in India:

Arrival at:	Bombay																August 23rd.
	Punjab																August 29th.
	United P	ro	vi	nc	es												September 13th.
	Bengal.																October 23rd.
	Assam .							•							•		November 11th.
	Burma.																November 22nd.
	Madras																December 11th.
	Mysore					٠					•		•				December 17th.
Departure from:	Bombay	•	•	•	٠	•	•	•	•	•		۰	•	•	•	•.	December 28th.

VI. INVESTIGATIONS IN CONNECTION WITH ENDEMIC SYPHILIS IN CERTAIN AREAS OF BULGARIA. . . . . . . . . October 23rd to Nov. 3rd.

#### VII. MISSION IN CHINA.

Dep	art	ur	e i	fro	m	E	ur	op	е						•	•									October 2nd.
Nev	γY	or	k					÷																	October 10th.
Jap	an																•		•						October 28th to Nov. 8th.
Chi	na	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	۰	•	•	•	•	•	٠	•	Nov. 9th to Dec. 31st.

VIII. MISSION OF THE SECRETARY OF THE LEPROSY COMMISSION IN LATIN AMERICA.

Departure	fr	om	ιE	Bor	de	au	x																		February 28th, 1929.
Venezuela																									March 14th to April 9th.
Colombia							•																		April 10th to May 13th.
Ecuador .																									May 16th to 28th.
Peru								•						•	•	•		•					•	•	June 7th to 24th.
Bolivia .		٠					٠	•	•	•		•		•			•			•		٠		•	June 25th to July 2nd.
Chile		۰		•	•	•				•	•	•	•	•	•		•		•	•	•		•	•	July 3rd to 15th.
Argentine			•						•			•	•	•	•	•	•	•	•					•	July 16th to 30th.
Uruguay .							٠	•	•	•	•	•	•	•	•	•	•	•	•		•	٠	•	•	July 31st to August 9th.
Paraguay	•	۰	•	•	•	٠	•	•	•	•	•	•	•	•	•	•	•	•	•	•	٠		٠	•	August 10th to 20th.
Argentine	•	٠	•		•	•		•	•	٠	•	•	•	•		•		•	•		•		•	•	August 21st to 23rd.
Brazil	•	•	•	٠	•		•	•	•	•	٠	•	•	•	•		•	•	•	•	•	•	•	٠	August 29th to Sept. 12th.

#### Appendix II.

#### HEALTH COMMITTEE. - ADVISORY COUNCIL OF THE EASTERN BUREAU. -NEW COMMISSIONS FORMED IN 1929. — NEW MEMBERS.

#### Health Committee.

The mandate of the members of the permanent Health Committee elected in 1923 having expired at the end of 1926, the following twenty-four members were elected or re-elected for a period of three years commencing on January 1st, 1927. The Council, at its December 1929 session, decided to extend their mandate for a further period of six months until June 30th, 1930.

#### President:

Dr. Th. MADSEN, Director of the State Serum Institute, Copenhagen.

#### Vice-Presidents:

(Ex officio) M. O. VELGHE, Secretary-General of the Ministry of the Interior and of Health, Brussels; President of the Comité permanent de l'Office international d'Hygiène publique.

(Elected for 1929) Dr. Witold CHODZKO, former Polish Minister of Health; Director of the State School of Hygiene, Warsaw.

(Elected for 1929) Professor Ricardo JORGE, Technical President of the Public Health Council, Lisbon.

Members:

Professor G. Araoz Alfaro, former President of the National Health Department, Buenos Aires.

Professor Léon BERNARD, Professor of Tuberculosis at the Faculty of Medicine, Paris;
 President of the Conseil Supérieur d'Hygiène at the French Ministry of Health, Paris.
 Sir George BUCHANAN, Senior Medical Officer, Ministry of Health, London.

Professor J. CANTACUZÈNE, Professor of Bacteriology and Director of the Institute of Experimental Medicine, Bucharest.

Dr. H. CARRIÈRE, Director of the Swiss Federal Public Health Service, Berne.

Dr. Carlos CHAGAS, Director of the Oswaldo Cruz Institute, Rio de Janeiro.

- Surgeon-General H. S. CUMMING, Chief of the United States Public Health Service, Washington, D.C.
- Dr. J. H. L. CUMPSTON, Director-General of the Commonwealth Department of Health, Canberra.

General J. D. GRAHAM, Public Health Commissioner with the Government of India, Delhi. Dr. C. HAMEL, President of the Reichsgesundheitsamt, Berlin.

Dr. Alice HAMILTON, Professor of Industrial Hygiene at Harvard University, Cambridge (Mass.).

Dr. N. M. J. JITTA, President of the Public Health Council of the Netherlands, The Hague. Dr. A. LUTRARIO, former Director-General of Public Health, Rome.

Professor NAGAYO, Director of the Government Institute for Infectious Diseases, Tokio. Professor B. NOCHT, Rector of the University and Director of the Institute of Tropical Diseases, Hamburg.

Professor Donato OTTOLENGHI, Professor of Hygiene at the Royal University of Bologna.

- Professor Gustavo PITTALUGA, Professor of Parasitology at the Faculty of Medicine, University of Madrid.
- Dr. L. RAYNAUD, Inspector-General of the Public Health Service of Algeria, Algiers.
- Dr. M. TSURUMI, representative of the Public Health Service of Japan at the Japanese Embassy, Paris.
- Dr. C. E. A. WINSLOW, Professor of Public Health, Yale School of Medicine; member, Public Health Council, State of Connecticut.

#### Secretary of the Committee :

Dr. L. RAJCHMAN, Medical Director.

#### Advisory Council of the Eastern Bureau at Singapore.

#### Delegates to the Session in February 1929.

The delegates on the Advisory Council comprise a representative of the following countries:

Australia, China, India, Indo-China, Japan, Japanese Colonies, Netherlands East Indies, Straits Settlements or some other British Colony.

In 1929, the delegates were as follows:

General J. D. GRAHAM, I.M.S., Public Health Commissioner with the Government of India (Chairman for the year 1929), representing British India.

Professor NOBECHI, of the State Institute for Infectious Diseases, Tokio, representing Japan (Vice-President for 1929).

Dr. A. L. HOOPS, representing British Colonies and Dependencies.

Dr. Yiling MEI, representing China.

Dr. F. H. GUÉRIN, representing French Indo-China.

Dr. T. AMAGISHI, representing Japanese Colonies.

Dr. J. D. REDFIELD, representing Siam.

Dr. J. VAN LONKHUIJZEN, representing Netherlands East Indies.

#### Expert Committee on Sleeping-Sickness.

Dr. A. G. BAGSHAWE, Director of the Bureau of Hygiene and Tropical Diseases, London.
Professor E. VAN CAMPENHOUT, Director of the Health Service of the Colonial Office, Brussels.
Professor Aldo CASTELLANI, K.C.M.G., M.D., Director of Tropical Medicine and Dermatology, Ross Institute and Hospital for Tropical Diseases, London.

Professor MESNIL, Pasteur Institute, Paris.

Dr. Damas MORA, Director of the Health Services of Angola.

Professor G. PITTALUGA, Professor of Parasitology at the Medical Faculty, Madrid.

Professor R. STRONG, Department of Tropical Medicine, Harvard University Medical School.

#### Expert Commission on Plague.

The following member has been added to the Commission:

Professor ISHIWARA, Chief of the Plague Section, State Institute of Infectious Diseases, Tokio.

#### New Members of Commissions:

Commission on Education in Hygiene and Preventive Medicine:

Dr. F. C. YEN, The Dean of the Central University Medical College, Shanghai.

Permanent Commission on Standardisation (Vitamins):

Dr. Robert LIM, Professor of Physiology at the Peiping Union Medical College and President of the National Medical Association.

Expert associated with the Studies on Physical Education:

Dr. TSU MIN YI, member of the Central Executive Committee of China.

Sub-Commission on Social Medicine:

Dr. Shisan C. FANG, former Director of the National Epidemic Diseases Prevention Bureau.

#### Appendix III.

# LIST OF EXPERTS INVITED TO TAKE PART IN THE CONSULTATION ON IMMUNISATION AGAINST SCARLET FEVER AND DIPHTHERIA.

#### (Paris, May 1929.)

Professor Th. MADSEN, Director of the State Serum Institute, Copenhagen.

Dr. BORCIC, Director of the State School of Public Health, Zagreb, Yugoslavia.

Professor CANTACUZÈNE, Director of the Institute of Experimental Medicine, Bucharest. Professor FRIEDEMANN, of the Rudolph Virchow Hospital, Berlin.

Dr. HIRSZFELD, Director of the State Institute of Health, Warsaw.

Dr. O'BRIEN, Director, "Wellcome Research Laboratories", Beckenham, Kent.

Dr. RAMON, Director of the Pasteur Institute, Garches, Seine-et-Oise.

Dr. TOMCSIK, State Health Institute, Budapest.

Professor E. GORTER, Director of the Child Clinic of Leyden University, Netherlands.

Dr. R. DEBRÉ, Professeur Agrégé d'Hygiène, at the Medical Faculty, Paris.

Dr. E. H. R. HARRIES, Medical Superintendent, City Fever Hospital, Birmingham.

Dr. O. SCHUBERT, State Health Institute, Prague.

Professor FINKELSTEIN, Children's Clinic, Berlin.

Dr. BIE, Blegdamshopitalet, Copenhagen.

All the above experts, with the exception of Professor Finkelstein, attended the consultation. Dr. Tsurumi, member of the Health Organisation of the League of Nations, also attended some of the sessions. Appendix IV.

# BUDGET OF THE HEALTH ORGANISATION FOR 1930.

# (In Swiss francs.)

1	Total	51,461 325,726 47,382 17,611 24,080 1,960 1,960 96,951 5,655 15,000	420,877	I,534,044
ENDITURE 1928	Grant from International Health Divi- sion of Rockefeller Foundation	133,433 160,197 64,651	217,324	575,605
EXI	League contribution	51,461 325,726 47,382 17,611 24,080 1,960 1,960 33,711 32,300 5,655 15,000	203,553	958,439
63	Total	60,000 362,403 58,000 15,000 13,000 2,000 6,554 6,554 6,554 115,763 5,000 15,000 15,000	289,549	I,556,067
ESTIMATES FOR 192	Grant from International Health Divi- Rockefeller Foundation	120,397 237,401 45,763	I39,549	543,110
	League contribution	60,000 362,403 58,000 16,000 13,000 2,000 6,554 70,000 5,000 15,000 15,000	I 50,000	I,012,957
ESTIMATES FOR 1930	Total	60,000 370,944 48,000 19,000 12,000 2,000 2,000 22,500 30,000 150,000	299,450	I,899,308
	Grant from International Health Divi- sion of Rockefeller Foundation	280,109 280,109 10,000 15,000	150,000	750,414
	League contribution	60,000 370,944 48,000 19,000 12,000 2,000 240,000 12,500 15,000 15,000	149,450	I,I48,894
	INTERNATIONAL HEALTH ORGANISATION	<ol> <li>Health Committee, Secretariat and General Work of the Organisation:         <ol> <li>Sessions of the Health Committee</li> <li>Sessions of the Health Committee</li> <li>Salaries of the Health Section</li> <li>Salaries of the Health Section</li> <li>Scalaries of the Health Section</li> <li>Travelling and removal expenses of the Secre- tariat</li> <li>Cables, telegrams and documentation</li> <li>Cables, telegrams and documentation</li> <li>Miscellaneous petty expenses and unforescen contingencies</li> <li>Unpaid liabilities in respect of previous years</li> <li>Onterlineau Committees</li> <li>Onterlineau rescande work of experts and collective and individual studies</li> <li>Miscellaneous and unfo</li></ol></li></ol>	III. Expenses in connection with a system of liabout between the various national public health services	Total

<sup>1</sup> The presentation of the budget having been slightly altered in 1929, the 1928 expenditure has been grouped under the headings adopted for 1929 and 1930.

#### Appendix V.

#### BUDGET OF THE EASTERN BUREAU.

#### ESTIMATES FOR 1930 ADOPTED BY THE TENTH ASSEMBLY 1.

		1930 Estimates Straits	Expenditure in 1928 dollars
Í.	Staff Salaries and Allowances	57,858	40,928
II.	Travelling Expenses of the Staff and Expenses for the Co-ordination of Research	5,200	2,358
III.	Cables and Postage. Straits Dollars		
	Cables       16,300         Postage       600	16,900	16,160
IV.	Printing, Stationery and Equipment.		
	Printing       2,550         Stationery       650         Weekly Fasciculus       3,600         Periodicals       900         Equipment       180         Books of Reference       300	9 790	6 6 70
V.	Rent, Electricity and Telephone.	0,100	5,579
	Rent.       3,000         Electricity       54         Telephone       166	0.000	2 780
VI.	Travelling Expenses of Members of the Advisory Council .	5,500	
VII.	Miscellaneous.		
	Medical attendance to staff200Audit fee.300Miscellaneous1,750	2.250	т 370
			-,579
		99,108	69,593

#### Appendix VI.

#### LIST OF PUBLICATIONS ISSUED DURING 1929.

I. SERVICE OF EPIDEMIOLOGICAL INTELLIGENCE AND PUBLIC HEALTH STATISTICS.

#### Periodicals.

- I. Weekly Bulletins (bilingual), Nos. 149-200 (approximately 8 to 12 pages each).
- Monthly Epidemiological Reports (bilingual), Nos. 122-133 (approximately 40 pages each). 2.

3. Annual Epidemiological Reports (bilingual):

- E.I.12. "Statistics of Notifiable Diseases for the Year 1927."
- I vol., size  $24.5 \times 32$  cm., 66 pages. May 1929. E.I.13. "Statistics of Notifiable Diseases for the Year 1928."

(In preparation.)

<sup>&</sup>lt;sup>1</sup> The expenses of the Eastern Bureau of the International Health Organisation will be met, in 1930, by contributions from:

<sup>(</sup>a) Certain Governments;(b) The budget of the Health Organisation of the League (including outside grants).

The following Governments contributed towards the expenses of the financial year 1928: China, Dutch East Indies, Federated Malay States, French Indo-China, Japan, Philippines, Straits Settlements.

Series.

I. Statistical Handbooks: C.H.741. — "Official Vital Statistics of Ireland " (The Irish Free State and Northern Ireland). 1 vol., size 18.5  $\times$  24 cm., 112 pages. July 1929. C.H.771. — "Official Vital Statistics of the Kingdom of Scotland."

1 vol., size 18.5  $\times$  24 cm., 84 pages. June 1929.

2. International Health Year-Book. (Annual):

C.H.733. — International Health Year-Book 1928 (Fourth Year).

Reports on the Public Health Progress of Twenty-nine Countries (Thirty-five Public Health Administrations) in 1927.

1 vol., size 18.5  $\times$  24 cm., 1,173 pages. August 1929.

II. SPECIAL STUDIES AND INVESTIGATIONS.

I. BCG Vaccine (Vaccination against Tuberculosis by the).

C.H.745. - Report of the Technical Conference for the Study of Vaccination against Tuberculosis by means of BCG, held at the Pasteur Institute, Paris, October 15th-18th, 1928.

I vol., size  $16 \times 24$  cm., 147 pages. May 1929.

- Cancer Commission. 2.
  - C.H.788. Reports submitted by the Radiological Sub-Commission on Radiotherapy of Cancer.

1 vol., size  $19.5 \times 25$  cm., 82 pages. July 1929.

- Commission of Expert Statisticians. 3.
  - C.H.786. Report of the Second Session of the Commission of Expert Statisticians, held in Berlin on April 3rd, 4th and 5th, 1929.

1 fasciculus, size  $21 \times 33$  cm., 4 pages. April 1929.

- Health Experts on Infant Welfare. 4.
  - C.H.779. Report on the Work of the Conference of Health Experts on Infant Welfare, held in Rome on March 25th, 26th, 27th and 28th, 1929.

I fasciculus, size  $2I \times 33$  cm., 8 pages. April 1929.

C.H.820. - Memorandum relating to the Enquiries into the Causes and Prevention of Stillbirths and Mortality during the First Year of Life.

(In preparation.)

- 5. Interchange of Public Health Personnel.
  - C.H.691. Health Organisation in British India. Articles written on the Health Organisation of British India on the occasion of the Interchange Study-tour organised for Medical Officers of Health from the Far-Eastern Countries by the Health Organisation of the League of Nations. January-February 1928.

English edition already distributed in March 1928.

French edition (translated by Dr. P. Hermant, Médecin principal de l'Assistance publique de l'Annam).

1 vol., size  $18.5 \times 24.5$  cm., 420 pages. November 1929.

- 6. Malaria Commission.
  - C.H./Malaria/127. Programme of the Malaria Course organised by the Health Organisation of the League of Nations for the Year 1929.
    - 1 booklet, size  $16 \times 23.5$  cm., 29 pages. March 1929. Mixed French-German-Italian.
- Permanent Commission on Standardisation of Sera, Serological Reactions and Biological Products. 7. C.H.726. - Report on the Work of the Second Laboratory Conference on the Serodiagnosis of Syphilis, held at Copenhagen, May 21st to June 4th, 1928. I vol., size  $16 \times 24.5$  cm., 186 pages. March 1929.

C.H.734. — Memorandum on Cardiac Drugs, Thyroid Preparations, Ergot Preparations, Filix Mas, Suprarenal Preparations, Vitamins, Pituitary, Salvarsan, Oil of Chenopodium, and Insulin, by Professor Knaffl-Lenz (Vienna).

1 vol., size 16  $\times$  24.5 cm., 76 pages. December 1929.

C.H.832. - Memoranda on the International Standardisation of Sera and Bacteriological Products, by Professor Carl Prausnitz (Breslau).

1 vol., size  $16 \times 24.5$  cm., 60 pages. December 1929.

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- 8. Welfare of the Blind.
  - C.H.818. Report on the Welfare of the Blind in Various Countries, based on Replies furnished to a Questionnaire sent out by the Health Organisation of the League of Nations.
    - 1 vol., size  $19 \times 24.5$  cm., 284 pages. September 1929.
- 9. Sundries.
  - C.H.805. The Survey Method of Stimulating Public Health Administrations in the United States of America, presented by Dr. H. S. Cumming, Surgeon-General, U.S., P.H.S., to the Health Committee.
    - (Printed as Annex to the Minutes of the Fourteenth Session of the Health Committee.) Reprint: 1 fasciculus, size  $21 \times 33$  cm., 20 pages. September 1929.
    - III. SPECIAL STUDIES ON SANITARY QUESTIONS PREVALENT IN CERTAIN COUNTRIES.
- 1. Greece. Collaboration with the Greek Government in the Sanitary Reorganisation of Greece.
  - C.162.M.63.1929.III (C.H.789). Report of the Delegation to the Health Committee of the League of Nations.

I fasciculus, size  $21 \times 33$  cm., 24 pages. May 1929.

- C.162(a).M.63(a).1929.III. Note by the President of the Delegation of the Health Committee (Annex to above Report).
  - 1 fasciculus, size  $21 \times 33$  cm., 4 pages. May 1929.
- 2. Pacific Islands.
  - C.H.829. Report of the Mission entrusted with the Survey of Sanitary Conditions in the Pacific Islands, by Dr. P. Hermant (Médecin principal de l'Assistance médicale de l'Indo-Chine) and Dr. R. W. Cilento (Director of the Tropical Hygiene Division of the Health Department for the Commonwealth of Australia).
    - I vol., size  $19.5 \times 24$  cm., 116 pages. December 1929.
- IV. REPORTS, MINUTES OF SESSIONS OF HEALTH COMMITTEE AND CONSTITUTIONAL QUESTIONS.
- A. Geneva Office.
- I. General Work of the Health Organisation.
  - A.8.1929.III (C.H.783). Annual Report on the Work of the Health Organisation for the Year 1928.

I fasciculus, size  $21 \times 33$  cm., 71 pages. May 1929.

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C.3.M.3.1929.III. — Minutes of the Thirteenth Session of the Health Committee, held at Geneva from October 25th to 31st, 1928.

I vol., size  $2I \times 33$  cm., 72 pages. March 1929.

C.246.M.85.1929.III. — Minutes of the Fourteenth Session of the Health Committee, held at Geneva from May 2nd to May 8th, 1929.

1 vol., size  $21 \times 33$  cm., 121 pages. September 1929.

- C.175.1929.III (C.H.799). Report (Resolutions) on the Work of the Fourteenth Session of the Health Committee, held at Geneva from May 2nd to May 8th, 1929.
  - (Annex to the Minutes of the Health Committee, document C.246.M.85.1929.III.) Also: 1 fasciculus, size  $21 \times 33$  cm., 7 pages. May 1929.
- B. Far-Eastern Bureau.

C.48.M.28.1929.III. — Annual Report for 1928 and Minutes of the Fourth Session of the Advisory Council, held in Singapore from February 14th to February 16th, 1929.

1 vol., size 21  $\times$  33 cm., 55 pages. May 1929.

#### Appendix VII.

#### RESOLUTIONS OF THE ADVISORY COUNCIL OF THE EASTERN BUREAU AT SINGAPORE.

(Fifth session held at Bandoeng, February 18th to 28th, 1930.)

I.

The Advisory Council approves the report of the Director of the Eastern Bureau for 1929 and congratulates the Director on the efficient manner in which he has administered the Bureau during the year.

#### II.

The Advisory Council having recorded with pleasure an increased efficiency in the broadcast arrangements of the Bureau's intelligence service, a position which has been largely brought about by the co-operation and generosity of the wireless departments of the Governments of French Indo-China, Netherlands East Indies, British India, British North Borneo, Hong-Kong, Madagascar, Japan and Shanghai,

(a) Authorises the Director to convey its thanks to the heads of the various departments aforementioned;

(b) Notes with great satisfaction the generous offer of the Director of the Netherlands East Indies Post, Telegraph and Telephone Services to arrange for a daily broadcast of the Bureau's bulletin for ships at sea.

#### III.

The Advisory Council resolves that its warmest appreciation be tendered to the Government of the Netherlands East Indies for their kind invitation to hold the annual meeting of the Council in Java, for the great facilities afforded it during its meeting in Bandoeng, for the ample opportunities given to the members to study the excellent organisation of medical research and of preventive and curative medicine in the Netherlands East Indies, and for the generous hospitality accorded to the delegates.

#### IV.

The Advisory Council passes the accounts for the year 1929, which have been duly certified by the auditors of the Bureau; and having considered carefully the proposed estimate of \$101,981 for the year 1931, approves of it.

#### V.

The Advisory Council records with thanks the donation of \$500 (gold) by Mr. J. J. Forstall of Chicago as a contribution towards the expenses of some special object of research in which the Bureau is interested.

#### VI.

The Advisory Council having noted the remarks of the Health Committee in regard to the collection of epidemiological information regarding the interior of the countries associated with the Eastern Bureau, points out that such information is already being supplied by thirty-five countries, a list of which appears in the Director's report.

#### VII.

The Advisory Council, having considered certain improvements which, as a result of recent experience, should, in its opinion, be made in the broadcasts of the Bureau's epidemiological intelligence service, and believing that a satisfactory solution will be furthered if the problem is dealt with by international agreement between the competent authorities, requests the Health Committee to submit the question to the Technical and Advisory Committee for Communications and Transit of the League of Nations with a view to the two committees studying this item of international collaboration in order that adequate suggestions may be framed for the use of all concerned and eventually for presentation at the forthcoming Conference for the Revision of the International Radiotelegraph Convention of Washington, 1927.

#### VIII.

The Advisory Council, having considered the reply of the Director of the Office international d'Hygiène publique, dated July 12th, 1929, to a letter from the Acting Medical Director of the

Health Section of the League of Nations, dated June 25th, 1929, concerning the enforcement of certain measures in regard to vaccination against smallpox by the Port Health Authorities of Marseilles in May 1929, desires to express its unanimous opinion that, in the interest of international co-operation for the prevention of disease, any information regarding measures taken by the health authorities of a country situated outside the Eastern area against the arrivals from a country situated in this area should be communicated telegraphically by the Office international d'Hygiène publique to the Eastern Bureau as a regional information centre.

#### IX.

The Advisory Council resolves that special attention be given during the coming year to the collection of documentation on pneumonia with a view to the consideration at a future annual meeting of the desirability of appointing an expert committee on this disease.

#### Χ.

The Advisory Council is of the opinion:

(a) That in view of the momentous consequences which the introduction of yellow fever into one of the tropical Asiatic countries would entail and of the results of investigation in the Netherlands and England regarding the susceptibility of culicides and monkeys from British India and the Netherlands East Indies, nothing should be left undone to prevent the introduction of yellow fever into such countries of Asia as are known to be liable to infection;

(b) That stringent measures should be taken against the entry of the disease, the most urgent being:

(I) The interdiction of all air traffic from infected or even suspected areas to any of the countries in the regional area of the Eastern Bureau until such time as the measures concerted by the Office international d'Hygiène publique are being effectually applied;

(2) The prohibition by law, under severe penalty, of the importation or possession of yellow fever virus for any purpose in all countries in the East liable to infection with this virus;

(c) That to attain this object the closest co-operation between all interested countries is necessary, and that the Health Committee be therefore requested to bring this resolution to the notice of all administrations concerned.



