Pan American Sanitary Bureau:
Annual Report of the Director
Fiscal Year 1942–43
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Pan American Sanitary Bureau:
Annual Report of the Director
Fiscal Year 1942–43

WASHINGTON, D. C.
U. S. A.
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ANNUAL REPORT OF THE DIRECTOR OF THE
PAN AMERICAN SANITARY BUREAU
1942-43

INTRODUCTION

I am presenting below the report of the activities of the Pan American Sanitary Bureau during the fiscal year 1942-43, the 41st of its existence.

As a prelude to any remarks, it is only fitting that sincere thanks be offered to the Pan American Union and its Director General for their cooperation in furnishing office space, as well as other valuable assistance, to the end that our work might continue without curtailment.

It is only proper also that appreciation be expressed to the members of the Directing Council of our Bureau and to the national health authorities of the American Republics, to show even further the high esteem in which their constant and valuable assistance is held.

Hugh S. Cumming
Director, Pan American Sanitary Bureau
PERSONNEL

The personnel of the Directing Council of the Pan American Sanitary Bureau, as elected at the Eleventh Pan American Sanitary Conference, is as follows:

DIRECTOR ....................... DR. HUGH S. CUMMING
Washington, D. C.

VICE-DIRECTOR ................. DR. JORGE BEJARANO
Bogotá, Colombia

COUNSELORS ..................... DR. VÍCTOR ARNOLDO SUTTER
San Salvador, El Salvador
DR. ENRIQUE CLAVEAUX
Montevideo, Uruguay

ASSISTANT DIRECTOR .......... DR. EDWARD C. ERNST*
Washington, D. C.

SECRETARY and EDITOR ........ DR. ARÍSTIDES A. MOLL
Washington, D. C.

MEMBERS ........................ PARAGUAY (DR. MIGUEL OLIVEIRA)
HAITI (DR. JULES TBÉBAUD)
HONDURAS (DR. PEDRO H. ORDÓÑEZ DÍAZ)
GUATEMALA (DR. CARLOS ESTÉVEZ)
BOLIVIA (DR. FÉLIX VEINTEMILLAS)
REPÚBLICA DOMINICANA (DR. L. F. THOMEN)
PANAMÁ (DR. A. GONZÁLEZ REVILLA)

HONORARY MEMBERS ............ DR. JOÃO DE BARROS BARRETO
Honorary President
Rio de Janeiro, Brazil
DR. CARLOS ENRIQUES PAZ SOLDÁN
Lima, Perú
DR. LUIS GAITÁN
Guatemala
DR. MANUEL MARTÍNEZ BÁEZ
Mexico, D. F.

Names of the appointive field force—Traveling Representatives, Nurses, and Sanitary Engineers,—will appear in the respective sections.

* Appointed by the Director.
During the past fiscal year the Bureau has again shown a notable expansion in its activities, especially in certain fields in which the technical resources of the Bureau have been made available for the administration of funds from other institutions in connection with projects of obvious benefit to Pan American public health; including particularly programs undertaken in cooperation with the Commonwealth Fund, the Kellogg Foundation, and the Office of the Coordinator of Inter-American Affairs. Similar arrangements are under discussion with the Markle Foundation.

These increased activities have been largely in line with suggestions and recommendations made by the Pan American Sanitary Conferences and the Pan American Conferences of National Directors of Health, modified or elaborated in consideration of the problems created by the world crisis and the difficulties experienced by health authorities in the different countries in securing and transporting products necessary for effective work. Constant care has been exercised to avoid incurring responsibilities for which the Bureau was not fully prepared from a financial or personnel standpoint, especially if they represented programs which had to be carried on over a period of years. Should the case have been otherwise, steps would have been taken to secure in advance the approval of the Directing Council, as the proper procedure. Its consent would have been deemed essential before any new responsibilities were assumed, no matter how worth-while their objective. It is idle to restate that the policy of the Bureau has always been to seek the cooperation and advice of all those interested.

The work of the Bureau has naturally been somewhat handicapped by the war situation which, while presenting new problems for solution, or at least for consideration, restrict the scope of activities, but in spite of these difficulties its functions are being carried on as effectively as possible.

Field work continued on a regional basis, with Pacific and Caribbean divisions having their headquarters in Lima, Peru, and Panama City, respectively. The scholarship program has been expanded and developed, assistance has been given in the development of public health nursing and sanitary engineering programs, and in hospital improvement; the microfilm service has continued to expand, and the Bureau has been represented at various scientific meetings. It has also been possible to secure the services of experts who, at the request of various countries, visited them to aid in health organization or in fighting disease epidemics.

By the end of the fiscal year the space problem of the Bureau had become acute, although arrangements to provide a temporary partial solu-
tion for the duration of the war emergency continued to be explored. It is becoming more and more apparent that with the growth of the Bureau, a separate building will eventually be necessary.

**ORGANIZATION**

The work of the Bureau continues to be conducted under the guidance of the Director and Assistant Director, and the immediate supervision of the Secretary, in conformity with the classification of functions adopted:

- **Editorial** (including especially the publication of the BULLETIN and the transactions of the Conferences)
- Translating
- Distribution of Publications
- Epidemiology and Vital Statistics
- Library
- Accounts
- Files

Special sections have had to be organized to take care of such matters as Fellowships, Nursing, and Hospitals.

The Director handles directly the correspondence from the field representatives and matters of special importance. The Assistant Director concerns himself especially with the accounting, nursing and hospital sections and acts also as liaison officer with various branches of the United States Government. The publications, translation, epidemiology and vital statistics, library and fellowship section have always been in charge of the Secretary.

In addition to the Director, the Assistant Director, and the Secretary the central office staff in Washington included at the end of the fiscal year: 1 administrative assistant, 1 fiscal officer, 1 editorial assistant, 1 statistical assistant, 1 librarian (on leave), 1 library assistant, 12 translators and stenographers, 1 file clerk, 3 clerks, 1 messenger, and 1 chauffeur. Some of the stenographic personnel were on a temporary basis.

The field force during the fiscal year included 9 Traveling Representatives (several temporary), 8 Sanitary Engineers, (several temporary), 11 nurses, 1 disbursing officer, and 3 stenographers. A number of valuable members of the staff have been lost to the armed services of the United States.

At the present time the following countries are represented on the headquarters staff: Argentina, Brazil, Colombia, Cuba, Mexico, Panama, and the United States.

**DIRECTING COUNCIL**

At the Conference in Rio de Janeiro, advantage was taken of the presence of several members of the Directing Council to exchange views and opinions regarding the work and future program of the Bureau. In a few instances calls have also been made upon certain members of the
Council, notably Dr. Martínez Báez, when their assistance seemed useful in specific problems, and the other members would likewise be called upon should occasions arise in which their help was needed.

It has been a source of constant regret not to have been able to call meetings of the Council more frequently. However, travel conditions, the expense involved, and especially the demand this would entail upon the time of the members, have made this practically impossible.

A very satisfactory change made by the Rio Conference is that of leaving the designation of the Members of the Council to the countries represented thereon, a step suggested on previous occasions to eliminate the possible occurrence of embarrassing situations such as have arisen in the past when positions on the Council were held by persons no longer having official status in their country.

PAN AMERICAN HEALTH DAY

The celebration of the third Pan American Health Day, December 2, 1942, was another demonstration of the increasing enthusiasm with which this occasion is being met in the Americas, as the world crisis made even more evident the necessity and benefit of mutual cooperation in public health matters. As in previous years, the day afforded the opportunity for commemorating health workers and accomplishments of the past, for giving an account of present activities, and for stressing current problems and outlining future programs.

Among the events marking the celebration in various countries were the dedication of public health buildings, starting of sanitation projects, graduation ceremony of a nursing school, installation of officers of medical societies, opening of a tuberculosis exhibit, opening of health department buildings and laboratories to the public, with informational talks, radio broadcasts, dedication of commemorative plaques, special assemblies of medical societies, medical schools, or public meetings, addressed by high health officials, and newspaper articles.

The Bureau itself sent special messages to the health authorities of Americas, distributed educational material, sponsored a radio broadcast, and published a special edition of the Bulletin, featuring articles by leading authorities of both hemispheres on recent developments in surgery, hospitals, venereology, tropical medicine, tuberculosis, the Red Cross, cardiology, and odontology.

COMMITTEES

Committee on Malaria.—The members of the Committee on Malaria are: Dr. Arnoldo Gabaldon, Venezuela (chairman), Dr. C. A. Alvarado, Argentina, Dr. Victor A. Sutter, El Salvador, Dr. Luis Vargas, Mexico, Dr. A. L. Ayrosa Galvão, Brazil, with Dr. L. L. Williams, Dr. Henry Hanson, and Dr. Mark Boyd, of the United States, as counselors.

The Committee presented a very complete report to the XI Pan American Sanitary Conference, recommending, among other things: the inclusion of cor-
responding and associate members selected from malaria services and institutions interested in the problem; annual meetings of the Committee, with survey trips when necessary; use of personnel trained in malaria control by the health departments faced with the problem; creation of teaching centers for this training, open to students from other countries; scholarships in malaria study; publication of a Pan American Review of Malariology; reports on malaria and control work to be submitted for publication in the Bulletin of the Pan American Sanitary Bureau; use of the services of the laboratories associated with the Committee for anopheline identification and for training of entomologists; standardization of nomenclature of breeding places of anopheline larvae; establishment of collections of mosquitoes in the principal museums of each country; a standard basis for classification; use of its facilities for obtaining an opinion on new species; rejection of quinine compounds containing less than 0.25 gm quinine per unit and of products not permitted to be sold in the country of origin; revision of classification of deaths of unknown origin to permit obtaining an idea of those possibly due to malaria; education of the public on malaria; stimulation of quinine production and cinchona cultivation; creation of malaria study committees in all countries faced with the problem; and study of the biology of the vectors.

The Committee itself is carrying out some of these recommendations, such as assisting in the identification of mosquitoes, and has also undertaken to draft uniform malaria survey methods, to study the standardization of malaria drugs, and to promote research into substitutes for Paris green. The translation of the malaria vocabulary based on a report of the Malaria Committee of the Health Organization of the League of Nations, has been completed, and will soon appear in print.

Work on the Pan American Geography of Malaria was interrupted by the resignation of Dr. Henry Hanson as Traveling Representative, to assume the position of State Director of Health of Florida.

Committee on Nutrition.—The membership of the Committee continued the same as that of the previous fiscal year: Dr. E. V. McCollum, United States, chairman, Dr. Pedro Escudero, Argentina, Dr. Jorge Mardones, Chile, and Dr. W. H. Sebrell, United States.

The Committee presented an extensive report to the XI Pan American Sanitary Conference, making a number of recommendations including: studies on the relation of the composition of soil to the inorganic content of food plants, on the supplementary relations of vegetable proteins from different sources, and on the simple and monotonous diets in certain areas; dietary surveys to determine the basic needs of the population, and measures to solve the problems of food production, transportation, and fair distribution, of nutrition education, and therapeutics, as well as those of a military nature (feeding of the military forces and of war industry workers).

The appointment of national committees or boards of nutrition, to a large extent due to the impulse derived from the Pan American Sanitary Conferences, and the increasing and healthy attention given to nutrition and deficiency diseases, are very encouraging.
Committee on Public Health Code.—Two of the members of the Committee on Public Health Code, Drs. João de Barros Barreto, Brazil, and C. E. Paz Soldán, Peru, presented partial reports to the Rio Conference outlining some of the difficulties in the way of standardization, with suggestions for further study. It was agreed to continue the Committee on a reorganized basis, its final form not yet having been determined. The matter will again be discussed at the next Conference of Directors of Health.

Committee on Typhus and other Rickettsial Diseases.—Recommended by the XI Pan American Sanitary Conference, a Pan American Committee on Typhus and other Rickettsial Diseases has been created, with Dr. R. E. Dyer, U. S. National Institute of Health, as chairman, Dr. Juan A. Montoya, of Colombia, as Secretary, and Drs. Gerardo Varela, Mexico, Enrique Padilla, Guatemala, Otávio Magalhães, Brazil, and Oscar Avendaño, Chile, as executive members. Members have been appointed by the governments of other countries interested in the problem, and certain other scientists have been invited to become corresponding members.

The Committee plans a program to cover epidemiological research, embracing the study of the geographical distribution of these diseases, their incidence, type, vectors, and reservoirs, and also to encourage the study and application of known preventive measures, including tests of the value of present vaccines. A questionnaire covering some of these points was sent to the various members, and some replies have already been received. An invitation has been extended to health officials to send specimens for identification to the laboratories associated with the Committee, the designated recipient at the present time being the U. S. National Institute of Health, Bethesda, Md. Plans are being considered for a study of the behavior of typhus vaccines under natural conditions. It has been recommended that in regions where native populations present a control program, selected nuclei of Indians be formed to aid in vaccination and other control measures.

Although many of the American republics have remained free or almost free of typhus, it is felt that in view of the seriousness of this disease, the studies already undertaken on serums, virus strains, vaccines, and laboratory diagnosis should be extended, and that standardization of techniques should receive more attention.

Committee on Sanitary Engineering.—In accordance with a resolution of the XI Conference, a Committee on Sanitary Engineering has been created, with the following tentative organization: President, Dr. Abel Wolman, Johns Hopkins School of Hygiene and Public Health; members, the heads of the Sanitary Engineering Sections of the Ministries or Departments of Health and of the Ministries or Departments of Public Works of each Republic; Secretary, Mr. Carlos Guardia, of Panama. At its discretion the Pan American Sanitary Bureau may also invite sanitary engineers belonging to other recognized international agencies in the Americas to become corresponding members. A small Executive Committee including the president, secretary, and a few other members, has been created in order to expedite the work of the Com-
committee; and the main body has been given the task of developing a series of minimum requirements in sanitary engineering practice for emergencies.

As a basis for future work, the Committee is undertaking: the study of the most important present and future sanitary engineering problems of Latin America; a series of regional meetings in Latin America, to discuss some of the above problems; study of certain health problems, particularly water supplies, in relation to international enterprises such as air, water, and rail transportation; sanitary engineering on the Inter-American Highway; review of the most successful anti-mosquito methods, such as those against the *Anopheles gambiae* and the *Aedes aegypti*; analysis of factors aiding in the spread of typhus and other rickettsial diseases, and consideration of minimum essentials for "building out" rats and other animals; and drafting and periodic revision of minimum standards of design, construction, and practice, covering initially water supplies, sewage, mosquito eradication, and milk and other food sanitation.

**INTERNATIONAL CONFERENCES**

**Pan American Sanitary Conference.**—The XI Pan American Sanitary Conference took place in Rio de Janeiro, September 6–18, with representatives of all of the 21 American Republics in attendance, and with invited observers from Canada, the International Labour Office, and the Rockefeller Foundation, as well as the Director, the Assistant Director, the Secretary and the Senior Traveling Representative of the Bureau. Dr. João de Barros Barreto of Brazil, Chairman of the Organizing Committee, was elected President of the Conference by acclamation, and the Secretary of the Bureau acted as one of the two Secretaries General. Inasmuch as the Conference was almost the only international body functioning in the field of public health at the time, its deliberations assumed an even greater than continental importance.

Of primary interest on the agenda was the general topic of Continental Defense and Public Health, which had been suggested by the meeting of public health officials in Atlantic City and Washington in 1941.

Other subjects were Military Health Services, Sanitary Engineering, Nutrition, Milk, Housing, Model Sanitary Code, Pan American Highway, Vital Statistics, Diarrhea-enteritis, Chagas' Disease, Yellow Fever, Influenza, Leprosy, Malaria, Plague, Typhus, and Tuberculosis. A number of recommendations were made, some of which, however, were rendered obsolete by events, while the rest have been taken care of as occasion arose. Among the measures suggested were: conservation and exchange of resources for the preservation of health and continental security; inventory of the health resources and needs of each country; research on substitutes for scarce materials needed in sanitary engineering and stimulation of production of sanitary engineering materials; creation of Committees on Sanitary Engineering, Typhus, and Epidemiological and Vital Statistics, as well as various suggestions on these and other matters on the program (see Bulletin for March 1943). Caracas, Venezuela was chosen as the seat of the XII Conference, to be held in 1946.
On his return to Washington the Secretary of the Bureau took advantage of the opportunity of visiting most of the South American countries, and especially the cities of São Paulo, Buenos Aires, Santiago, Chile, and Lima. Extended conferences were held at all these places with the public health and medical school authorities. One impression definitely gained was the advisability of holding a meeting at which professors of hygiene from Latin America and the United States might get together to discuss problems of mutual interest and see how their programs might be correlated and complemented.

**British Colonies Conference.**—In recognition of the increasing threat of the introduction of diseases from other areas, especially from West Africa and Europe, the British Colonial Officer, in cooperation with the United States Commissioner, summoned a Conference of the Colonial Health Officers of the British West Indies, August 10–15, 1942, in the Colony of Barbados. The delegates included some of the outstanding public health authorities of the British Empire, and also the medical health officers of the Dutch West Indies, and by special invitation the Director of the Pan American Sanitary Bureau, accompanied by Traveling Representative Dr. John R. Murdock. Two of those present had helped in the writing and adoption of the International Sanitary Convention of Paris and the International Sanitary Convention for Aerial Navigation, and the Director of the Bureau was naturally familiar with the Pan American Sanitary Code. It was decided to use in principle the Pan American Sanitary Code in unifying quarantine measures in both the British and Dutch West Indies.

**Other Meetings.**—The Pan American Sanitary Bureau was represented at the First Pan American Conference on Social Security, in Santiago, Chile, September, 1942, by Traveling Representative Dr. Anthony Donovan, who presented a paper on the need for close cooperation between social security organizations and the Departments of Health in the various countries.

Of a more regional nature was the Congress on Public Health on the Mexican–United States Border sponsored by the Bureau at Ciudad Juárez and El Paso, June 15 and 16, 1943, which was attended by the Chief of the Department of Health of Mexico, the Director of the Bureau, and health officers and physicians of various States and localities of both countries. Addresses and discussion covered such topics as venereal disease, tuberculosis, waste disposal, immigration and quarantine, brucellosis, and the operation of the coordinated health services of Mexico.

In January, 1943, a Conference on Onchocerciasis called by the Bureau was held in Mexico City with representatives from Guatemala, Mexico, and the United States in attendance.

Representatives of the Bureau were also present at the meeting of the American Public Health Association in St. Louis, October, 1942, which was attended by several Latin American physicians and health workers including groups then in the United States under the auspices of the Bureau. Dr. Félix Hurtado, of Cuba, was elected Vice President of the Association.

Lectures have been given by the Secretary before different societies on various occasions, and he has also broadcast on request both for the United States and Latin America. He also gave series of lectures at Bucknell University in October 1942, and in the Army Medical School in Washington, D. C.
PUBLIC HEALTH PROGRESS

The fiscal year 1942-43 was marked by both progress and, in a more limited measure, retrogression, in American public health. The Pan American Sanitary Bureau cannot but regret the many changes in health administrators, in some instances coming more than twice a year and sometimes interrupting a previous period of long stability. On the other hand, eight Republics have retained the same Director of health for the past five years (Brazil, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, the United States and Uruguay) although the Minister may have been changed.

While the shortage of materials and the economic disturbances brought about by the war have necessitated the interruption of some public health activities, particularly in construction, others have been accelerated, notably sanitation of ports, strategic areas, and regions where exploitation of important war materials is being undertaken.

Perhaps the most encouraging part of the picture is the increasing emphasis being given to the training of public health personnel, an essential long stressed by the Pan American Sanitary Conferences. Among the newer programs which may be mentioned are the courses in tropical medicine inaugurated in December, 1942, at the Regional Medical Institute, Tucumán, Argentina, with the cooperation of the University of Tucumán, University of Buenos Aires, and the National Malaria Service, which were attended by physicians from six provinces, who studied Chagas' disease, plague, and leishmaniasis; the growing attention to tropical medicine in the United States; the successful continuance of the Brazilian courses in public health for physicians, nurses, assistants and inspectors, and laboratory technicians, and the new course for hospital administrators; the cadet nursing program adopted in the United States to aid in training nurses for the armed forces and for civilian needs; the accelerated, reorganized, or initiated nursing education programs in Argentina, Colombia, Ecuador, Haiti, Guatemala, Mexico, Nicaragua, Panama, Paraguay, and Venezuela; the creation of the National Institute of Epidemiology and Medical Research in Colombia (July, 1942) to take over all research except in leprosy, from the Lleras Acosta Institute (which will specialize in the latter field), and to collaborate with the medical schools in the training of public health workers; and the creation of a school for dietitians in Paraguay (in connection with the School of Nursing). The Pan American Sanitary Bureau has played a part in several of these activities, and has also been able to be of assistance through its fellowship program.

Colombia and Venezuela adopted in 1940 and 1941 long-range programs of public works intimately related to health, including hospital
and sanatorium construction, water supply and sewage collection and disposal systems, market sanitation, and malaria control. During 1942 Venezuela appropriated 362,350,220 Bolivars (about 100 million dollars) for water and sewage systems and malaria control, accounting for 43% of the total public works budget. Mexico has also undertaken an extensive program of hospital construction and sanitary works. During the fiscal year 20 small towns were added to the number supplied with safe water; four large hospitals (Children's Hospital, Mexico City, 600 beds, Chronic Disease Hospital, Tepepan, 750 beds, Monterrey Hospital, 500 beds, and Manzanillo Hospital, 150 beds) were completed or began functioning, six more were under construction, as well as a mental disease farm, two maternity hospitals, and a mother-and-child polyclinic, and drafts were made for 11 other hospitals and tuberculosis sanatoria. A great medical center is planned for Mexico City which will have 12 units, including the Children's Hospital mentioned above, the Institute of Cardiology, nearly completed, the Mundet Maternity Hospital, Contagious Disease Hospital, Central Medical-Surgical Hospital, and City Emergency Hospital.

Other recent or planned constructions include the Pedro Lagleyze Institute of Ophthalmology (built from private funds) and the proposed Municipal Institute of Odontology, Buenos Aires, Argentina; the building for the Institute of Epidemiology and Medical Research in Colombia, recently initiated, and the new tuberculosis sanatorium inaugurated (Santa Clara), improved (Medellín), and under construction (Cali) in that country; as well as the three modern hospitals and laboratory (Pasto) remaining as a monument to the bartonellosis control campaign: the National Institute of Hygiene inaugurated in Guayaquil, Ecuador; the Clinical Hospital, tuberculosis and psychiatric hospitals and regional dispensaries completed or under construction in Uruguay; the new wings completed for the Institute of Hygiene in Asunción, Paraguay, and the tuberculosis and maternity hospitals and building for the Ministry of Health being planned for that country; the tuberculosis sanatorium for which funds have been appropriated in Peru and the recently completed San Pablo leprosarium there, as well as the improved or constructed hospitals in the Northeast region of Peru.

Some of these projects have been undertaken with the assistance of various international bodies, such as the recently organized Cooperative Health Service, of the Office of the Coordinator of Inter-American Affairs.

Other miscellaneous developments of 1942-43 have been the discovery and application of new drugs of enormous possibilities, notably penicillin; the success of the war effort in the United States, with the maintenance of the civilian death and disease rate at a low point in spite of wartime difficulties and the reduction of disease casualties in the armed forces to new low levels for wartime; the increasing importance of industrial hygiene; in Mexico, the creation of a Committee to
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Promote and Coordinate Scientific Research (December, 1942); in Chile, of a Department of Child and Adolescent Welfare (October, 1942) which took over the services of that nature from other Ministries, and in Peru, of a similar National Department of Maternal and Child Protection (November, 1942), embracing the old Instituto del Niño and receiving increased funds; and, in Rio de Janeiro, the inauguration of the Institute of Preventive Services (tuberculosis surveys) of the Carlos Chagas Institute (July, 1942). Still others include the establishment in Peru of tuberculosis insurance for certain classes (guards and police); the tuberculosis control program in Cuba; the establishment in Panama of the Institute of Child Vigilance and Protection (July, 1942) for delinquent, abandoned, and abnormal children; the approval (December, 1942) of the plan of organization of the Department of Nutrition of the Ministry of Health of Paraguay; the creation (November, 1942) of a National Technical Service of Nutrition in Brazil, to survey and report on wartime food problems to the Coordinator of Economic Mobilisation of Brazil; the approval of standards for pharmaceutical products in Brazil; the celebration of Mother's Week (September, 1942) and Children's Week (October, 1942) in Paraguay; the establishment of emergency nursing courses in several countries, among them Brazil; the adoption of social security in Paraguay and Panama, and its consideration in other countries, for instance, Costa Rica; its tentative approval in Mexico; the creation of a blood bank in Bogotá, Colombia; the doubling of funds for malaria control in Peru and the financial assistance of the Social Security Board in this work; and increased funds for the cooperative Yellow Fever Service of Peru.

An interesting health exposition was presented by the Venezuelan Department of Health at the Industrial Exposition of Venezuela, December, 1942.

Peru became the second country to submit an outline of health conditions for a city (Lima) drawn up in accordance with the Pan American Sanitary Indices proposed by the IV Pan American Conference of National Directors of Health (see BULLETIN, August 1943), Mexico having been the first.

Various official and private measures in connection with the war effort were undertaken, in addition to those mentioned above, including organization of committees on medical preparation for war (such as that of the Cuban Medical Federation), emergency and first-aid courses, preparation of first-aid handbooks, organization of a mobile hospital unit (Mexico), etc.

SCHOLARSHIPS AND FELLOWSHIPS

The Pan American Sanitary Bureau has been pleased to observe the beneficial results of its scholarship program initiated some years ago, as its Latin American Fellows return home and resume their duties with the national and local health services or in other positions for which their post-graduate training has rendered them better fitted. It is also gratifying to record that an increasing number of Latin American institutions are offering scholarships to students from other countries, including schools and institutes in Argentina, Chile, Cuba, Mexico, Panama, and Venezuela. An interesting sidelight on the reaction of the scholarship recipients themselves is cast by the letters which are being received from them for publication in the Pan American Health Day issue of the BULLETIN, December, 1943.

A conference on Latin American Fellowships was called by the Bureau in February, 1943, attended by representatives of the Schools of Hygiene
and Public Health in the United States and Canada, of scientific institutes and foundations including the Kellogg, Commonwealth, Rockefeller, Tropical Medicine, and Mayo; and of the Office of the Coordinator of Inter American Affairs, the Institute of International Education, the Pan American Congress of Ophthalmology, the Department of State of the United States, the U. S. Army, U. S. Public Health Service, American Academy of Pediatrics, and Pan American Union. The matters discussed included plans and problems of the Foundations, plans and problems of the schools, and language difficulties and other problems common to both Foundations and schools.

In addition to affording opportunities for advanced study in institutions of recognized leadership, scholarships are of great assistance in the strengthening of cultural, social, and literary bonds, providing as they do a chance for the student to become acquainted with the customs and character of the inhabitants of the country to which he goes, while they in turn find in him a representative of his national life, and for students from several different countries to become acquainted with each other at a common meeting place. The practice in use of a foreign language is also a valuable result of such a tour of study, opening as it does the door to the scientific and general literature in that tongue.

The fellowships sponsored by the Pan American Sanitary Bureau include those granted in cooperation with the United States Public Health Service, the Coordinator of Inter-American Affairs, and various institutions, among them the Commonwealth Fund. Arrangements are also now being made with the Kellogg Foundation to take part in the program. The fellowships range from courses at schools and institutes, to internships, residencies, field work, and special study tours, and are open to post-graduate students in medicine, public health, sanitary engineering, and nursing. Training has also been given in special subjects such as bacteriology, laboratory technique, and quarantine procedure. Candidates must have a good knowledge of the English language, be citizens of the country from which they are a candidate, and fulfill certain other qualifications. They must agree to return to their countries upon completion of the training for which they were brought to the United States. The financial provisions of the fellowships vary, some of them covering travel costs, living allowances while in the United States, and tuition. In some instances the Bureau was able, through the use of a fund now unfortunately exhausted, to assist a student who originally came at his own expense or under other auspices, to extend his stay long enough to complete a particular program of specialization.

During the fiscal year 1942-43, 96 fellowships were administered by the Bureau, distributed among candidates from 19 countries: Argentina, 5, Bolivia, 3, Brazil, 13, Chile, 8, Colombia, 3, Costa Rica, 4, Dominican Republic, 6, Ecuador, 1, El Salvador, 1, Guatemala, 5, Haiti, 8, Honduras, 1, Mexico, 5, Nicaragua, 2, Panama, 2, Paraguay, 6, Peru, 8, Uruguay, 1, and Venezuela, 1. There were two Bureau fellowships, 36 Public Health Service fellowships, 40 Coordinator fellowships, and 18 Commonwealth Fund fellowships. The special fields of study included abdominal surgery, bacteriology, biochemistry, biological products, cardiology, chest surgery, clinical medicine, contagious diseases, dental surgery, dentistry, dermatology, entomology, gynecology, industrial medicine and hygiene, internal medicine, laboratory technique, medicine, neurology, neurosurgery, nursing, nutrition, nutritional diseases, obstetrics, orthopedic surgery, parasitology, pathologic anatomy, pathology, pediatrics, physiology, public health, radiology,
sanitary engineering, surgery, tropical medicine, urology, venereal diseases, and vital statistics. From July, 1940, to June 1943, more than 200 graduates from Latin America received fellowships under this program.

**Military Fellowships.**—Under a separate program members of the medical services of the armed forces of various Republics have been brought to the United States to observe the latest developments in their field. This program will continue in operation for some time.

It is also interesting to record the fact that from July 1, 1942 to June 30, 1943, over 200 members of the medical and allied professions of Latin America, visiting in the United States, called at the Pan American Sanitary Bureau.

**COOPERATION WITH OTHER INSTITUTIONS**

The Bureau, through its long experience, fund of information, and contacts, has been able to be of assistance in public health and medical matters on many occasions to other institutions and agencies, including those engaged in stimulating the production of natural resources vital to continental defense, such as quinine, rubber, and certain metals. It has endeavored to exert its influence, not always successfully, toward directing the current enthusiasm for international projects along lines which will avoid duplication of effort, and to promote the practical and enduring rather than the grandiose and ephemeral.

One of the most successful of these cooperative programs has been that of scholarships, described elsewhere, and certain others will be discussed separately. However, mention may be made of some of the activities carried on by other agencies in which the Bureau’s part has been to furnish advice and the consultative service of its representatives, without any administrative or directive function. These include some of the projects of the Health and Sanitation Division of the Office of the Coordinator of Inter-American Affairs, such as the Amazon development program and the sanitation work in the Ecuadorian rubber areas and in the plague districts of Chimborazo and Loja, as well as some of the many hospital, clinic, and public health building construction and improvement projects. The Coordinator’s Office, in turn, has been able to give the Bureau valuable financial assistance in a number of projects for health protection, especially the scholarship program, the onchocerciasis control program, publication of some text-books, and the nursing development program. No detailed account of the Coordinator’s health work is given, as ample descriptions are available elsewhere.

The Bureau has also cooperated with national and local agencies other than the departments of health in such matters as assistance in obtaining priorities in the shipment of drugs, hospital supplies and equipment, and construction material for hospitals and water supply systems, as well as
in the securing of biologic standards, strains of bacteria, etc., by national
institutes of hygiene or bacteriologic institutes. It has also been able to
supply information on health conditions to military and naval authorities
engaged in continental defense.

PHARMACOPOEIA

The translation of the XII edition of the U. S. Pharmacopoeia, begun
in the preceding fiscal year, is practically completed. Publication is
awaiting the full revision of the First Supplement, which it is desired
to incorporate, as it contains many important changes. A group of
noted pharmaceutical experts of Cuba, Puerto Rico, the Philippine
Islands, Mexico, Uruguay and Venezuela, have been giving valuable
cooperation in this enterprise. The second series of papers on “The
Pharmacopoeia and the Physician” has been translated into Spanish
and it is expected to publish it as a book.

HOSPITALS

The Bureau has continued to cooperate in the work of the Inter-Ameri-
can Hospital Association, acting as advisor and supervising the expendi-
ture of funds allotted by the Office of the Coordinator of Inter-American
Affairs and by others, to assist in the organization of the Institute. The
Bureau has no more fundamental interest in the work of this organiza-
tion, than in the activities of similar organizations in other fields such
as cancer or dentistry. It is however, decidedly interested in improving
the quality of hospital service throughout the Americas, this being a task
entrusted to it by the Pan American Sanitary Conference. This purpose
can be admirably served through the hospital institutes sponsored jointly
by the Bureau and the Inter-American Hospital Association, which it is
hoped to hold in the near future in three or more strategically situated
cities in Latin America.

As in the past, advice has been given on request in questions of hos-
pital organization, construction, and management, as well as assistance
in the securing of materials. The nursing education program of the
Bureau is also expected to have considerable influence in the hospital
field.

NURSING

In view of the importance of nurses in the field of public health, the
Bureau has occasionally awarded scholarships to Latin American nurses
for study in the United States, and, at the request of the governments
concerned, has aided in the securing of well-qualified Spanish speaking
nurses to go to Latin America to assist in organizing nursing schools and
courses. In the latter part of 1942, two Argentine nurses who had held
Bureau scholarships in the United States, were sent by the Bureau to visit several Latin American countries on their return to Argentina, discussing problems and progress with nurses and public health agencies, and reporting on the facilities which were available for training both locally and in the United States. Beginning with the previous fiscal year the Bureau undertook a more ambitious program, in cooperation with the national authorities and with the assistance of such agencies as the Rockefeller Foundation, the Institute of Inter-American Affairs, and the Children's Bureau. This project, for the sending of professional nurses to various republics, upon invitation of the proper authorities, for the purpose of stimulating and assisting the organization of professional nursing schools and public health nursing agencies, was expanded during the year 1942–43 to include assistance to Ecuador, Colombia, Guatemala, Paraguay, Haiti, Venezuela and Mexico.

In Quito, Ecuador, the School of Nursing of Central University was formally opened on November 4, 1942, admitting 27 women having at least four years of high school education. The course was under the charge of Misses Kathleen Logan and Dorothy Foley. The school has a capacity of 80 students, and 25 are to be admitted each year; it is housed in a building on the grounds of the Eugenio Espejo Hospital, containing classrooms, recreation room, laboratories, library, dining room, and living quarters for the students and instructors. The course includes a pre-clinical period of 5 months, followed by visits to various public and private institutions such as the water and sewage works, milk station, leper colony, mental hospital, school hygiene bureau, and by practical work in the hospital. The five-year financial program prepared enlists the assistance of the Ministry of Labor, Health, and Social Security, the Rockefeller Foundation, the Inter-American Cooperative Service, and the Pan American Sanitary Bureau.

On October 20, 1942, Misses Helen Howitt and Johanna J. Schwarte arrived in Bogotá, Colombia, under the auspices of the Bureau to assist in the development of the nursing school being established by the Ministry of Hygiene, to develop instructors and directors for future nursing schools as well as public health and hospital staff nurses. The School was created by a presidential decree on March 4, 1943. A five-year financial program was arranged by the Rockefeller Foundation, the Inter-American Cooperative Service, the Pan American Sanitary Bureau, and the Colombian Government, and the organization is nearly completed. A three-course of study has been approved, and the Board of Directors includes representatives from the National Ministry of Health and Education, the National University, the Welfare Board, and school itself. A building is being put in condition for the first class of 50 students; it will have facilities for 150 students, necessary staff nurses and house personnel, classrooms, and laboratories, and arrangements have been made for clinical teaching in hospitals. The 14 Departments of Colombia recently voted to grant 93 departmental scholarships to the school. Five Colombian graduate nurses are being prepared as instructors and head nurses, and the school is expected to open sometime in the following year.

Two nurses, Misses Martha P. Cattelain and E. Loretta Anderson, were sent to Haiti in November, 1942, to assist in the reorganization of the Haitian nursing school, and were appointed Director and Assistant Director of the school. The three-year course will be continued, but with the addition of more work in pre-
ventive medicine. There are approximately 30 students, with preference in admission given to graduates of secondary schools.

Miss Jessie Norelius went to Guatemala in February, 1943, to aid in the reorganization of the National School of Nursing; a modern curriculum has been adopted, admission standards have been raised to require high school or normal school graduation, midwifery has been raised to a post-graduate course, and other changes made. There is a need for additional housing facilities for the 63 students.

In Paraguay, Mrs. Marion Romero Thomas began in February, 1943, to take part in the reorganization of the school of nursing, especially in the teaching of nursing procedures, maternal and child health principles, records and filing methods, medical consultation procedure, and the use and care of equipment. Plans are under way to have the nursing school recognized as an entity of the National University, and to place greater stress on the biological and physical sciences.

In Caracas, Venezuela, Miss Agnes Zachariou gave teaching assistance in the program which the Rockefeller Foundation is carrying out in the National School of Nursing (November 1942 to June 1943), and additional assistance is planned. The first class of students will graduate at the end of the 1943 school year.

Miss Josephine Baca was assigned to assist with the nursing services of the United States-Mexican Border venereal disease control project. Part of the program includes the giving of fellowships to a group of Mexican nurses for advanced study in the United States on problems of public health nursing and venereal disease control.

Miss Mary E. Stehman is working with the Panama government in connection with the nursing school of Santo Tomás Hospital, Panamá.

Miss Maria J. Alberti continued as nurse consultant in the headquarters of the Bureau, making a number of field and inspection trips, and Miss Naomi Deutsch was appointed in February 1943 as field consultant with headquarters in Panama.

In connection with the nursing program, it may be remarked that there is a need for nursing literature in Spanish, since few recent original texts in that language are available, and the use of English texts offers considerable difficulty to the beginner. A definite effort is already apparent in various countries to supply this need.

**TYPHUS FEVER STUDY**

The study begun in August, 1941, on the value of the Cox typhus vaccine, carried out in Bolivia by Drs. R. E. Dyer and N. H. Topping of the National Institute of Health of the United States, through arrangements made by the Pan American Sanitary Bureau, terminated in July, 1943. A revaccination study to determine reactions on a second inoculation was also made.

Several important articles on typhus and the rickettsiae have been published in the *Bulletin* of the Bureau in recent years, including the first reports of their discovery in previously unknown foci.

Other typhus studies have been discussed in connection with the work of the Pan American Sanitary Bureau Committee on Typhus.

**YELLOW FEVER VACCINE STUDY**

Under the auspices of the Bureau, field trials were made at Oroya, Peru, of the comparative behavior of aqueous-base and serum-base vac-
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cine (prepared at the Rocky Mountain Laboratory of the U. S. Public Health Service), a report being presented by Drs. M. V. Hargett, H. W. Burruss, and Anthony Donovan.

VENEREAL DISEASE CONTROL

The success of the cooperative venereal disease control campaign being carried out by the Bureau and the Mexican and United States governments along the border of the two countries warranted its continuance during the current fiscal year, and in fact the experience gained is now serving to orient programs elsewhere. The campaign involves provision for the training of personnel, treatment and prophylactic supplies, and education. A number of Mexican physicians and nurses have received special training and are now occupying posts in the border communities. A Spanish edition of Venereal Disease Information (Información sobre Enfermedades Venéreas) is being printed by the Bureau in Mexico in connection with the campaign, and it is planned to distribute posters, in addition to the other educational material already sent out. Through the efforts of the campaign authorities, houses of prostitution have been closed in certain border cities, and measures to locate and treat cases of venereal disease have been intensified. A Spanish translation, by Drs. Enrique Villela and J. S. Spoto, on standards for venereal disease dispensaries, has been published. Plans are under consideration for the organization of a demonstration unit and teaching center for the control of venereal disease, in Mexico City.

Physicians engaged in the border campaign took part in the Congress on Public Health of the Mexican United States Frontier, organized by the Bureau in June 1943, at which venereal disease was one of the several problems discussed.

The Bureau has also continued to assist in the reciprocal notification among the various countries, of sources of infection with venereal disease, and fellowships have been awarded for study in this field. One of the former Pan American Sanitary Bureau fellows is now chief of the venereal disease control work in his own country, Costa Rica.

ONCHOCERCIASIS CONTROL

Onchocerciasis has been found to exist in but two American Republics, Mexico and Guatemala, and in limited regions there, although the vector is found in other parts. It has been estimated that 20,000 persons are affected by this disease in the State of Chiapas, Mexico, and 11,000 in Oaxaca. The problem has become of international importance due to the fact that the route of the Pan American Highway lies across the infected zones of both countries, and the disease is showing a definite if slow tendency to spread. Therefore, the Pan American Sanitary Bureau, in cooperation with the health authorities of Mexico and Guatemala, and the Office of the Coordinator of Inter-American Affairs of the
United States and the United States Public Health Service, has embarked on a control campaign, utilizing the services of bacteriologists, entomologists, a geographer, and other scientists, from all three countries. Plans for the project were discussed at a Conference called by the Bureau in Mexico City, in January 1943.

It may be mentioned that the countries concerned have already been engaged in active work against the infection; Mexico, for instance, has established regional hospitals, and traveling treatment units, and undertaken entomological studies; and Guatemala has traveling treatment units.

INTER-AMERICAN HIGHWAY SANITATION

The problem of sanitation along the route of the Inter-American Highway has received considerable attention. The Departments of Health of each country traversed have been making special studies of conditions along the route, and are taking steps to improve sanitary conditions in the area, with special precautions in regions of dangerous endemic disease, as in the onchocerciasis area mentioned above. In June 1943, a meeting was held in Mexico City to discuss onchocerciasis control and highway sanitation, and as a result, plans are being made for a joint campaign under the technical direction of the Pan American Sanitary Bureau, and with the assistance of officers from the United States Public Health Service assigned to the Bureau. A specific resolution urging this action was adopted at Rio, and even stronger recommendations were made by the representatives of Mexico and Central America, at the time.

SANITARY ENGINEERING

In accordance with a resolution of the XI Pan American Sanitary Conference, the Bureau has appointed a Committee on Sanitary Engineering, discussed above, which is expected to be of great assistance in orienting the activities of the Bureau engineers.

During the fiscal year, the Bureau continued to cooperate, on request, with national and local authorities in such matters as water supply and sewage disposal, milk pasteurization, market hygiene, malaria control, and related works, as described under Field Activities. In addition, it has taken steps to promote the teaching of sanitary engineering, both through loaning its engineers to organize and teach courses in that subject, and through sponsoring a tour of Latin American Sanitary engineers to various representative projects in the United States.

Eighteen sanitary engineers from 15 countries (Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Mexico, Panama, Peru, and Uruguay) visited institutions in over 20 localities, including rural and urban water supply systems, milk pasteurization plants,
garbage disposal plants, industrial firms, abattoirs, food factories, war housing projects, malaria control works, etc., and attended the meeting of the American Public Health Association, St. Louis, October 1942, the Conference of State Sanitary Engineers, and the International Association of Milk Sanitarian.

The chairman of the Sanitary Engineering Committee made a trip through Latin America to discuss sanitary engineering problems. Plans have been completed for the establishment of a series of institutes on Sanitary Engineering in three centrally located cities in Latin America, to provide specialized training for sanitary engineers of those and neighboring countries, with the participation of leading lecturers from the United States and local experts. This program will have the advantage of considering problems under local conditions, where field work is most profitable. The Bureau is also publishing a manual on the treatment of sewage, for free distribution in Latin America. Sanitary engineering is one of the fundamentals of public health, and it is still desired to expand to a larger extent the activities in this field.

TRANSLATION OF MEDICAL BOOKS

The Bureau is naturally deeply interested in making the scientific production of the different republics known to each. In the case of certain basic texts and for certain student groups, the usefulness of a translation, or even better, of a translated edition revised to take into account the problems of the area to be served by the translated work, cannot be denied. It is however, recognized that translation is mostly a makeshift, and that the solution to a better understanding among the Americas is a wider knowledge of the four Pan American languages. Nevertheless, financing the project with funds from the Office of the Coordinator of Inter-American Affairs, the Bureau is sponsoring the translation into Spanish, for free distribution to professional and official individuals and institutions, of “Military Preventive Medicine,” by Dr. G. C. Dunham, and “Manual of Industrial Hygiene,” prepared by the Division of Industrial Hygiene of the National Institute of Health.

Other translated material, some of which first appeared in the Bulletin, includes: diagnostic standards for tuberculosis, manual on sewage treatment, and venereal disease texts. The Bureau is also now working on the translation of the XII edition of the U. S. Pharmacopoeia, as mentioned elsewhere.

GENERAL FIELD ACTIVITIES

During the fiscal year, Dr. Long visited Argentina, Bolivia, Brazil, Chile, Ecuador, Paraguay, Peru, and Uruguay, traveling 27,496 miles by air and 8,404 miles by other means. Much of his time was devoted to discussing health problems with the respective Departments of Health on their request. Special emphasis was given to anti-plague work in Ecuador (July 1942), Peru (August 1942), Brazil, Uruguay, and Argentina (May 1943). The plague situation seemed much improved over former years, and considerable credit is given to the use of flame throwers and cyanogas, with stoppage of the rat burrows thus treated. Other problems dealt with were malaria and water supplies in Peru, typhus in Bolivia, meningitis in Chile, nursing school in Uruguay, and garbage disposal, milk pasteurization, and the nursing school in Ecuador.

Dr. John R. Murdock, Chief Traveling Representative of the Caribbean Division of the Bureau, with headquarters in Panama City, visited the twelve countries in the district, but due to developments connected with the war spent most of the time in directing projects in Panama, the Central American Republics, and Mexico. In July 1942 he accompanied two nurses from Argentina and one from the United States on an inspection trip through Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama. During the stops in each country, applicants for fellowships with the Commonwealth Fund, which are administered by the Bureau, were interviewed. In August he accompanied the Director of the Bureau to the Conference on Quarantine held by the British Colonies at Barbados. He was called to Washington to serve as Acting Director of the Bureau in the absence of the Director and other Bureau officials during the Pan American Sanitary Conference held in Rio de Janeiro in September. While in the United States he attended the meeting of the American Public Health Association at St. Louis (October).

In January, 1943, Dr. Murdock attended the Conference on Onchocerciasis called by the Bureau at Mexico City, and while in that country he and Dr. Carlos Estévez, Director of Health of Guatemala, accompanied President Avila Camacho and Dr. Victor Fernández Manero, Director of Health of Mexico, on a tour through Veracruz and southern Mexico. An inspection of the Onchocerciasis Hospital at Huixtla, Chiapas, was made.

In March Dr. Murdock accompanied the Director on a trip to the Dominican Republic and Haiti, to discuss projects already under way and plans for future cooperative work. In April he was called to Washington to take part in conferences with the Director of Health of Mexico. He spent the last half of June in Mexico City with the Director of the Bureau conferring with the Mexican authorities on the Pan American Highway Project and Onchocerciasis. At this time it was agreed that the Caribbean office of the Bureau should be transferred from Panama City to Guatemala City.

Traveling Representative Anthony Donovan visited the eight countries of the South American Section (Argentina, Bolivia, Brazil, Chile,
Ecuador, Paraguay, Peru, and Uruguay) from one to eight times during the fiscal year. Inspection trips to plague foci were made in company with national health authorities and others, in Peru, Ecuador (in December, to Chimborazo Province, with the Chief of the antiplague service and Dr. R. M. Gilmore of the Cooperative Inter-American Health Service of Bolivia), Bolivia (in June, an extensive inspection of the endemic plague area of Bolivia and the Bolivian-Argentine frontier, in company with Dr. Roberto Cors, Chief of the Bolivian antiplague service, Dr. Gilmore, Sr. Luis Mejovich, Peruvian plague inspector brought to Bolivia as advisor, and others), Argentina (inspection of antirat work in Buenos Aires, and discussion of laboratory aspects of plague), and Brazil (review of the situation with the Director of the antiplague service), and a river trip from Buenos Aires to Asunción was made with Dr. Long, with a review of the previous history and present status of the situation in the river ports. Anti-rat work in Santiago and Valparaiso, Chile, was inspected on two occasions.

Yellow fever control services in Peru, Bolivia, and Brazil were visited and the field study of the comparative behavior of aqueous-base and serum-base vaccine (prepared at the Rocky Mountain Laboratory of the U. S. Public Health Service) begun at Oroya, Peru, the previous year, was continued, a report being presented in March by Donovan, M. V. Hargett, and H. W. Burruss. The study of the Coxiella typhus vaccine, begun at Achacachi, Bolivia, the previous year, with R. E. Dyer and N. H. Topping, was completed in July, 1943, together with a revaccination study. The aid of the Peruvian Social Security Board in financing malaria control work in coastal Peru, especially in areas in which the Board has hospitals or services, was secured. The demonstration malaria control program of the Rockefeller Foundation in the Lurín valley (Peru) was visited, as was that of the Cooperative Inter-American Public Health Service in the Chimbote district (Peru). After the trial of various substitutes for the scarce Paris green, copper arsenite was found to be the most promising, and preliminary arrangements were made for the installation of a factory in Lima for its production.

During the year Dr. Donovan held numerous interviews with candidates for medical and public health scholarships, in Argentina, Bolivia, Brazil, Chile, Paraguay, Peru, and Uruguay. He represented the Pan American Sanitary Bureau at the First Pan American Conference on Social Security, in Santiago, Chile, September, 1942, and also assisted in the organization of the 11th Pan American Sanitary Conference. His other activities included consultations on general health matters, venereal disease control activities, and reports on health conditions and hospital facilities.

Traveling Representative Vernon W. Foster visited Chile, Bolivia, Peru, and Ecuador during the fiscal year. After inspecting the typhus vaccine experiments in Bolivia, and making a brief trip to Chile with Dr. Donovan, to assist the health authorities in connection with an epidemic of cerebrospinal meningitis, he was assigned to Ecuador as technical advisor to the Director of Health, his principal activities being in connection with the organization of the Quito School of Nursing (discussed
elsewhere), and with antiplague work, several inspections being made of
the latter. Assistance was also rendered the Institute of Inter-American
Affairs (health center plans, Quito) and the Ecuadorian Development
Corporation (medical program). A visit to El Oro to verify an outbreak
of anthrax (no evidence of the disease found) was made, and other health
problems, such as malaria, yaws, and hookworm projects, were discussed.
An inspection trip to the plague foci of northern Peru was made in
August, 1942 with Drs. Long and Mostajo.

Dr. Joseph S. Spoto continued his work with the venereal disease con-
trol campaign along the United States-Mexican border, discussed else-
where. He also made an inspection, at the request of the national
health authorities, of the venereal disease control program in Costa Rica,
making suggestions for its amplification.

Senior Sanitary Engineer Edward D. Hopkins visited 9 countries to
advise local health authorities in connection with sanitary engineering
projects, or for other studies in that field: Bolivia, Chile, Colombia,
Ecuador, Guatemala, Mexico, Panama, Peru, and the United States,
traveling 31,914 miles by air, 20,052 by automobile, 1,140 nautical miles
by boat, and 175 miles by horse and mule-back.

The subjects considered included public water supplies (Peru, studies and
projects for Monsefú, Reque, Villa de Eten, and Puerto Eten), garbage disposal
(Guayaquil, Ecuador, and Trujillo, Peru), milk sanitation (Guayaquil), sewage
systems and disposal, human excreta disposal, mosquito identification and malaria
control, rat extermination and plague control, swimming pool and bath house
sanitation, sanitation in city planning, and plane surveying. Much time was
devoted to equipping the branch office opened recently by the Bureau in
Lima. During the year flame-throwers were found to be very successful in
the disinfection of the concrete houses in the mining areas of northern Chile,
destroying both germs and vermin. The possibilities for the manufacture of
liquid chlorine, and of a substitute for Paris green, were studied in company
with Sanitary Engineer Eloy A. Barreda. In Peru the teaching of sanitary en-
gineering at the National Engineering School was turned over to Sanitary En-
gineer Luis Mantilla F., who had just returned from study in the United States.
Mr. Hopkins accompanied Professors Wolman, Fair, and Steel, of the United
States, on their inspection of sanitary engineering activities in South America.

Sanitary Engineer Walter N. Dashiell continued on duty in the Carib-
bean Area and devoted a large part of his time to activities in Panama,
Guatemala, and the United States, although he also carried out assign-
ments in Nicaragua, El Salvador and Costa Rica. In Panama he as-
isted with the organization and equipping of a field party of the Pan
American Sanitary Bureau for the purpose of making cooperative saniti-
ary surveys of certain communities along the route of the Pan American
Highway between Panama and the United States, and spent two months
in the field in Panama with the party acting as consultant and assisting
with sanitary surveys at Santiago and David. He also aided the survey party in making arrangements for cooperative surveys in Guatemala.

Two months were spent in the U. S. accompanying a group of 17 Latin American Sanitary engineers, brought to the country by the Pan American Sanitary Bureau for the purpose of attending the American Public Health Association meeting in St. Louis, and inspecting pasteurization plants, water and sewage treatment plants, industrial waste treatment plants, dairy farms, food processing establishments, etc. in the United States. In Nicaragua he made a study of a new pasteurization plant in Managua and made recommendations relative to the plant layout, equipment and operation methods. His visits in El Salvador and Costa Rica were devoted to conferring with health directors in those countries and the representatives of the Health and Sanitation Section of the Coordinator's Office with regard to the cooperative health programs being undertaken. In Mexico, he inspected mosquito breeding conditions, and conferred with health officers.

Sanitary Engineer Eloy A. Barreda was called to active duty by the U. S. Public Health Service and assigned to duty with the Pan American Sanitary Bureau, reporting to Lima after conferences in Washington. His principal work in the fiscal year was the investigation of possible substitutes for Paris green in malaria control, which could be manufactured in Peru. Copper arsenite was found the most promising, and has already been tested in the field. Engineer Barreda also made studies of the Lima water supply.

During the fiscal year, Sanitary Engineer Donald L. Snow, also assigned to the Pan American Sanitary Bureau by the United States Public Health Service, assisted in bubonic plague control in Trujillo, Peru, principally in improving garbage disposal and cleaning of the central market, aided in the survey and organization of a malaria control project in the Chancay Valley in which the health service funds are augmented by sums from the National Social Security Board of Peru (with the Ministry of Development assisting in the preliminary topographical surveys, so that three Ministries are actually cooperating in the project), and assisted with the larvacide tests of Engineer Barreda. A visit was also made to Chile for consultation in connection with the proposed new sewage treatment works for Santiago being planned by the Republic of Chile and the Office of the Coordinator of Inter-American Affairs. Inspections were made of the Lurin Valley malaria control project and of the Lima and Callao water supplies, and assistance was given in adapting sanitary privy designs for South American use.

Temporary Traveling Representative, Dr. C. D. Stein, of the Bureau of Animal Industry, U. S. Department of Agriculture, was detailed to Haiti in March and April 1943, to render assistance in the control of anthrax, hog cholera, and other infectious diseases of livestock, and to offer suggestions for the improvement of the milk supply. He also made
inspections and recommendations regarding the meat supply (slaughterhouse sanitation, market conditions, and meat inspection).

INTERNATIONAL EPIDEMIOLOGY

Of the five major pestilential diseases, one, cholera, is not found in the Americas. There was a decided improvement on the whole in regard to the plague and yellow fever situation in 1942, while the smallpox picture remained about the same; this disease no longer is a serious problem in most of the Republics. An increase was noted in typhus figures, and certain diseases of hitherto more or less limited known range continued to be found in new foci: bartonellosis, brucellosis, and Chagas' disease; and there were two serious epidemics of meningitis.

Yellow Fever.—Yellow fever showed a considerable decrease in 1942, except in Bolivia, where there were outbreaks in several different places, with 91 known cases, 45 deaths and possibly more. The first was in January, apparently beginning in Itimiri, Santa Cruz and extending to an area of 600 km² belonging to Azero and Cordillera Provinces in Chuquisaca and Santa Cruz, and causing 68 known cases, 33 deaths; a fatal case occurred in Portechuelo, Santa Cruz, and in March, another outbreak between La Guardia and Monos in the same Department, with 18 cases, all in transients; the fourth outbreak was in June in the Yungas of the Department of La Paz (4 C 3 D). The Aedes aegypti is nearly totally eradicated. During the year 32,740 persons were vaccinated in 94 localities, mostly in the Departments of Santa Cruz (20,301), Tarija (6,524) and Chuquisaca (3,660).

Known yellow fever deaths in Brazil dropped from 19 in 1941 to 10 in 1942 (Acre Territory, 7; Pará, 2; Baía, 1). The National Yellow Fever Service has Aedes control units in 12,145 localities, and 1,306 viscerotomy posts; 10,969 of the 12,159 localities sanitized have an Aedes index of 0; and the number of liver specimens sent for examination was 28,901.

Colombia reported 20 D from jungle yellow fever in 1942, (compared to 34 the previous year), 6 of them in the Department of Santander, 5 in Cundinamarca, 5 in Boyacá, and 4 in Meta. There were 11 C 5 D from January to June 1943.

Perú showed considerable improvement, with 2 C (both in the Department of San Martín) reported in 1942, contrasted with 163 C 76 D in 1941, all in Junín, from which 4 C have been reported in the first half of 1943.

Yellow fever has repeatedly been suspected in Bolívar, Venezuela, where a fatal case was verified in 1941. In 1942 a Division of Yellow Fever was created. The 64 viscerotomy posts sent in 252 specimens, with 3 C from the jungle area of Piar District, State of Bolívar, being positive. The 6,000 inhabitants of the area were then vaccinated.
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Plague.—It is gratifying to report that the plague situation in the Americas has greatly improved.

In Argentina, according to a recent report of the Department of Health, plague has decreased from 56 C 28 D in 1941, to 29 C 12 D in 1942 (all in Córdoba Province); however, the bulletin of the Department also reported 8 C 7 D in two towns in Jujuy, July 1942. No cases have been reported for the first six months of 1943.

Bolivia had a small outbreak in 1941-42 in Ipitá, near Charagua, Santa Cruz (number of cases unknown), which was promptly brought under control; the Vallegrande outbreaks in the same Department proved not to be plague.

The plague situation also improved in Brazil, with 12 C 2 D in 1942, compared with 157 C 61 D in 1941. Of the 1942 cases, 6 C 1 D were in Pernambuco State, 3 C in Alagoas, 2 C in Minas Gerais, and 1 C 1 D in Ceará. The port deratization services in Fortaleza, Recife, Maceió, Salvador, Río de Janeiro, and Santos, captured a total of 124,126 rats. Plague infection was proven in 1942 in a ground squirrel and various lots of fleas from certain parts of Alberta Province, in Canada.

In Ecuador, plague has decreased from 69 C 50 D in 1940 to 39 C 14 D in 1941, and but 5 C 2 D in 1942 (4 C 1 D in Loja Province and 1 C 1 D in Chimborazo); no cases have been found during the first six months of 1943. During the fiscal year 1942-43 a very intensive anti-plague campaign was carried on in the Province of Chimborazo, with splendid results, since no human or rodent plague has been reported since June 1942. The antiplague work in Ecuador included 1,222 vaccinations, application of rat poison to 276,037 rooms; 99,406 rats trapped and 38,634 rats autopsied, without any being found infected; and fumigation of 9 ocean and 192 river vessels in Guayaquil, with 436 rats killed (none infected).

Perú was the only country showing an increase in plague: 1941, 67 C 33 D; 1942, 98 C 42 D. By Departments: Lima, 57 C (Lima City, 19 C 8 D); Piura 21 C; La Libertad 9 C; Ancash 8; Lambayeque 3. There were no human cases in any important maritime port. Dr. Long, Traveling Representative of the Bureau, explained that all the cases were rural; there was a total of 30 foci, all widely separated, and mostly in places not previously known to have been plague-infected. He considers this due to discovery of previously unknown foci rather than as indicating an extension of the disease. The average number of foci for the last 12 years has been 51. In the first half of 1943 only 23 C 8 D of human plague have been reported.

During 1942, 1 human case of plague was reported in the United States, in Siskiyou county, California, in a 23 year old child, who recovered; in the previous year there were 2 human cases in this county. Plague was demonstrated in rats, wild rodents, or their ectoparasites in six Western States: California, Oregon, Montana, Nevada, Idaho,
and Washington; infected rat fleas were found in the port of Oakland, California, and infected fleas, rats, and mice in Takoma, Washington.

No human plague has been found in Venezuela since the 1939–40 outbreak in Aragua State; however, according to the Ministry of Health and Welfare, there apparently exists an endemic focus in wild rodents in the zone along the Aragua-Miranda border; plague has been found in Rattus rattus and Sigmodon hirsutus up to February 1942.

Poliomyelitis.—While poliomyelitis continues to spread, its mode of transmission remains unsolved, with first water, fecal material, and sewage being suspected, and then flies and human pharyngeal secretions.

There was an outbreak of poliomyelitis in Argentina in 1942 with 870 paralytic cases and 34 deaths (421 C in the capital and 404 in Buenos Aires Province). The epidemic apparently began in October in the Capital; an outstanding feature was the preponderance of children attacked during the first year of life. By a resolution of the National Director of Health a Permanent Committee for Public Health Coordination for the control of Infantile Paralysis was created. Piñero García stated that poliomyelitis is an endemic disease in Argentina, and reported a new outbreak (the sixth) in Rosario in the summer and fall of 1943, characterized by a preference for children of 1 year 8 months to 3 years 8 months, its benign nature, and low mortality.

Three cases of poliomyelitis were reported in the Department of Oruro, Bolivia.

Brazil reported 12 deaths from poliomyelitis in the State capitals in 1942 (Rio de Janeiro 26 C 3 D; São Paulo 3 D; Belo Horizonte 2 D; Porto Alegre 2 D; Goiânia 1 D; Vitoria 1 D; and Salvador 1 C). In April 1943 there began an epidemic in Belem and vicinity with 42 C to June 30, 1943, and 7 C in July, when the epidemic ended; the disease was light and attacked mainly children up to 5 years of age. In Santa Catarina State, 48 C 1 D had been reported from January to February 19, 1943 (date of last report); 33 cases were in Florianópolis, and 41 were in children under 5. During January to September 1943 several outbreaks, the largest in Quaraí, were reported in Rio Grande do Sul.

Provisional statistics for Canada for 1942 include 63 deaths from poliomyelitis or acute polioencephalitis, compared with 68 D in 1941.

After the outbreak of poliomyelitis in Colombia in 1940, the number of cases has continued high; 256 C 2 D in 1941 and 215 C 5 D in 1942.

In Costa Rica, after the outbreak in 1941 (28 C 1 D), only 4 cases were reported in 1942, in the Provinces of San José, Cárdenas and Alajuela.

Cuba had an epidemic of poliomyelitis in 1942 with 694 C and 53 D (case fatality rate 8.9%). Of these, 524 C 43 D occurred in 1942 and 74 C 10 D in the first eight months of 1943. The outbreak commenced in summer (May), reached its peak in October, decreased in the winter, and ended the following summer (1943). Principal foci were Banes, Oriente Province (49 C 11 D among 38,016 inhabitants), Chéco de Avila, Camagüey (30 C 1 D among 67,926); and the city of Habana (81 C 3 D, population 703,020). There were 17 C 3 D in Santiago, 10 C 1 D in Matanzas and 2 C in Cienfuegos. Camagüey had 9 C. The Provinces reporting the most cases were Oriente (180 C 25 D) and Habana (133 C 7 D), but the highest morbidity was in Camagüey (15.27 per 100,000). The ages most affected were 1-2 years (27.7% of the total cases) and 2-3 years (17.7%). Uncorroborated studies reveal that 23% of cases diagnosed show paralysis and 69% recover without sequelae; 58% of all cases belong to rural areas.
The situation in Chile has not varied greatly in recent years; in 1942 there were 22 CD; in 1941, 24 CD, and in 1940, 34 CD. The provinces most affected in 1942 were Tarapacá, Concepción, Magallanes, and O'Higgins; of maritime ports, Talcahuano (3 C), Valparaíso (1 C) and Punta Arenas (1 C).

No epidemics of poliomyelitis have been observed in the Dominican Republic, and the two cases (1 in Ciudad Trujillo and other in San Pedro de Macorís) reported in 1942 could not be verified.

Ecuador reported 2 C 1 D in 1942, both in Guayaquil, where the only case (and death) of 1941 had also been reported.

In El Salvador 7 C were observed during the first six months of 1943 (4 in June, beginning a relatively extensive outbreak in San Salvador which reached its peak in July and August 1943). During 1942 there was one known case, in San Salvador.

Preliminary reports for Guatemala give 4 C from March to June 1943.

In 1942, 40 D were reported in Mexico (Federal District 8, Jalisco State 5, Veracruz, 5, and 3 each in Durango, Querétaro and San Luis Potosí). For 1941, 34 D of poliomyelitis and acute polioencephalitis were reported.

Two cases both in Panamá City, were reported in Panamá for 1942, and 1 case in Colón and one in the Canal Zone in 1941.

Perú seems to have but occasional cases, with 6 verified in 1941 and 10 in 1942 (9 in the Department of Lima and 1 in Ayacucho Department).

Puerto Rico reported an outbreak apparently beginning in June 1942 (29 C) and reaching its peak in August (33 C), when it began to drop; 107 C were recorded for the year.

From October 1941 to October 1942, 229 C 23 D were reported from poliomyelitis on Trinidad, the outbreak reaching its climax in January, 1942. There were 35 C 6 D in Port of Spain. More than half the cases were in children from 1 to 5, the next highest groups being infants under one year, and children 5 to 10. Two cases have been reported in the second half of June 1943, and there may have been other cases between October 1942 and June 1943.

Poliomyelitis in the United States decreased from 9,086 C in 1941 to 4,193 C in 1942, but early 1943 figures indicate an abrupt increase in the number of cases. During 1942 there were 110 cases reported in New York and in Los Angeles, 104 C; Illinois led the States with 485 C; followed by California, 353 C; New York, 297; New Jersey, 254; and Texas, 246; however, the highest morbidity rates were for Nebraska, 10.7; Vermont, 9.1; Arkansas, 7.8; and Arizona, 6.8. The disease appeared in small localized outbreaks in 1942. The case fatality rate, according to some, averaged around 5% in epidemic periods, and rose to 15 and 20% in periods of low incidence.

The Ministry of Public Health of Uruguay reports 40 C 3 D from poliomyelitis for 1942 (17 C 1 D in Montevideo). The disease seems to have become epidemic in April-June 1943, but no figures have been received.

The high number of cases reported in Venezuela in 1941 (206 C 37 D) dropped considerably in 1942 (25 C 8 D), with the greatest incidence in the Federal District (Caracas and vicinity, 12 C 2 D) and the States of Zulia, Falcón, and Carabobo; 6 C 1 D were reported in Maracaibo.

Typhus.—Because of more extensive and more careful surveys, better diagnosis, or for some other reason, typhus, it must be admitted, is increasing in the Americas, while the number of indemne Republics diminishes. This disease has called forth the constant preoccupation of the health authorities of the Americas and of the Bureau, as demon-
strated by the creation of the Committee on Typhus. Figures for 1942 reveal an increase in all but one of the Republics (Guatemala) recognized as typhous.

In Argentina, where previous records show but an insignificant number of cases, 61 C and 1 D were reported in 1942 (Capital, 25 C; Provinces of Santa Fe 18; Buenos Aires 9; Córdoba 6; and Santiago del Estero 3).

Typhus has probably caused in recent years more havoc than any other disease among the Indians of the Bolivian plateau; the typhus area is situated at an altitude of 3,000 to 4,000 meters and has a population of about a million; only sporadic cases have been seen in the valleys. In May 1941 a Permanent Typhus Control Service was created. The authorities report that the disease has decreased in 1941 and 1942, with no epidemics; official figures give 218 C 72 D (Departments: Chuquisaca, 7 C 4 D; La Paz 75 C 22 D; Cochabamba 18 C 8 D; Potosí 50 C 8 D; Oruro 67 C 29 D; Santa Cruz de la Sierra 1 C; Beni, (data for the capital only 1 D).

Reports for the State capitals of Brazil give 20 D from typhus (same as in 1941), with the following distribution: State of Minas Gerais, 17 D (Belo Horizonte, 10); of São Paulo, 16 C 9 D (6 in São Paulo and 1 in Santos). São Paulo reported 17 C of Rocky Mountain Spotted fever (15 in the Capital), Minas Gerais, 9 C, and Rio State, 9 C; or a total of 35 compared with 106 in 1941 and 78 in 1940.

The Colombian Ministry of Health reported 415 C for 1942 (Bogotá, 103 C; Ubéte 35; Department of Antioquia 248; of Caldas 26; of Boyacá 3). Patiño Camargo reported that in the 20 months preceding March 1942, 1,574 cases of typhus had been hospitalized in 5 municipalities of Caldas, with 73 D. Statistics for the first half of 1943 (575 C 44 D) reveal a considerable increase in incidence and mortality. Boshell, Manrique and Montoya reported an epidemic of spotted fever in the Zapatoca region, Department of Santander del Sur, where they found 12 C, all fatal, in November and December 1941, and by July of 1942 the number was 36. Cross-immunity tests showed the strain to be immunologically identical with that of Rocky Mountain spotted fever, São Paulo fever, and Tobia fever (also Colombia). Later studies suggest the possibility of *Amblyomma cajennense* being a vector. Toward the end of 1942, about 3,000 persons had been vaccinated with Cox vaccine against Rocky Mountain spotted fever in the Tobia and Zapatoca area, and against typhus in Valle del Cauca and Sabana de Bogotá.

Murine-type typhus has continued to be reported in Cuba: 5 C 1 D in 1942 and 10 C 5 D in 1941, the 1942 cases being in Oriente (3 C 1 D), Camagüey (10) and Pinar del Río (1 C) provinces.

According to information from the Department of Health, typhus has increased in Chile: 1941, 446 C 38 D; 1942, 506 C 81 D. The highest incidence and mortality in 1942 were in the Provinces of Tarapacá, Antofagasta, Valparaíso, and Concepción, and the ports attacked included Valparaíso, 99 C 5 D; Talcahuano, 49 C 2 D; Antofagasta, 46 C 2 D; Iquique 61 C 2 D, while Santiago had 78 C 7 D, many more than in the previous year.

The typhus figures for Ecuador since the first reported cases in 1939 have also grown: 1940, 86 C 23 D; 1941, 173 C 28 D; and 1942, 398 C 67 D. Quito and vicinity (Pichincha province), 237 C, 36 D; Cuenca (Azuay), 81 C 10 D; Ibarra (Imbabura) 37 C 14 D; Azogues (Cañar) 15 C 3 D; and 1 C in Guayaquil. However, González H. (member of the Pan American Committee on Typhus) has reported that the presence of typhus has been verified in 11 of the 17 Ecuadorian provinces, with the case mortality oscillating between 18 and 24% and even reaching 50%; he recommends the compulsory use of vaccine.

El Salvador reported 1 D of typhus in the capital in 1942 and 6 in 1941. The
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disease has apparently been reported only in San Salvador and Santa Ana. Vázquez has reported observing 29 C of typhus in San Salvador since October 1938, making a total of 42 with but 2 D; he states that Salvadorian typhus is benign. Typhus decreased in Guatemala from 1,898 C 444 D in 1941, to 1,426 C, 374 D in 1942, with the highest mortality in the Departments of Guatemala (75 D), Alta Verapaz (67 D), Sololá (55 D), and Quiché (48 D).

In Jamaica, in 1941-42, 68 probable cases of endemic typhus, with positive Weil-Felix and complement fixation reactions, were observed, the first case occurring in December 1941; most of the cases were in natives of the island living in the poorer quarters of Kingston, where rats are abundant. Mexican typhus showed an increase over previous years: 1942, 2,752 C, 1,418 D; 1941, 1,166 D; 1940, 1,377 C 923 D. The States having the highest mortality in 1942 were: Oaxaca 254 D (20.8 per 100,000 inhabitants); Puebla 223 (18.8); and Mexico 168 D (14.2); there were 750 C 151 D in the Federal District (696 C and 138 D in Mexico City). Veracruz, with 2 C, was the only important maritime port attacked; there was also a case in the air port city of Mérida, Yucatán.

Two cases of typhus were reported in 1942 in Panamá, both in Panamá City, compared with 7 C in 1941. There were at least 2 C in the Canal Zone. Typhus morbidity has increased slightly in Perú in the last three years: from 1,258 C in 1940 to 1,938 C in 1941 and 2,026 C in 1942. Preliminary data for the first half of 1943 give 641 C. The Departments most affected in 1942 were Puno (660 C), Cusco (546 C), Apurímac (239 C) and Junin (224 C), more or less the same as the previous year, and including 82% of the cases in the Republic. Arequipa (5 D) was the only air or maritime port infected.

Typhus has increased considerably in the United States in recent years, from 1,882 C in 1940 to 2,787 C in 1941 and 10,729 in 1942. Important maritime ports infected in 1942 included Savannah, 73 C; Charleston 60; New Orleans 36; Houston 35; New York, 26; Tampa 15; Miami 14; and Mobile 12; with 2 in Baltimore, 9 in Los Angeles, and 3 in Philadelphia. Topping and Dyer report that the distribution of endemic murine typhus in the United States includes principally certain ports in the East, an extensive area in certain southern States, and the States of Tennessee and California; new foci appear to be Richmond, Washington, D. C., St. Louis, and Cincinnati and Cleveland. Eskey believes that the incidence of typhus in the United States is greater than that indicated by reports, and that in some zones possibly but a fifth of the cases are reported.

In the opinion of Baker, Rocky Mountain spotted fever is widely extended in the United States and may yet spread further; in 1941, 517 C and in 1942, 499 C 115 D were reported.

Typhus has also increased in Venezuela in recent years, although the figures for 1942 (73 C 2 D) were almost exactly the same as those for the previous year. Most heavily attacked by the disease (murine in type) were the States of Guárico, Lara, the Federal District, Bolivar, and Carabobo; among the principal maritime ports infected were La Guaira (3 C) and Puerto Cabello (1 C). There were 5 C in Caracas and 4 in Barcelona. In the opinion of Briceño Irarri, Venezuela has a known form of Rickettsiasis (murine or endemic typhus) and another not very well studied probably similar to Rocky Mountain spotted fever.

Smallpox.—Except for four or five countries, smallpox is not a public health problem in the American Republics, some of which are completely free from it. Increases were observed in some countries and decreases in others, in 1942.
Argentina, reported 120 C, 31 D from smallpox (113 C and 30 D in the Province of Salta and 7 C 1 D in Jujuy).

The Director of Epidemiology of Bolivia stated that there was no serious epidemic of smallpox in the country in 1942, although small outbreaks occurred in Ravelo, in Indians (27 C) and in the frontier town of Villazón, Potosí, and in the Lagunillas sector of Santa Cruz, all rapidly brought under control, and the majority of the cases were thought to be alastrim. There were no autochthonous cases in important cities. Official figures for the year include 205 C, 47 D (Departments of Chuquisaca, 47 C 20 D, La Paz, 12 C, Cochabamba, 45 C 9 D, Potosí, 39 and 6, Oruro, 28 and 10, Tarija, 3 C, Santa Cruz de la Sierra, 29 C 2 D, Beni, Trinidad only, 2 C). In 1941 about 400,000 vaccinations were made, with fewer in 1942.

Smallpox figures for all of Brazil are not available, but 1942 data for some of the principal cities which are also air or sea ports include: Federal District 49 C 2 D; Manaus 9 D; Belo Horizonte 4 D; Vitória 1 D; Salvador 1 D; São Luiz 1 D; Portalesa 1 D, or a total of 19 D, plus 8 C in the State of Rio Grande do Sul. In 1941 there were 11 D in the State capitals.

Canada has not reported a death from smallpox since 1939, but there were 11 C in 1940 and 26 C in 1941; no deaths were observed in 1942 but the number of cases is not available.

Smallpox increased in Colombia in 1942 (1,443 C 15 D compared to 1,085 C 28 D in 1941), with the highest incidence and mortality in the Departments of Valle (549 C 5 D), Magdalena (320 C 0 D), Antioquia (181 C 3 D) and Caldas (131 C 3 D), followed by Tolima (38 C), Nariño (37 C), Cundinamarca (33 C, 3 in Bogotá), Boyacá (32 C), and Santander (28 C), with cases in all the other departments except Atlántico. Figures for the first half of 1943 (1,041 C 5 D) indicate another increase.

No smallpox was reported in Chile in 1942, and there has been no epidemic outbreak in that country for several years.

Ecuador reported 10 C in 1942 (3 in Ibarra, 3 in Latacunga, 3 in Guaranda and 1 in Guayaquil), with Imbabura the most affected province. In 1941 no deaths from smallpox were reported, and in 1940, only 3 C 1 D; only one case has been reported in the first few months of 1943. There were 63,566 smallpox vaccinations in 1942.

Smallpox was not observed in El Salvador in either 1941 or 1942.

There were only 2 C 1 D (one in the capital) in Guatemala in 1942, compared with 18 C 6 D in 1941.

Thanks to an intensive vaccination program, there were only 6 cases in Honduras in 1941 and none in 1942.

After a notable decrease in smallpox incidence and mortality in México (from 17,405 D in 1930 to 1,203 D in 1940), a contrary trend has been observed, with 2,529 D in 1941 and 3,748 D in 1942. Tampico was the only maritime port affected in 1942 (1 C), while the highest incidence was in the States of Tlaxcala (696 D, rate of 304.6 per 100,000 inhabitants), Puebla (1,045 D, 78.9), Oaxaca (712 D, 58.4), and Guerrero (376 D, 49.8). Mexico City reported 94 C 29 D, compared with 17 C 5 D in 1941.

There was only one known case of smallpox in Panamá in 1942, compared with 6 in 1941 (3 of them alastrim).

Preliminary reports for Paraguay give 707 C for the registration area of the Republic (including 26 cities and towns with a population of about 410,000), with the highest figures in Asunción (417 C), Concepción (279 C), Villeta (22 C) and Puerto Casado (19 C).
Smallpox decreased in Perú in 1942 (2,513 C) as compared to 1941 (3,143 C). The disease is prevalent over the whole country, but especially in Apurímac, 694 C in 1942, Cuzco 559 C, Arequipa 409 C and Puno 397 C, three fourths of the cases occurring in these four Departments. Infected airports included Arequipa (51 D) and Lima (7 C 2 D).

A notable decrease has been seen in smallpox incidence in the United States in recent years: 15,111 C 48 D in 1938; 2,839 C 15 D in 1940; 1,396 C 13 D in 1941, and 865 C 3 D in 1942. Houston, Texas, was the only important maritime port infected in 1942 (3 C); 11 States were completely free and three others reported but one case each; on the other hand, there were more than 100 C in Texas, and in general the disease is more prevalent in the States west of the Mississippi. The widely publicized outbreak in Pennsylvania included 65 C.

There were 279 C 11 D of alastrim in Venezuela in 1942, about the same as the previous year, with the highest incidence in the Federal District (Caracas and vicinity, 160 C 5 D) and the States of Miranda, Zulia and Táchira. Maracaibo was the only important maritime port infected (3 C 2 D).

**Bartonellosis.**—The presence of Bartonellosis has to date been verified in three American Republics: Perú, Ecuador, and Colombia. Mera has described its distribution thus: "It follows the direction of the Andes between 2° North Latitude and 13° South Latitude, at altitudes ranging from 500 to 3,000 meters. In Colombia it is found only at altitudes of from 1,300 to 1,850 meters."

Colombian statistics for 1942 give a total of 623 C 68 D from Bartonellosis: Department of Cauca, 361 C 21 D; Nariño, 259 C 46 D; Valle, 3 C 1 D. While the number of identified cases increased over the preceding year (395 C 67 D), the case fatality rate and mortality dropped. About 6,000 persons are estimated to have died from the disease from 1938 to 1942 inclusive. The President of Colombia stated in his July 20, 1942 message that the campaign against bartonellosis had been very successful. Three hospitals and a laboratory were built for control of the disease. Many important points in its epidemiology remain obscure. Various species of *Phlebotomus* have been incriminated, without determination of the chief vector. In Perú, *Phlebotomus verrucarum* is the principal transmitter, followed by *Ph. noguei*.

Bartonellosis foci in Ecuador are centered in Zumba (Oriente) and El Oro.

**Brucellosis.**—In reporting two new verified cases of brucellosis in Costa Rica, Pefa Chavarría, in August, 1942, stated that the disease is becoming more and more common and if precautions are not taken the situation will become worse.

In Chile the disease has been found since 1931, but in 1940 a new focus was discovered in the north of the country, and the number of cases increased. According to Onetto, bovine brucellosis is rather widespread in the country, but the majority of cases are traceable to goats.

Figures for brucellosis in Perú include 102 C, 5 D in 1941, 127 C in 1942, and 74 C in the first semester of 1943. As in previous years, the highest figures for 1942 belonged to the Department of Lima (88 C); there were 38 C in Callao Department and 11 C in that of Ica.

Ríosuez Iribarren, Vogelsang, and Gallo called attention to the few human cases of brucellosis in Caracas, Venezuela, whereas the bovine incidence varies from 25% to 40%.

**Chagas' Disease.**—Discovered in the State of Minas, Brazil, 34 years ago (1909), this disease is becoming continental in character.
Up to 1941 the most southern cases found in America appeared to be the 6 which Mazza and Castro Rendón found in the Territory of Neuquén, Argentina.

In Brazil, of 30 known species of triatoma, 14 have been found infected in 12 States. Only two (Rio de Janeiro and Santa Catarina) where studies have been made have been found free. The percentage of infestation in triatoma appears to be very high in Minas Gerais and Rio Grande do Sul.

Investigation of Chagas' disease in Chile, according to Gasic, properly began only in 1937; the first acute case was confirmed toward the end of 1938. This disease has exhibited less serious clinical characteristics in Chile than those reported in other countries.

Álvarez Crespo has diagnosed 12 acute cases in Guayaquil, Ecuador, one in 1940 and the rest in 1941; the vector appears to be T. dimidiatus.

Chagas' disease seems to have been verified in 1939 in Paraguay; studies from December 1941 to March 1942, by González, Queirolo Arce and Rivarola, revealed among 112 persons examined in the Chaco, 2 typical cases, and later others. Tr. infestans is abundant in the region, and the percentage of infection of triatoma by Tr. cruzi averaged 22.8.

The report of the Minister of Health of Uruguay for June 1938-November 1942 reveals 8 cases of Chagas' disease for the first half of 1941, observing also that according to the investigations of Tálice, there have been more than a hundred verified cases in various parts of the Republic, especially in Paysandú, although generally mild in form.

**Epidemic meningitis.**—During 1942 there were two serious epidemics of cerebrospinal meningitis in America: the Chilean, which began in 1941, and that in the United States. Beginning in Valparaiso in May 1941, the Chilean epidemic doubled in intensity by the end of the year; and in 1942, 5,199 C 790 D were reported, with the provinces of Santiago, Valparaiso, and Antofagasta being most afflicted, and men more often attacked than women. The maximum age distribution was in 5-14 group. In spite of the increased morbidity, the case fatality rate appears to have dropped from 20% to 15%, and in cases treated with sulfa drugs in hospitals, it did not pass 7%.

The most extensive epidemic of meningitis ever reported in the United States was that of 1943, with some 12,000 C reported in the first six months. There were 3,769 C in 1942. Morbidity for 1939-41 had averaged 1,900 C a year. The disease began to increase in the first part of 1942, dropping slightly in the summer, and rising abruptly in the last two months of 1942, to reach its peak in the spring of 1943. It was widespread throughout almost the whole country, but most severe in Rhode Island, Maine, New Jersey, Missouri, South Carolina, Utah, and Oregon. Sulfo-therapy reduced the case-fatality rate from 40% before 1929, to 20% and even below 10% when facilities for early diagnosis and treatment were available, and below 3 1/2% in military camps. Relapses have also been almost completely eliminated, and the frequency of complications was reduced. It is hoped that the total number of deaths from the 1943 epidemic will be much lower than for the previous one (1929) although the number of cases will be much higher. Two Army technicians have recently reported that the prophylactic use of small doses of sulfadiazine has made it possible to put a quick end to the development of an epidemic.

**Other epidemiological developments.**—In Colombia, a virus causing a disease of horses known as peste loca or “crazy disease” has been isolated, apparently identical to the encephalomyelitis first described in 1931 by Meyer, Haring, and Howitt. The Colombian strain belongs to the “Venezuelan” type.

Relapsing fever, transmitted by ticks, appears to have created a new health
problem in Bolivia (228 C 33 D in 1942), especially among Indians, where it spreads quickly and has a high death rate (around 35%).

In Argentina, Fonso Gandolfo and Rugiero diagnosed 1 C of pinto in a person who had always lived in the northern area of the Republic, this apparently being the first verified case in the country, although they state that it is possible there are numerous other cases in the subtropical area. Souza Araujo had reported 1 C seen in a hospital at Rosario in 1939. In México, according to Martínez Báez, the disease has existed since remote times. A census from 1929 to 1931 revealed a total of 270,049, or 1.62% among the total population and 10.8% among the individuals actually examined. The great endemic Mexican focus is in the basin of the Balsas River (90% of the cases encountered), covering part of the States of Oaxaca, Guerrero, Veracruz, Morelos, Mexico, Puebla, Michoacán, Jalisco, and Colima. The disease is widely extended in Colombia, Venezuela, Brazil and Ecuador, with more limited foci in Bolivia, Peru, Central America, and some Caribbean islands.

According to the Director of Health of Ecuador, yaws has become extended from the Province of Esmeraldas to that of Manabí, and constantly acquires more serious proportions; there are also sporadic cases in other localities.

In 1942 El Salvador had an epidemic of measles responsible for 717 D, mostly in the Departments of La Libertad and Usulután. Nicaragua also reported an epidemic of the same disease causing thousands of cases and 1,062 D, attacking mainly Masaya, Matagalpa and Managua.

**BULLETIN**

The most notable developments in the Bulletin of the Pan American Sanitary Bureau (Boletín de la Oficina Sanitaria Panamericana) during the current fiscal year have been the increased use of English articles and summaries, in order to bring to the attention of the growing circle of English-speaking readers the work being done in research in Latin America; the addition in April, 1943, of a special section on Nursing (incorporating the material previously published in other sections), and the reduction, because of the paper shortage, of the number of pages to 96, except for the special December (Pan American Health Day) issue.

The Bulletin continues to carry out its policy of reviewing public health and medical developments in Latin America, of recording the outstanding advances in control and preventive measures, therapeutics, etc., throughout the world, and of publishing vital statistics for the Americas. It has been privileged to publish the first reports of the discovery of certain diseases in previously unknown foci. The selected circulation of the Bulletin is maintained at about 10,000, with a copy going to practically every town of 2,000 or more population in Latin America, and to many smaller places.

Articles of particular value or interest are issued as reprints in the Publications Series of the Bureau, which also includes other material, such as the Manual on Bromatology (in Spanish, No. 186). As of June, 1943, the series numbered 195.
From July 1942 through June 1943, 40 original papers were published in the Bulletin, covering such matters as: Child welfare in America, and in Venezuela; tuberculosis in the United States, in Brazil, in Paraguay; brucellosis in Chile; Chagas' disease in Chile; various aspects of bartonellosis, tuberculosis, cancer, blackwater fever, brucellosis, yellow fever, venereology, surgery, hospitals, cardiology, dentistry, snake-bite, tropical medicine, hospitals; plague in Argentina, in the West Indies, and in cats; yellow fever in Brazil; school hygiene in Cuba; typhus in Venezuela, in Colombia; treatment of superficial mycoses; biological stains; the calendar as a health education device; history of the Pan American Sanitary Bureau; preventive rest; Bolivian parasitoses; poliomyelitis in Cuba; Red Cross in the Americas; leprosy in Brazil; public health in Rio de Janeiro; aviation and public health; Pan American Health Day; Anopheles carlet Vargas; cocoanut water as a culture medium; malaria in Panama; U. S. Pharmacopoeia. As usual, the annual reports of the national departments of health of the various Republics were summarized.

Reviews of periodical literature included the following topics: diphtheria, scarlet fever, measles, whooping cough, leishmaniasis, trypanosomiasis, garbage, rheumatism, allergy, respiratory diseases, influenza, pneumonia, cancer, blindness, trachoma, spirochetosis, helminthiasis and protozoosis, leprosy, malaria, mosquitoes, cholera, yellow fever, typhus, smallpox, plague, water, milk, brucellosis, dysentery, typhoid, gonorrhea, chancroid, yaws, lymphogranulomatosis, syphilis, encephalitis, meningitis, poliomyelitis, nutrition, mycosis and dermatosis, maternology, pediatrics, tuberculosis, rabies.

INQUIRIES (CONSULTAS)

One of the most important functions of the Bureau is the consultative, one aspect of which is the publication of some of the more important and interesting questions and answers in the Consultas section of the Bulletin.

From July 1942 to July 1943, the section contained queries on the following subjects, which represent but a fraction of those received: agranulocytosis (bibliography), allergy (bibliography), amebiasis in Latin America, appendicitis mortality in the United States, ascitic liquid (bibliography), blood (determination of intoxication), blood plasma (acquisition and preservation), bloodletting, brucella abortus vaccine, caffeine and chlorophyll extract in maté, camp hygiene, chancroid (Ito-Reenstierna reaction), Christmas seals (organization of a campaign), civilian defense organization, copper arsenite as substitute for Paris green, copper screen substitutes, death rates for Puerto Rico, dermatology (infant, bibliography), diphtheria bacilli types, employees' medical service, food packaging and prizes, garbage disposal, gasoline tins as food containers, goat's milk and nutrition, goiter (bibliography), gonorrhea (Wolfram treatment), health conditions in Dutch Guiana, Aruba, and Curaçao, heparin (bibliography), herzio-plasty (bibliography), hospital abbreviations, industrial hygiene, leishmaniasis treatment (bibliography), leprosy diagnosis, treatment, and transmission, medical entomology, medicinal plants in the West Indies, Mexico, and Central America; medicine (teaching, cost and health, Latin America); milk (powdered, regulations); nutrition (infant, bibliography); odontology and social security, onchocerciasis, papaine (crystalline), peritoneoscopy, plague bacillus (cultivation and identification), pregnancy in working women, mortality, public vehicles (disinfection), pyrethrum cultivation, radium preservation, refuse as fertilizer, rural medical assistance, smallpox vaccine (packing for transit), social service schools (Latin America), spinal injections of blood and serum, sterilization of glasses and
ANNUAL REPORT OF THE DIRECTOR

The Library contains a wealth of material, in many instances unique, on Latin American medicine, public health, and related subjects. As in the past, the use of this material has been impeded by lack of space for proper storage and handling, but in anticipation of some day having adequate facilities, the Library has continued its efforts to round out and complete its collections. In its capacity as Executive Organ of the Sanitary Conferences and as international health center for the Americas, the Library is the recipient of rare and valuable official reports and records, in addition to the wide variety of material received in exchange for the Bulletin, and to books sent for review.

A revised edition of the classified list of medical and public health journals is in preparation, as the previous edition is nearly exhausted.

The Library also assists in the preparation of articles for the Bulletin, answers to queries, and special publications, such as: Publication 175, Housing and Hospital Projects of Latin American Social Security Systems; 181, Child Nutrition in Latin America; and the series on Plague in the Americas, appearing in the Bulletin.

The work of requesting microfilms in connection with the cooperative microfilm project of the Bureau, has also been handled by the Library, much of the microfilmed matter being from its own collections.

EXHIBITS

The loaning of health posters and exhibits as well as films by the Pan American Sanitary Bureau has been curtailed by transportation difficulties arising from the war emergency.

MICROFILM SERVICE

The cooperative microfilm project of the Bureau, the “Friends of the Army Medical Library” Association and the Office of the Coordinator of Inter-American Affairs, has met with growing interest during the current fiscal year. More than 600 requests have been filled during the fiscal year through the project, in addition to the hundreds which have been made directly after the Latin American scientists or institution have become familiar with microfilms as a result of the project. Through this project, the weekly publication Current List of Medical Literature, is being sent over 300 medical schools, institutions, and medical libraries in Latin America, and microfilm copies of articles mentioned therein, or of other material, are sent gratuitously upon request. Their light
weight makes microfilms particularly suitable for air transportation, an advantage of particularly great importance in wartime. It is interesting to observe the wide use of this service made in some countries, such as Mexico, while others seem unaware of its advantages.

VITAL STATISTICS

The XI Pan American Sanitary Conference recommended the creation of a Pan American Committee on Epidemiological and Vital Statistics, to standardize vital statistics methods and coordinate efforts directed toward the solution of the vital statistics problems of common interest to the Americas. Preliminary steps have been taken toward the organization of this Committee, which will also attempt to improve and expedite the international reporting of communicable diseases. The Bureau has continued to collect and disseminate demographic information through its weekly report and the Bulletin and by air mail and telegraph in urgent cases, and during the fiscal year published its most comprehensive vital statistics report on the Americas. Vital statistics studies were also included in the scholarship program of the Bureau.

As in the past, the Bureau will continue to cooperate closely with the statistical departments of the various Republics, including the U. S. Bureau of the Census and with the Inter-American Statistical Institute. In spite of the difficulties arising from the war, the Bureau was able to continue the exchange of information with the other international organizations, especially the Health Organization of the League of Nations, and to a lesser extent, the International Office of Public Health.

FINANCES

During the fiscal year 1942-43, the regular income of the Bureau, including quotas received, was $142,867.44 and the amount of expenses paid was $113,964.48. The expenses may be classified as follows:

Salaries .................................. $47,716.56 (41.8%)
Lima Office equipment & maintenance .......... 2,383.19 (2.1%)
Bulletin and other publications .............. 16,133.97 (14.1%)
Office equipment & stationery .............. 5,816.89 (5.1%)
Traveling expenses ........................ 34,627.81 (30.3%)
Library .................................. 611.36 (0.5%)
Postage & Telegraph expense ............... 2,844.77 (2.5%)
Insurance ................................ 689.12 (0.6%)
Employees retirement & pension fund ........ 1,888.48 (1.6%)
Miscellaneous ................................ 1,917.93 (1.7%)

Total .................................. $113,964.48

With regard to quotas on June 30, 1943, 14 Republics have paid up to date, four have one year's quota pending, one has two years' quotas.
pending, and two have more than two years' quotas pending. Two countries have already paid (one in part) their quotas for the next fiscal year. It may be recalled that the Tenth Pan American Sanitary Conference fixed the quotas of the Bureau at 40¢ per thousand inhabitants.

Expenditures during the fiscal year out of other funds administered by the Bureau (including funds from the Coordinator of Inter-American Affairs, the U. S. Public Health Service, and the Commonwealth Fund) amounted to $339,138.45, including $210,562.42 for Fellowships, study tours, and other instruction, $56,227.54 for venereal disease control, $48,593.46 for improvement of nursing education, $11,437.15 for typhus studies, $10,849.16 for onchocerciasis control, and lesser amounts for trips by specialists, hospital improvement, tuberculosis exhibits, printing, and so forth.

The favorable balance of the previous year has been preserved, and if expenditures are carefully controlled and the contributing governments continue their support as in the past, the financial position of the Bureau should remain on a stable basis. It is important that this encouraging status be maintained if the Bureau is to perform successfully the duties assigned to it by the Pan American Sanitary Code and the Pan American Sanitary Conferences.
THE PAN AMERICAN SANITARY BUREAU is an independent international public health organization. It was created by the Second International American Conference (1901-1902), organized by the First Pan American Sanitary Conference (1902), and reorganized by the Sixth (1920). It is governed by a Directing Council elected, together with the Director, at each Pan American Sanitary Conference. The Bureau is supported by annual quotas contributed pro-rata by all the American Republics. It is interested primarily in the prevention of the international spread of communicable diseases, and also in the maintenance and improvement of the health of the people of the 21 American Republics. Under the provisions of the Pan American Sanitary Code (1924), it has become the center of coordination and information in the field of public health, in the American Republics. It also acts as a consulting body at the request of national health authorities, carries on epidemiological and scientific studies, and publishes a monthly Bulletin, as well as other educational material. Pan American Health Day is celebrated annually on December 2 in all American Republics. Address all correspondence to the Director of the Pan American Sanitary Bureau, Washington, D.C.