IV PAN AMERICAN CONFERENCE, Conclusion

PUBLIC HEALTH PERSONNEL

A great forward step in Brazilian public health, as described by Dr. Barros Barreto, was the creation in 1926 of specialization studies in public health for doctors and in 1938 of special courses of shorter duration in several State capitals, in some of which Sanitary Bureau workers participated. Furthermore, courses of malariology, statistics, micro-biology, parasitology, trachoma and sanitary engineering (one in 1939) are given by the National Department of Health. Because of the impossibility of setting up five new schools of public health nursing for the preparation of nurses, brief courses (five months) were offered in twelve States, although this was admittedly only an emergency measure. Finally, in 1936, a commissioned career service was instituted in the federal health department, and several States are employing the same system, at least with regard to medical hygienists.

Dr. Bejarano pointed out that this type of service has not yet been established in Colombia, perhaps due to the newness of the department, its decentralization and to the lack of resources and of legislation envisioning this development. Nevertheless, the first steps in this direction have been taken with the promulgation of a law guaranteeing non-removal and promotion in the permanent administrative career.

Public health teaching in Cuba, according to Dr. Finlay's report, dates, in rudimentary form, from the early days of the Republic in 1902. It assumed its present form in 1934, with the creation of the Finlay Institute and the National School of Health. The Cuban Delegation expressed itself in favor of the intensification of public health education for health workers and recommended that a committee be set up to study and propose a plan for teaching this subject, for general application in the corresponding institutions of America.

Dr. Garcés announced that in Chile, a public health school was established in 1938 as a branch of the State University, subsidized by the Ministry of Health. In addition, two new schools for social workers were opened and funds set aside for another of public health nursing as a dependency of the University of Concepción.

Dr. Mountin, Assistant Surgeon General of the Public Health Service of the United States, explained that prior to the passage of the Social Security Law in 1935, there was no federal plan for the technical training of public health personnel, but with the application of this Law and federal subsidies since made for that purpose, training of personnel has become an important aspect of federal aid to state and local health services. The number of people receiving scholarships reached 5,316 in 1940, and included 946 doctors, 3,450 nurses and 920 engineers, hygienists, dentists, bacteriologists, and statisticians. Although somewhat varied, the courses usually conform to one of four categories: school year in residence; short introductory courses; supervised practice; studies without fixed residence. Regarding the improvement of state and local health services, the Federal Government exercises a persuasive influence only. The supreme authority remains in the services themselves and in the political bodies controlling them, which to date have been none too favorable to the adoption of more rigorous professional requirements. Partly to maintain a low scale of wages and partly because of the impermanence of the positions, poorly prepared workers have sometimes been employed in these services. Nevertheless, the situation is improving. Dr. Eliot, assistant director of the Children's Bureau, added that it
becomes more evident every day that the pediatrician in charge of the maternal and child welfare services should be trained in public health administration. She cited also the growing importance of the social worker and the nutrition specialist in child welfare work. Nutrition experts are already employed by 27 State health departments in the United States. About the same number utilize the services of dentists and medico-social aides.

In a short account of what has been accomplished in Mexico along these lines, Dr. Siurob agreed that the important features of the matter are: adequate training and permanency. Mexico has a School of Public Health which specializes in appropriate courses for the whole public health personnel, including courses in hygiene and specialization for doctors and nurses. Praising the work of the visiting nurses, Dr. Siurob indicated that their number had increased from 1 for every 20,000 inhabitants to 1 for every 10,000, and the next six-year plan requires 1 for every 5,000. With regard to permanency of positions, the Juridical Statute Law divides workers into two classes: policy-forming, and basic, or administrative. The former occupy positions of a certain amount of distinction, and can be replaced; among the latter, the classified service, with full-time position, permanency and promotion, is applied.

Dr. Schiaffino recalled that in Uruguay the first courses for public health service field-workers began in 1927, and that later, similar courses were instituted with lower entrance requirements. Among the principal practical obstacles was the lack of cooperation by certain organizations which did not choose to give preference in employment to these specially trained workers, thus wasting the work of education. A short while ago, one-year courses were organized for public health workers, and recently, through the collaboration of the Pan American Sanitary Bureau, the first more advanced course was started, attended by 40 doctors. There has been a school of clinical nursing in Uruguay for thirty years.

As to specially trained public health personnel, Dr. García Maldonado reported that Venezuela has begun by granting scholarships abroad for doctors, sanitary engineers and other technicians. Furthermore, certain sections enjoy the services of foreign doctors in an advisory or educational capacity. The chief problem seems to lie in the lack of properly prepared nurses, all of whom have been brought in from abroad to date. Now, however, a certain sum has been set aside for the setting up of a National Nursing School. The public health commission service is not used in Venezuela, although in practice political vicissitudes have not altered the structure of certain specialized divisions.

PREPARATION OF A SANITARY CODE OF GENERAL APPLICATION TO THE AMERICAN REPUBLICS

The discussion with regard to the drawing up of a standard Sanitary Code threw into relief the interest which the modernization of sanitary law has aroused everywhere. In opening the discussion, Dr. Barros Barreto, Vice-director of the Bureau, gave an account of the points which he considers fundamental for a Sanitary Code, indicating in detail the requisites of modern public health administration and organization, and proposing that, in order to produce a more definitive piece of work, this subject be included in the XI Conference to be held in Rio de Janeiro.

Inasmuch as a codification committee named by the President of Uruguay, on which Drs. John D. Long and Attilio Macchiavello represented the Pan American Sanitary Bureau, has just completed its work, Dr. Schiaffino was able to present the draft of the suggested sanitary code which, it is hoped, will be enacted into law. In a verbal exposition he pointed out that in drawing up a code, the most important thing is to create a complete medium through which public health may be developed.
Mr. Márquez, Legal Assistant to the Bureau, described its activities in the compilation of the legislation in force in the different countries of America, and after expounding several concepts with regard to setting up a sanitary code, and the popularization and humanization of public health law, he presented the beginning of a paper on the codification of public health legislation.

From Cuba, Dr. Le-Roy contributed a report of the viewpoints presented at the last Constitutional Assembly with regard to the constitutional basis of sanitary law. A complete compilation of such law is now in preparation. He closed by proposing that the Pan American Sanitary Bureau draw up a suggested code for discussion at the Rio de Janeiro Conference.

Dr. Siurob reviewed the history of the Sanitary Code of Mexico, and explained its constitutional bases.

Dr. Bejarano and Dr. Puente discussed some of the provisions of public health law, particularly those relating to marriage and venereal diseases. The former emphasised the fact that the concept of humanitarianism be constantly borne in mind in connection with this type of legislation.

As a result of this discussion, the Conference resolved to authorize the Director of the Bureau to name a committee which should draft a model Sanitary Code, to be presented at the Sanitary Conference at Rio.

POLIOMYELITIS

Dr. Barros Barreto presented the observations of Dr. Decio Parreiras on the poliomyelitis epidemic of Rio de Janeiro in 1939, one of the most severe ever recorded in Brasil. There were 230 cases of paralysis and 20 deaths reported, and the first figure may represent only a fraction of the total number of general cases. The chief epidemiological characteristics of the outbreak were: its spread to scattered districts; greater incidence in private homes; in thinly populated sections, in children of 1-2 years, and in winter and spring (seasons also characterized by a great drought): less morbidity in zones of high altitude; almost complete absence of cases among foreigners; 9% fatality; exoneration of water and milk as transmitting agents. Although transmission by contact with paralytic cases could hardly be established, the author believes that, taking into consideration the abortive cases and the carriers, it would be possible to complete the chain. With regard to prophylactic measures, early diagnosis was emphasized, as well as the observation of contacts, and isolation in home or hospital. Nasal instillations with zinc sulfate were applied, but schools remained open and no vaccination or seroprophylaxis were employed.

Dr. Leake, of the United States Public Health Service, enlarged upon his observations of the recent epidemic of poliomyelitis in Colombia, which affected chiefly the valley of the Río Cauca and resulted in 138 cases and 6 deaths. It conformed to the epidemiological pattern already observed in other countries and climates. The low mortality rate and rarity of resulting paralysis, and the greater incidence at early ages caused Dr. Leake to suspect a greater dissemination of the disease in Colombia. With regard to prophylaxis, the practical value of nasal instillation proved doubtful, due to the difficulty in making a perfect application. In contrast to many other investigators, who blame some animals for transmission, Dr. Leake maintains that infected humans are really responsible, sometimes being carriers without showing any symptoms. Carriers are most often found among infants and adolescents, preferably in rural districts. In the outbreak in Colombia, the following control measures were employed: nasal instillation; reduction and surveillance of travel on the part of children, and prevention, insofar as possible, of popular gatherings; but the schools were not closed. To avoid paralytic sequelae, rest and muscular exercise alternated with complete
SEROLOGY OF SYPHILIS AND VENEREAL DISEASE CONTROL

Dr. Spangenberg, of Argentina, expressed the opinion that serodiagnosis of syphilis is still far from perfect, but admitted that the progress made since 1925 is really marvelous. In the fight against syphilis in Argentina, two encouraging steps have been taken: the establishment of an obligatory pre-marital serological examination, which will protect 88,000 persons annually, and the organization of Centers of Serological Diagnosis of Syphilis. In a discussion of the specificity and sensitivity of tests, he pointed out the immense value of a reaction which would permit the recognition, among the patients treated, of those who carried the heavy burden of parasyphilosis. Two reactions are preferred in Argentina at the present time: the standard Kahn, and the Wassermann modified by the particular technique of the Bacteriological Institute, which is less sensitive than the Kahn carried out with the method employed in Montevideo, although another method being studied at this time increases the sensitivity. Although an indispensable weapon in the fight against syphilis, Dr. Spangenberg warned that serology must be correctly practiced, under official surveillance, and recommended: free application; the institution of a plan of international scope to determine the true value and significance of the progress which is constantly being made; greater cooperation on the part of public health authorities in the distribution and control of antigens, and the promulgation by the Pan American Sanitary Bureau in all the Republics of all advances worthy of official recognition in each country. Regarding the progress made in Argentina in the battle against syphilis, he cited the creation of 7 new treatment centers, making a total of 709 for the whole country, or one for each 18,000 inhabitants; 6 other regional centers are almost completed. The free distribution of medicines has also been increased; specific treatment has been emphasized, and the interest of the provincial authorities secured. The National Department of Public Health supplies antisypilitic remedies not only to official institutions, but to all which request them.

In a paper presented by the Brazilian Delegation, Dr. Heraldo Maciel, Director of the Naval Institute of Biology of Rio de Janeiro, related his experiences with more than 500 cases of infection, from which he made a comparative study of the following reactions, with particular regard to sensitivity, precipitation and reductibility: Wassermann, Assis technique; Kahn standard; Kline diagnostic; and Müller. This study showed that diagnosis must not be based on a single reaction, whether this be by fixation of the complement or by flocculation: different tests must be made, because the reagents formed in the serum are sometimes more sensitive to the lipoids of other extracts. With reference to reductibility, he believes that in general serological tests decrease in intensity in the same proportion, although cases in which complement fixation falls more rapidly than flocculation are not rare; the opposite phenomena is observed less frequently; it was also found that the drop in intensity is not always gradual, since a rapid fall and other variable oscillations are sometimes noted. The author confirmed the fact that the Wassermann reaction is the one which reveals the presence of syphilis earliest.

The Colombian Delegation presented a report of the Chief of the Section of the Campaign against Venereal Diseases of the Ministry of Labor, Health and Social Welfare in which it was pointed out that the present state of this campaign leaves much to be desired. As a solution, the report included an outline with the following points: (1) moral and educational work, beginning with the sex education of children; (2) individual prophylaxis, including the establishment im-
mediately of 18 posts similar to the 44 which already exist in the Republic, and which shall be followed by others; (3) reduction of the sources of infection by the regulation of prostitution, which is responsible for 82% of infections; prophylactic bismuth treatment of prostitutes, and a decrease in the number of these through correction of the responsible causes; establishment of the pre-marital certificate; (4) creation of a larger number of treatment services and reduction in the price of medicines; (5) protection of women. In 1938, there were 69 anti-venereal institutions, or 1 for every 126,113 inhabitants. In 1939, 69.6% of 56,827 Wassermann reactions were positive, and 60.9% of 59,374 Kahns. There are 19,068 prostitutes registered in the country, although this figure seems to fall short of the real total.

Dr. Recio, of Cuba, described Chediak's micro-reaction, which has been developed in Cuba since 1932. This is a flocculation test based on standard principles, and made with Meinicke's antigen. Its originality consists in the fact that only one drop of dried blood is needed, which can be placed on a coin, paper or a slide. It has been put to numerous tests in comparison with the Wassermann and other flocculation reactions and the results have been found to agree in a large number of cases. Recently, the test has been used in Germany, apparently with great success.

With reference to advances in anti-syphilis work in Chile, Dr. Garces stated that the necessary funds have been designated for the enlargement of the Bacteriological Institute for the annual production of 2,400,000 doses of neoarsphenamine, four times the present production; and that a law has been proposed which makes venereal contagion punishable by law, and imposing compulsory treatment. At the present time, the medical services of the Workmen's Insurance Fund, and the anti-venereal services of the Public Welfare and Public Health Departments offer treatment without charge.

Dr. Eagle, of Johns Hopkins University said that in his opinion, the flocculation tests and complement-fixation tests are equally reliable with regard to specificity and sensitivity, and that in the hands of a competent laboratory technician, there is little difference between them; in the case of a poor technician, nothing gives satisfactory results. Thus the staff making the test is more important than the technique employed. He called attention to the fact that, while there is no absolute proof to support such practice, a verified positive sero-reaction has for years been considered indicative of syphilis, even in the absence of clinical symptoms or luetic antecedents. One investigation carried out in this respect among university students, including 40,000 specimens, showed a positivity (counting doubtful reactions) of barely 1 to 4,000 without apparent syphilitic infection. Dr. Eagle therefore concludes that anyone with a verified positive reaction may be considered syphilitic, except when the following complications exist, known to be able to produce positive reactions: malaria, leprosy, yaws and infectious mononucleosis, although there may also be other conditions, not yet known, which give a positive reaction. In regard to the so-called provocative Wassermann, it has apparently been shown to be without foundation in the last few years, the daily variations observed in provocative sero-reactions being due not to alterations in the serum itself, but to peculiarities in the laboratory technique. In late syphilis, for instance, the reagent content in the serum does not increase in response to the treatment. German observations based on Wassermann's original theory that the primary alterations of syphilitic serum represent the development of antibodies to the Treponema pallidum have been very significant; as is Reiter's culture, ten years ago, of a spirochete morphologically different from the T. pallidum and which does not induce syphilis in the rabbit, but which is similar enough to produce a specific reaction with the antibodies in the syphilitic serum, accompanied by fixation of the complement. This culture does not apply
to the differentiation of pseudo-positive reactions due to malaria, but reacts negatively to leprosy. Since it displays an anticomplementary tendency and requires too careful a technique, Dr. Eagle does not recommend its regular use at the present time, although he considers it of enormous value in the serodiagnosis of syphilis, and great promise in the field of serology.

Dr. Reuben L. Kahn, of the University of Michigan, described the method which he contrived for the discovery of pseudopositive reactions which has already successfully been used in the University Hospital. The process, known as a confirmation test, derived its origin from and is based on the differences observed in the results of the Kahn test at different temperatures with positive serums of syphilistics and of non-syphilitic lower animals. The technique is similar to the standard test bearing his name, but requires temperatures of 37 and 1°C. Dr. Kahn concludes that this test is a valuable aid in the diagnosis of syphilis in cases that are doubtful, or lack symptoms.

In a detailed dissertation, Prof. John A. Kolmer of Temple University reported that the exact frequency of syphilis is unknown, but it varies from 0.2 to 0.5% to 20 to 30%, according to the locality and social sphere, a mean of 8 to 10%, or about ten million syphilistics being calculated for the United States. Prof. Kolmer is of the opinion that 91% of the cases become infected between the ages of 16 and 40 years. Of the 500,000 to 600,000 new cases which occur every year in the United States, 90% acquire the disease through genital contact and the other 10% through extra-genital contact, particularly through kissing. Prof. Kolmer agrees with other investigators that each syphilitic transmits the infection to two or three other people. Regarding sero-reactions, he stated that none is adequate used alone, and that to obtain an exact diagnosis, at least two different ones should be used. He emphasized the importance of an exact technical execution and suggested that for this reason the test be given by experienced technicians. In view of the fact that the antigen used is the most influential factor with regard to the specificity and sensitivity of the test, he recommended its preparation in central laboratories and a more rigorous check. With reference to sensitivity, he expressed the opinion that any serological examination can give a falsely negative reaction, particularly in cases of pregnant women, in the congenital form, and in the malignant precocious form; he emphasized the fact that a negative sero-reaction must never be put above clinical findings. He stated categorically that no test is sufficiently sensitive to determine the presence of syphilis during the incubation period, although positive reactions result in 90% of the cases at the end of the first stage, and in 100% of the cases in the second. In speaking of specificity, Professor Kolmer said that positive reactions may appear in the absence of syphilis, in cases of leprosy, yaws, pinto, recurrent fever, and infectious mononucleosis, and that the relation between pinto, yaws and syphilis should be investigated. Sometimes, though rarely, pseudopositive reactions are obtained with the sera in cases of cancer, jaundice, fever, or in normal persons, due in general to errors in the laboratory. The speaker considers the compulsory pre-marital certificate a necessity, but he pointed out at the same time some of the disadvantages involved: the non-specific, pseudopositive, and positive reactions obtained in cases of chronic syphilis which have been properly treated; the inability of the test to discover the infection in the incipient or incubation period; and the possibility that this measure may decrease the frequency of marriage and encourage sexual promiscuity. With the reminder that pregnancy does not of itself lead to a positive reaction when the test is correctly given, he favored a systematic blood test of every expectant mother, for the purpose of reducing stillbirths and infant mortality.

Dr. Vonderlehr, of the United States Public Health Service, spoke with regard to studies which are now being completed for the evaluation of serological di-
agnostic tests. These investigations, begun in 1935 by the Public Health Service, with the cooperation of the American Society of Pathological Clinics and 13 eminent serologists, have revealed the efficacy of serum reactions in the hands of their discoverers or inventors, and an increase in the number of laboratories who use them with satisfactory results (from 28% in 1937 to 70% in 1939).

Dr. Siurob reported that in Mexico great efforts had been made to combat syphilis. Immediately after the abolition of the prostitution regulation, a law making venereal contagion a misdemeanor was promulgated, and the former hospitals for women were turned into hospitals for both sexes. At the same time, the number of dispensaries and preventive treatment centers was increased, and funds were set aside for setting up a neo-arshphenamine and sulfanilamide factory.

Dr. Debyale's contribution to the discussion consisted of an analysis of the fundamental aspects of the fight against syphilis in Nicaragua, and a report on the results of a comparative study conducted by the Department of Public Health, of which he is Director. Little difference in efficiency was found between the Wassermann-Kolmer (1923 modification) and Kahn (original method) tests. However, for public health work Dr. Debyale recommended the use of the Kahn test, because of its speed, simplicity, and economy. In a recent study trip to the United States, he was impressed by the practicality of the Kline reaction, with its efficiency, simple technique, and moderate cost, and hoped to introduce it in Nicaragua.

Dr. Garcia Maldonado reported that Venezuela had made great strides in the campaign against syphilis, with the creation of a model dispensary in Caracas for the training of the necessary technicians. In 1939, 2,155 positive diagnoses of syphilis were made in the 5 dispensaries of Caracas, and 2,649 in four other important inland cities.

**Typhoid Fever**

According to Dr. Sordelli, the mortality from typhoid fever in Argentina has been reduced by one-third in the past 20 years. Milk does not seem to be responsible for typhoid in that country, nor have any epidemics been attributable to water. In general, town water supplies are bacteriologically pure, and except for carelessness in the home consumption of water, raw food seems to be the chief agent of the disease. With regard to vaccination, Dr. Sordelli recommended caution in the substitution of the oral method, whose efficacy has not yet been definitely proven, for the regular vaccine, whose excellent results are already known. In response to a query, Dr. Sordelli said that although the technical problem of the preparation of mixed vaccine (typhoid, diphtheria and tetanus) has been solved, many difficulties are encountered in practical use. In concluding, he recommended that epidemiological studies be made throughout America, and that a plan of investigation be worked out to ascertain the real efficacy of the oral vaccine.

Dr. Barros Barreto presented the typhoid mortality rates for 19 Brazilian cities, which fluctuated between a minimum of 6 per 100,000 population (Rio de Janeiro) and a maximum of 51. Lacorte found 8% of positives in more than 2,300 Widal reactions, made with sera from the north and center of the country, which would seem to contradict the opinion that the disease is less frequent in the tropics. With respect to the rôle of water in the transmission of typhoid, it is possible that the regions closest to the equator are not those most susceptible to this form of transmission; this assumption is justified, not only by the assertion of Heukekelian and Schuloff that, outside the human organism, the typhoid bacillus is more resistant to low temperatures than to high, but also by observations made in certain epidemic outbreaks resulting from contaminated water in Brazil. Intimately related to the typhoid problem are the protection of water supplies, beaches, and swimming pools; the consumption of raw milk and vegetables;
oyster beds; the fly; irrigation water, and healthy carriers and contacts. With all due respect for the importance of vaccination, Dr. Barros Barreto believes that other prophylactic measures should not be excluded, especially those of drainage and the use of preventive serum in epidemic periods in towns probably widely infected through contaminated water.

Dr. Bejarano stated that, although the typhoid death rate in Colombia has been reduced in towns supplied with safe drinking water, the disease still constitutes a serious problem in the rural districts. He called attention to the sporadic character of the fight against typhoid, begun only at the appearance of an epidemic. A resolution of the Ministry of Public Health of September, 1939, makes the disinfection of public drinking water obligatory. The Department of Sanitary Engineering of the Ministry has turned out several model machines for the application of calcium hypochlorite. These are cheap and easily operated, and have proved satisfactory when used in aqueducts, swimming pools and hospitals.

Dr. Lage reported that in Cuba, an attempt to obviate the disadvantages of subcutaneous vaccination has led to a trial of the oral vaccine, with favorable results. Nevertheless, the regular subcutaneous vaccination in three injections, is still officially required, although many individuals are vaccinated orally by private physicians, to avoid the usual reactions. In a discussion of this point at the Finlay Institute, it was decided to continue the requirement of parenteral vaccination, accepting the oral type in exceptional cases.

Dr. Garces explained that in Chile, enteric fevers are the most common contagious diseases. For example, in 1939, the typhoid mortality rate was over 50 per 100,000 in four provinces, and in ten others, fluctuated between 25 and 50. The epidemiological characteristics of the disease are: an absolutely constant seasonal distribution, with greater incidence in spring and summer, in large centers, and in children less than 15 years of age. To combat the disease more efficiently would require more complete information with regard to the extent and characteristics of the problem in each region, including a more strict reporting of cases, examination of carriers, and training of an efficient personnel. With regard to vaccination, Chilean experiments have shown that the vaccine prepared in the Bacteriological Institute provokes few after-effects, and is efficacious and harmless. The value of typhoid vaccination was proved in Chile by the prevention of serious outbreaks of the disease following the destruction of the water supplies during the earthquakes in 1939. In closing, Dr. Garces earnestly recommended the standardization of diagnostic techniques.

Dr. Leake, in referring to the recent advances made in typhoid vaccination in the United States, pointed out that the most noteworthy investigations of recent years have been directed toward the improvement of vaccine by a better selection of strains. At the present time, strains from Panama which are being studied, appear promising.

Dr. Surob stated it has not yet been possible to reduce the incidence and mortality rate of typhoid in Mexico to any great degree, but that the recent intensification of the campaign will bring about an improvement of this situation. Among the practical works recently carried out, he cited the provision of water supplies for more than 300 towns in rural districts. Some of these works are far-reaching, such as those of Chihuahua, with a network of 115 km, which supplies 24 towns. Not only the problem of supply, but also that of purification of the water, is being dealt with.

Dr. Long, Chief Traveling Representative of the Sanitary Bureau, said that in general, in traveling through the interior of America, he refrains from eating vegetables which grow on the surface of the ground. He mentioned a town where waste water is used for irrigation, and the incidence of typhoid is extremely high.

In view of the different opinions expressed with respect to the merits of oral
vaccine, it was recommended that the subject be studied further, so that a definite recommendation may be made at the XI Conference at Rio de Janeiro.

SANITARY HOUSING

Dr. Bejarano remarked that the American Republics are finally coming to a full realization of the importance to national health of sanitary housing for workers. In Colombia, for example, a solution to the problem is being sought with a national organization, which has so far proved fairly successful. In the Departments of Nariño and Cundinamarca a number of sanitary dwellings have already been constructed for rural residents.

According to Dr. García, poor housing conditions affect a large part of the workers of Chile. Reports of the Association of Architects reveal that not less than 1,500,000 Chileans, or a third of the population, are living in unhealthful dwellings. To remedy this situation, the Ministry of Public Health has begun the construction of workers' houses, complete with sanitary services, and even with small orchards. The Housing Fund also contributes to the solution of the problem by the construction of houses for public and private workers; efforts along these lines have also been carried out by Social Security Funds, in behalf of insured workers, especially in the zone affected by the earthquake.

In Guatemala likewise, according to Dr. López Herrarte, sanitary housing is one of the outstanding considerations of the Government. A workers' housing plan has already been put in practice with good results.

Dr. Hurtado reported that in Peru, investigations have been made to determine the housing conditions of workers, and in 1938 a department for the inspection of workers' houses was created, and an extensive construction program, with the cooperation of various official and private institutions, was finally put into practice. To date, more than 600 houses have been constructed and turned over to workers. The problem is, however, still far from being solved.

Dr. Schiaffino reported that the first attempt at construction of sanitary dwellings for workers in Uruguay was made 50 years ago, with unfavorable results. In recent years, several thousand workers' houses with gardens have been built by direct action of the State, municipalities and private enterprise, in city suburbs. The work which has been carried out has been interesting and immensely beneficial, but little ground has been gained in comparison with the problem.

OPEN DISCUSSION

Intestinal Amebiasis.—In Nicaragua, feces examinations made of thousands of people show that infestation with Endamoeba histolytica has increased from 7.24% in 1936 to 13.68% in 1939 and in the capital, Managua, from 13.08% to 30.65%. There was little evidence of any seasonal variation, but when cases were studied in relation to hygienic facilities in homes, it was discovered that the drinking water of Managua is apparently contaminated, and constitutes an important factor in the transmission of the disease. The disorder is rarely fatal, nor do the hepatic complications often form abscesses; diarrheal forms predominate.

Public welfare and socialized medicine.—The 1939 report of the Chief Physician of the Department of Public Welfare of Colombia presented a variety of information, including: number of visits to the 235 hospitals and welfare institutions submitting reports, 5,288,021; a high institutional death rate, particularly in the mental hospitals of Bogotá and Medellín, at times exceeding 60%; maintenance costs, per case, average of 12 establishments, 0.90 pesos (Colombian); maximum Cartagena Hospital, average of 2.26 pesos; minimum, 0.05; proportion of re-entrance of mental cases, 13%.

Dr. Surob explained how socialized medicine in Mexico grew out of the failure of preventive medicine in rural centers. To illustrate his point, he cited one
region, representative of others, where there were no doctors nor any organized public health representation. By a propaganda campaign, rural dwellers, aided by local banks, were brought to contribute a substantial sum, which, together with an equal contribution of the State, sufficed to establish cooperative sanitary services for treatment and education and, in some cases, actual hospitals. These services are under the supervision of a committee of three. Dr. Siurob expressed his satisfaction with the existing plan, emphasizing the fact that no less than 2,700,000 rural residents are benefiting from it.

**Bartonellosis.**—Dr. Bejarano presented a dissertation by Dr. Patiño Camargo on bartonellosis as an international problem, including the following resumé of the epidemic which occurred in Colombia: locale, in the south of the country, near Ecuador, 75 km from the sea and at an altitude of 800 to 4,500 meters; a region of abundant rain and the worst possible sanitary conditions; high death rate (more than 5,000 deaths); at the onset, irregular fever, rheumatic pains and anemia; etiologic agent, a multiform bartonella; duration of febrile stage, several days to four months; frequent relapses, 60 days after the beginning of the fever; abundance of blood-sucking insects and Phlebotomus; another possible carrier, the human louse. The establishment of special hospitals in the affected zones has reduced the frequency of the disease. Dr. Bejarano is of the opinion that this, which he considers the disease most to be feared in America, is also autochthonous to other countries of the continent.

**Diphtheria.**—In Nicaragua, natural immunity against diphtheria attains a degree of 84% among the student population. The disease is most frequent in the 2 to 8 year age group, and during the months of varying temperature. With respect to treatment, best results have been obtained with the North American sera, although larger amounts were required than in other countries. The incidence of the disease is not very high, but the proportion of fatalities is over 20%, due to the bacillus responsible and to tardy diagnosis and treatment.

**Narcotics.**—The extensive report of the Colombian government on the drug traffic during 1939 began with the legislation for its control, among which is included a resolution prohibiting the cultivation of marihuana and ordering the destruction of existing plants; another establishes a State monopoly of the importation of narcotics. Only 160 drug addicts are registered in the country, of which 110 are addicted to morphine and 43 to heroine. Hospitalization of these has not yielded results, since of a small group interned in 1933, all were still addicted to the vice in 1939. Actually, drug addiction, represented by 0.02% in Bogotá and 0.002% in the whole country, does not constitute a major problem in Colombia. On the other hand, there is nothing encouraging about the coca situation. During 1939, it was found that 40,000 kg of coca leaves were consumed, 33,325 in the Department of Cauca alone. With a view to limiting the production of coca to the bare medical necessities, the calling of an international convention was recommended.

**Mental Hygiene.**—In a paper on mental hygiene in Brazil, the Brazilian psychiatrist Cunha Lopes called attention to the recent organization of a course in psychiatry by the Psychopathic Service of the Distrito Federal, which has also at its disposal a magnificent Neurosyphilis Institute. The author recalled that the Brazilian Society of Psychiatry, Neurology, and Legal Medicine, founded in 1907, was the first association of its kind in America. The establishment in 1918, in Rio de Janeiro, of a Mental Hygiene Service complete with dispensary, specialized clinics, laboratory, and hospital facilities, has had repercussions throughout the continent. In conjunction with this organization, there is a Psychological Institute and a nursing school. To complete the program outlined, the Brazilian Mental Hygiene League was founded in 1922, the Brazilian Center for the Study of Schizophrenia in 1933, and other institutions in different states in subsequent
years. In a population of 50 million, not more than 20,000 psychopathic cases have been placed in institutions.

Leprosy.—In an account of the activities of the Department of Leprosy Control of Colombia for 1939, Dr. Bernal Londoño included the following statistics: 56,533 persons examined, 960 cases discovered; 2,531 now under treatment (1,726 in leprosariums); 8,136 in isolation; 1,696 healthy children of lepers under surveillance. The proportion of contagious cases discovered has fallen from 8.34% in 1936 to 2.48 in 1938 and 1.69 in 1939. Leprosy prophylaxis in Colombia ranks with the best in the world, but not the hospital service. In another report, Dr. Maldonado Romero expressed the view that the most effective form of combating leprosy lies in the early discovery of cases, methodic treatment and the segregation of contagious cases, the work of visiting nurses also being of real value. Statistical studies of the incidence of the disease over a period of 170 years show an abatement in the force of expansion during the last 30 years, perhaps due, in the case of Colombia, to the compulsory isolation of cases, established in 1905, to improvement in methods of diagnosis, and to the increased number of sanitary services. Persistent cures reach 57.24% in Colombia, with 15.48% of relapses.

Federico Lleras Institute of Medical Investigation.—Dr. Patiño Camargo, Director of the Lleras Institute, described, in a paper presented by Dr. Bejarano, the founding and work of the institution, which was created in 1934 as the Central Laboratory for the Investigation of Leprosy, for the purpose of studying all phases of this disease and experimenting with various forms of treatment. It has its own building, equipped with laboratories for serology, biochemistry, microbiology, parasitology, and pathological anatomy; a hospital with ten beds; and other facilities including a section for animals used in experiments. Among the subjects on the program of research is the investigation of the therapeutic value of lamb and goat sera, with which encouraging results have been secured, and of methylene blue, which has proven very satisfactory to date.

Maternal and Child Welfare.—In a report of the chief of the department, the Ministry of which comes under Labor, Public Health and Social Security, it was stated that the work on behalf of mothers and children was greatly stimulated by the establishment in 1937 of medical and nursing service in day nurseries, and by the extension of similar services to employees of certain factories and their children. There are already a number of children's and prenatal clinics and restaurants in Colombia, operated by the Ministry, the Red Cross, or other organizations, as well as tuberculosis and venereal disease dispensaries, milk stations and day nurseries; asylums, sleeping quarters, and homes, gardens, and vacation colonies. The Prenatal Service made 52,481 home visits in 1939; attended 16,869 women and more than 8,000 newborn children, and made about 39,000 laboratory tests. Although the maternal mortality rate has been reduced, it continues to be high in hospital wards, due to delay on the part of pregnant women in coming there, and to poor equipment. The Dental Service reported 187,760 examinations, 278,591 extractions and 115,487 fillings, and the School Health Service improved sanitary conditions in 536 establishments, examined 169,741 children, and gave 131,000 vaccinations.

Tuberculosis. Dr. Arboleda Díaz presented a paper explaining in detail the organization and progress of the fight against tuberculosis in Colombia. The number of dispensaries has risen from 3 in 1936 to 28 at the present time, with an accompanying increase in the number of persons attended. With regard to treatment and prophylaxis, pneumothorax was employed in 862 patients. In the health education campaign, all possible means, radio, screen, press, and posters, were utilized. Dr. Díaz estimated that 10 million Colombian pesos are spent yearly by society and by the individual on tuberculosis patients, and recommended the establishment of social security.