

SCIENCE

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THE U. S. MARINE HOSPITAL SERVICE.*

GENTLEMEN: I beg leave to express my pleasure in meeting you at this assemblage, called by myself in accordance with section 7, of the act of congress approved July 1, 1902.

What may be the result of these annual conferences time must determine, but certainly we may consider the present, the first annual conference under the law, as a most noteworthy event. For the first time in the history of the United States there has been placed within its statutes, by the act of Congress referred to, a provision looking to harmonious and cooperative efforts in public health matters between the national government and the state governments.

This status has long been desired, but difficult of achievement by reason of our republican form of government. It has been difficult for the national government to extend its influence into state health matters without appearing to infringe upon the states' authority, and it has been difficult for the states, individually or collectively, to seek aid from the government without appearing to surrender authority reserved to them by the national constitution. In the meantime, however, the

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

* Opening address before the first annual conference of State and National Health Authorities, Washington, D. C., June 3, 1903.

Marine-Hospital Service, now bearing the title of the Public Health and Marine-Hospital Service of the United States, has become so developed and strengthened, and the state health organizations have been so perfected, that a sentiment of respect, one for the other, has been established, finding its expression in this law of 1902, and, in particular, section 7 above referred to.

To my mind the outlook is bright. The great problems to be solved in sanitary affairs; the great work to be done in the suppression, and even elimination, of disease, and the cultivation of health and strength, so that physically, as well as in other respects, the United States may take a leading position among the nations, are propositions which should not be considered impossible of solution, and a proper development under the terms of this law will be an important step in this solution.

One of the most important features of this assemblage is its official character. All of us are familiar with conventions of similar purpose, productive of much useful information but entirely lacking in official significance. Here, however, are assembled the legalized health authorities of the states, representing the practical administrative experience as well as the theoretical and scientific knowledge required in the consideration of public health affairs.

Many of you have devoted the best years of a long professional life to the consideration of the subjects which will come before us, having acquired, in individual instances and on special subjects, unusual knowledge and wisdom.

Combined effort appears to be a distinguishing feature of this new twentieth century. This is seen in nearly all forms of civic and commercial life and even scientific and professional effort. It would

seem that when the history of the twentieth century is written there will be lacking those great and single characters looming far above the average, leading, directing or dictating; instead, there will be an elevation of the average, the best individual effort will, neither in purpose nor effect, aggrandize the individual, but will be exerted in connection with other effort of like nature for the establishment of a parity of well-being among all. This, I take it, will be the keynote of our action, bearing constantly in mind the actual results to be attained and being determined to attain them.

To refresh your memory I will now read section 7 referred to, and also section 8, which is somewhat analogous.

It will be seen that section 7 provides for three kinds of conferences. First, the surgeon-general may invite as many of the health and quarantine authorities as he deems necessary, not more than one from each state, territory or District of Columbia, to a conference, whenever in his opinion the interests of the public health would be promoted thereby. Second, a conference must be called at least once a year of all the states, territories and District of Columbia. Third, upon the application of not less than five state or territorial boards of health, quarantine authorities or state health officers, he must call a conference, but in this event only those states joining in the request are to be called.

While the present is the first annual conference, it is not the first conference called under the law. Last January, upon the request of twenty-two states, a so-called plague conference was called to consider the situation in San Francisco. The proceedings of that conference in detail have been transmitted to each of you. The effect of it was undoubtedly very great in

bringing about the present satisfactory status in San Francisco. The object of that conference was specific, but, as you will note, the law providing for the annual conference gives no details. We must assume, therefore, that the intent of the law is that we shall get together, and we are to decide ourselves as to the matters to be considered. It is evident that the conference is advisory in character, without changing in the least the present executive force of this bureau of the Treasury Department.

It seems advisable at the outset, and for a satisfactory understanding of one another, to give a review of the laws and of the organizations relating to the Public Health and Marine-Hospital Service, and to receive in return an account of the same nature from each state delegate.

The laws especially relating to the United States Public Health and Marine-Hospital Service can be found listed in the appendix to the regulations of the service of 1902, and the laws relating to quarantine can be found printed in full in the quarantine regulations of 1903.

Having thus referred to the laws, I propose now to describe the organization of the Bureau of the Public Health and Marine-Hospital Service. For executive administration, the bureau is divided into six divisions, each presided over by an assistant surgeon-general. There is, also, a miscellaneous division, presided over by an assistant surgeon, and the office of the chief clerk. The clerical force numbers about twenty. These divisions are named as follows:

Division of Marine-Hospitals and Relief.

Division of Domestic Quarantine.

Division of Foreign and Insular Quarantine and Immigration.

Division of Sanitary Reports and Statistics.

Division of Personnel and Accounts.

Division of Scientific Research.

Miscellaneous Division.

DIVISION OF MARINE-HOSPITALS AND RELIEF.

To this division are sent all matters relating to the marine-hospitals, 22 in number owned by the service, and to the patients, numbering 58,000, treated annually in these hospitals and in some 110 relief or contract stations. The Purveying Depot, a large building located in New York, is under the direction of this division, to which are also referred all matters relating to hospital supplies, including subsistence, drugs, hospital furniture, surgical instruments and appliances, plans and specifications for hospital construction, and the conduct of the sanatorium for consumptive patients at Fort Stanton, New Mexico, where the service has a sanatory ranch, 56 square miles in area, the buildings of the fort having been placed in perfect condition, the patients in the sanatorium numbering about 150. The scheme for this ranch embraces the removal of consumptives from our hospitals with a view to their improvement or recovery. Quite a large percentage have recovered, a number leave greatly improved, and all who desire can find employment after leaving in the same high, dry and healthy locality. The hospitals are thus relieved from this contagious disease, and the vessels from which they come are subject to inspection and disinfection as to their forecastles or other quarters that have been occupied by known consumptive patients.

DIVISION OF DOMESTIC QUARANTINE.

To this division are referred all matters relating to the national maritime quarantine stations, embracing nineteen complete disinfecting stations and eighteen inspection stations. At the former are hospitals, barracks, disinfecting machinery, steamers

and small boats, all requiring constant care and attention. This division, also, must see to the expenditure of appropriations for new stations, involving purchase of lands, construction of piers and buildings, said construction being generally under the supervising architect of the treasury on plans approved by the bureau and the department; but occasionally the bureau attends to this construction itself. To this division are also referred all matters relating to the quarantine regulations and their interpretation. Matters relating to interstate quarantine and suppression of epidemic diseases are also handled in this division. Quarantine upon the Mexican and Canadian borders is also conducted through this division.

DIVISION OF FOREIGN AND INSULAR QUARANTINE AND IMMIGRATION.

To this division is assigned the management of the national quarantine stations in Hawaii, Porto Rico and the Philippine Islands, the supervision of officers detailed for duty in the offices of the United States consuls in foreign ports, who sign the bills of health with the consuls. At present there are three officers in Japan, Yokohama, Kobe and Nagasaki; two in China, Shanghai and Hong Kong; one in Naples, Italy; ten in Cuba, three in Havana, one each at Cienfuegos, Santiago, Nuevitas and Matanzas, and several at sub-ports; four in Mexico, two in Vera Cruz, one at Progreso, and one at Tampico; six in the fruit ports of Central America, namely, Bocas del Toro, Colombia; Port Limon, Costa Rica; Bluefields, Nicaragua; Ceiba and Puerto Cortez, Honduras; Livingston, Guatemala; and Belize, British Honduras.

To this division are also referred all matters relating to the medical inspection of immigrants, a most important function of the service, requiring the detail of a large number of officers.

DIVISION OF SANITARY REPORTS AND STATISTICS.

This division is charged with the preparation of the public health reports, published weekly by the bureau. All matters of a statistical nature are referred to it.

It may be of interest to state that some question has arisen as to whether the work of this division which is authorized both by the law of 1893 and the law of 1902, may not duplicate the work of the Census Bureau, but I am pleased to state that, after conference with the Chief Statistician of the Census Bureau and others connected therewith, it has been found that there need be no duplication or interference by one bureau with the other; on the contrary, each will be helpful to the other. The Census Bureau, in addition to the decennial census, will publish an annual census of mortality and births, but the weekly and monthly reports will be published as heretofore by this bureau, and morbidity reports, which are so much desired and which will require special organization to procure, will be undertaken by the Public Health and Marine-Hospital Service.

DIVISION OF PERSONNEL AND ACCOUNTS.

To this division are referred all matters relating to the personnel of the service, examinations for admission to the corps of commissioned officers; examinations for promotion, appointments and resignations, appointment of boards for the physical examination of officers of the Revenue-Cutter Service. This division has also charge of the bookkeeping of the service.

DIVISION OF SCIENTIFIC RESEARCH.

This division might be better called the Division of Scientific Research and Sanitation. To it are referred all matters relating to the hygienic laboratory. It should be understood that this laboratory, or the staff thereof, is not a part of the bureau proper, though at present located in

the same building. A new building, however, is just completed, located on the grounds of the old Naval Observatory, about half a mile west of the White House on the river bank. Five acres of this tract were turned over from the Navy Department for the establishment of this laboratory. It will give the director of the laboratory great pleasure to arrange with the delegates to this conference to show them this building. The laboratory has an advisory board, consisting of a delegate from the army, not yet named, Dr. Urie, of the navy, Dr. Salmon, chief of the Bureau of Animal Industry; Professors Welch, of Johns Hopkins; Flexner, of Rockefeller Institute; Sedgwick, of the Massachusetts Institute of Technology; Vaughan, of the University of Michigan; and Wesbrook, of the University of Minnesota. Under the law of 1902, three new divisions were added to the laboratory, the Division of Bacteriology already existing. These three new divisions are those of zoology, chemistry and pharmacology. But one of these new divisions has been organized, namely, that of zoology, and the good results of this new organization are manifested in the recent discoveries and published report of the chief of this division, Dr. Stiles, upon the 'Prevalence and Geographical Distribution of the Hookworm.' Bulletins, embodying important results of investigations, are published from time to time under the supervision of the Director of the Laboratory, Dr. Rosenau. It is believed that congress can be influenced to provide for the extension of this laboratory by the erection of new buildings from time to time as the necessity therefor becomes demonstrated.

To this Division of Scientific Research and Sanitation are referred special requests for scientific investigation of special diseases, as for example the recent investi-

gation of the so-called spotted fever in Bitter Root Valley, Montana. The initiatory steps for special investigations of this character are taken in this division, but any prolonged or technical work connected therewith is turned over to the laboratory.

Requests for special investigations of water pollution or local causes for the spread of typhoid fever are referred to this division.

The officer in charge of this division examines all current literature relating to scientific medicine or sanitation and keeps a card index of the same.

MISCELLANEOUS DIVISION.

The Miscellaneous Division has charge of the mailing of all bureau publications, and certain miscellaneous duties relating to the reports of necropsies from the marine-hospitals, the medical examination of claims for benefits on account of injuries received by the crews of life-saving stations, certain matters relating to the annual report, etc.

Under certain bureau orders the operations of these several divisions are coordinated so that the work of one division, when it affects the personnel or duties connected with another division, is accomplished with the full knowledge and acquiescence of the other. There are also two regular bureau boards for the careful consideration of matters referred to them—namely, the Service Board and the Sanitary Board.

YELLOW FEVER INSTITUTE.

There is one other feature of the bureau, assigned to no one particular division, but embracing all, namely, the institute for the study of yellow fever, called the Yellow Fever Institute, with which most of you are familiar. This institute was founded about two years ago for the purpose of

learning all that could be learned about yellow fever, including its etiology, and to bring to this work the aid of all reputable physicians who might desire to take part therein, its membership including, besides the officers of the Marine-Hospital Service, special investigators both in this and foreign countries. It is divided into four sections, the chairman of each section being one of the division officers of the bureau to which, under bureau organization, matters of a kindred nature would naturally come. These, together with the chairman and secretary of the institute, form an executive board to consider, especially with regard to publication, the contributions received from the members. Twelve bulletins have been issued. A thirteenth, and the most important of all, relating to the cause of the disease, is now being printed and will be ready for distribution within a few weeks. This bulletin contains the report of a working party sent to Vera Cruz last summer to investigate and attempt to find the causative agent of the disease. Their work was continued during the winter with the material obtained in Vera Cruz, and gives evidence that progress has been made toward a final result. A second working party of three, two of whom were in the first party, are now in Vera Cruz and vicinity pursuing a continued investigation, and it is the purpose of the institute to continue in the prosecution of this work until successful. This institute embraces new features in the investigation of the cause of a specific disease, and if it proves successful with regard to yellow fever it may be that the new features of organized effort which it embraces will be applied to the investigation of other diseases.

Other important matters engaging the attention of the service are the proposed legislation for the establishment of a na-

tional leprosarium in which may be received the occasional cases of leprosy found in the states, which give the local and state authorities so much trouble; also the enforcement of the new regulations relating to the examination and licensing of establishments for the production of vaccine, serums and antitoxin, under the law passed by the last Congress. These regulations go into effect next August.

Mention should also be made of the connection of the service with the International Sanitary Bureau of American Republics, established in accordance with resolutions of the Conference of American States held in the city of Mexico winter before last.

THE MEDICAL CORPS.

Finally, with reference to the service work, I wish to say a few words with regard to the medical corps, consisting of 109 commissioned medical officers received into the corps only after a thorough examination as prescribed by law, appointed first to the lowest grade, and promoted to the higher grades only after further successful examination. The discipline of the corps is military in character, the regulations for its uniforms and government are prescribed by the President, its officers, by reason of unusual responsibilities, continuous medical and surgical care of the large clientele, and by special scientific instruction in its hygienic laboratory, are kept in the van of professional excellence. There are, however, nearly two hundred acting assistant surgeons, some of whose appointments are temporary in character, but a number of whom have been long in service by reason of special adaptability or because the arrangement made with them is necessary in the interest of economy. These officers of the medical corps are stationed in all parts of the United States

and its dependencies, and constitute our reliance not only in the ordinary work of the service but in times of special need.

CONFERENCE ORGANIZATION.

I have deemed it necessary to give this somewhat extended account of the organization of the service, both that our aims and methods may be understood and that I may the more readily explain a proposed method of making these annual conferences of practical utility. It might be advisable to appoint on special committees members of the conference especially interested in the several subjects to be considered by these committees, said committees to remain in organization during the year and to receive for further conference with the Surgeon-General such matters as might be pertinently referred to them by him. The titles of these committees would find their analogues in the several divisions of the bureau. The reports of these committees could be read to the full conference at its annual meeting, and, if adopted by the bureau and the conference, would have a force and influence which would naturally result from the conjoint action of the national and state authorities. I would suggest tentatively the following committees: First, on Scientific Research and Sanitation, second, on the Prevention and Spread of Epidemic Diseases, third, on Morbidity and Mortality Statistics, fourth on State Legislation, fifth, on Education. In addition to these, there might be special committees on certain specified diseases, namely, cholera, yellow fever, plague, smallpox, tuberculosis, leprosy, typhoid fever. To these committees might be committed such resolutions as may be offered here, but the adoption of any resolutions by this conference, it seems to me, should not be until after a report thereon had been made by the special committee to which it is referred.

It is believed that the above plan is at least worthy of trial. It would give real aid and would stimulate the members of the committees in an investigation of the subjects confided to them, and might produce a uniformity of effort, a coordination of work in different parts of the country, which now does not obtain.

WALTER WYMAN.

U. S. PUBLIC HEALTH AND
MARINE-HOSPITAL SERVICE.

THE GENERAL EFFICIENCY OF TECHNICAL EDUCATION.*

DOUBTLESS when an alumni address became a part of our commencement program, it was intended that it should be directed more especially to you, gentlemen of the graduating class, and should be in the nature of a professional welcome from one of your older brothers. You were to be welcomed into the ranks of the engineering profession by one who, not so very long before, had passed through the same strenuous preparation which you are just finishing and who had since become a successful engineer. Unfortunately, I have no such claim to your attention, having wandered from the true faith in which we are all trained here, and it is, therefore, impossible for us to meet on the common ground of your future labors. Instead, it has seemed a not inappropriate thing for us to examine briefly your past work; more specifically, to consider the general value and efficiency as a preparation for life, of the technical education which old Rose has given you, and to compare its general influence and value with that of the very different, so-called 'liberal' education which the regular college or university gives.

Technical and liberal educational sys-

* Alumni address at the commencement exercises of the Rose Polytechnic Institute, June 11, 1903.