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# State and Municipal Control of Infectious and Contagious Diseases

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PHYSICIAN TO BELLEVUE HOSPITAL, NEW YORK

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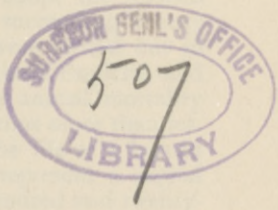


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# STATE AND MUNICIPAL CONTROL OF INFECTIOUS AND CONTAGIOUS DISEASES.[1]

THE subject of public health has engaged the attention of law-givers from the earliest ages, but it is only during the present half-century that much has been accomplished in the way of effective sanitary legislation. England, profiting by her experience with cholera, was the first nation to recognize the full importance and necessity of public hygiene. The Public Health Act, enacted by Parliament in 1848, was the beginning of a series of measures which have given that country the most perfect sanitary code in the world. It is not to our purpose to review this legislation, but it may be well to note briefly some of the results obtained by it. The average annual death-rate throughout England and Wales, during the twenty years previous to 1870, did not vary greatly from 22.5 per thousand of the population, and it was estimated by Mr. John Simon that one hundred and twenty-five thousand persons died each year of diseases due to defective sanitary conditions. Although Simon's figures were thought by some to be exaggerated, they nevertheless had great weight in persuading Parliament to adopt the reforms recommended by him. During the succeeding twenty years improvements on a large scale were carried out in all the large cities and towns throughout England and Wales, with the result that in 1889 the annual mortality had fallen to only 17.9 per thousand, thus more than justifying the calculations of Simon. The life of a human being has been estimated by Farr to represent a capital of $800. At this valuation the one hundred and twenty-five thousand lives now saved in England are equal to a money saving of one hundred millions of dollars annually.

[1] Remarks before the Section of Pediatrics of the New York Academy of Medicine, December 14, 1893, during a discussion on scarlet fever.

The work accomplished in England has attracted the attention of other European countries, and they have all attempted to imitate her methods, but not all with the same degree of success. Sanitary laws must of necessity restrain the liberty of the individual, and can, therefore, never be thoroughly successful unless their provisions appeal to the intelligence and honest conviction of the public. The fact that in England these laws are made by the people themselves through their representatives in Parliament, aids much in securing their thorough enforcement. In our own country the conditions are equally favorable, except that here the power to enact such laws rests with the State and not the national legislature. The Supreme Court of the United States has decided [1] that all those powers which relate to merely municipal legislation, or what may be called internal police, are not surrendered to the general government; that consequently, in relation to these, the authority of each State is supreme and exclusive within its boundaries. Among these powers are inspection laws, quarantine laws, and health laws of every description. The State having thus all the power necessary for the protection of the health of the people, may delegate to corporations organized for local self government the power of legislating with regard to such matters. The power remains, however, at all times subject to the control of the State, and may be resumed or cut down by the legislature at its discretion.

Municipal corporations are then to be considered simply as agents of the State, organized for local government. As the preservation of the lives and health of the people is one of the chief purposes of local government, reasonable regulations in relation thereto have always been sustained as being within the authority of these corporations. Municipal regulations must naturally interfere in some degree with the free exercise of private rights, but should not do so unnecessarily. As this so-called police power is conferred for the purposes of self-defence, it must not be carried beyond what is necessary for protection.

In the State of New York and in many other States of the Union, the legislature makes a distinction between the larger and the smaller municipal corporations or cities, generally in the direction of giving larger powers to the former. The powers to make sanitary regulations for New York City are contained in the Consolidation Act, and are conferred directly upon the Health Department. In considering the means employed by the Board of Health to control infectious and contagious diseases, I shall

[1] Parker & Worthington: Public Health and Safety, page 3.

limit myself to those measures which bear most directly upon the subject. Pure food, pure water, pure air, and generally good sanitary conditions are of course indispensable and must be striven for at all times, but something more than these is called for to check the spread of contagious disease. The measures I refer to are compulsory notification, isolation, and disinfection. Under the head of isolation I include the power to remove the patient to a special hospital, if he cannot be efficiently isolated at home.

All of these measures are important, though perhaps not to the same degree. A law requiring the notification of infectious diseases is now in force in all the principal cities of this country, as well as in all the capitals of Europe. French physicians have always strenuously opposed the passage of such a law, maintaining that it involves the violation of professional secrecy. The Chambers, nevertheless, enacted the law about one year ago, and its provisions went into effect throughout France on the first of the present month. The opinion of the Paris Academy of Medicine was simply asked as to what diseases should be classed as infectious and contagious. There is a wide divergence of opinion and practice on this important point. In Chicago, typhoid fever is not reported, in Philadelphia and London measles is not deemed worthy of notice, in other places whooping-cough is excepted, in others erysipelas.

This lack of agreement is probably due to the fact that there is still some confusion as to the exact significance of the words infectious and contagious. The old meanings no longer fit our present more definite conceptions of these terms, based upon the teachings of bacteriology, and yet it is difficult to use the old words without calling to mind the ideas formerly connected with them.

Dr. Prudden [1] defines an infectious disease as one which is caused by the invasion and reproduction within the body of pathogenic micro-organisms. According to the same authority, an infectious disease is contagious when the micro-organism which causes it can, under the ordinary conditions of life and by whatever means, be conveyed from the sick to the well in a condition capable of lighting up the disease anew. Dr. Prudden, however, insists upon the importance of recognizing the great difference in the degree of contagiousness which different diseases may possess.

These definitions of "infectious" and "contagious" are generally accepted by bacteriologists at the present day. As thus defined, each term has its own special

[1] New York Medical Journal, 1892, vol. lv., p. 421.

field of application. An infectious disease is the morbid condition produced within the body by the entrance of pathogenic micro organisms. There is no limitation as to the source of the infection, nor is the possible communicability of the disease suggested. The term infectious does not look beyond the individual already infected. Contagious, on the other hand, has gained what infectious has lost. It now includes all modes of conveyance of infectious disease. It is no longer a question of the manner of transmission, whether by direct contact or through the air or by other carriers of infection. If an infectious disease is communicable to others by any means whatever, it is also contagious. Contagion presupposes infection, therefore all contagious diseases are infectious, but not all infectious diseases are contagious.

It is surely a great gain to have thus simplified the meanings of terms, but it is unfortunate that in simplifying them we have also changed them. To us, as medical men, it perhaps does not matter that we have taken such diseases as typhoid fever, cholera, and tuberculosis, formerly called simply infectious diseases, and placed them side by side with small-pox and scarlet fever, diseases known to all as directly contagious by simple diffusion through the air. We know that there are degrees of contagiousness, using the word in its new and broader sense. But it is otherwise with our patients, who have not followed the steps by which we have arrived at our present understanding of infection and contagion.

I have discussed this question of nomenclature somewhat at length because it is especially important at this juncture that the public should understand what is meant by the term "contagious disease." Dr. Biggs, the pathologist of the New York Board of Health, has recently made an official report to that body, in which he advises that physicians practising in this city should be requested to notify the Board of all cases of pulmonary tuberculosis coming under their observation. I believe that the majority of physicians in New York will agree entirely with the spirit of Dr. Biggs's recommendation and will aid the Board of Health in carrying it out. But I also believe that there is a considerable proportion of physicians in the city who will be less willing to report the names of their private patients who are suffering with tuberculosis, if this affection is to be termed a contagious disease. They know the alarm that enters a household when a disease is declared contagious, associated as it has been in the past with enforced isolation of the patient. I would therefore suggest the use of the word *communicable* in

place of *contagious*, and not only for tuberculosis, but for all diseases of this class. Communicable expresses exactly what we mean and no more, whereas contagious produces a false impression, due to the former meaning of the word.

If the term communicable is adopted to include all those infectious diseases which are capable of transmission in any mode whatever, then contagious may still be retained, but restricted to its old use. It would then include, as a sub-class of communicable diseases, such diseases as the exanthemata, whooping-cough, and mumps, which are conveyed by simple contact, direct or indirect.

Lest some may think that this change of nomenclature is impracticable, I will call attention to the fact that the State Board of Health of Michigan has for years used the term "dangerous communicable diseases" for all diseases requiring official regulation in the interests of the public health. I do not know what reasoning or experience led that Board to the selection of this term, but it has served it well in the action taken by it some three months ago, when it resolved that hereafter, tuberculosis should be included in the official list of "Diseases dangerous to the public health," requiring notice by householders and physicians to the local health officer as soon as such a disease is recognized. In this resolution the question of isolation of the patient is not mentioned. Its purpose is to secure to the health authorities knowledge of the location of each case of the disease, with the view of placing in the hands of the patient and his friends information which will enable them to prevent its further spread. Leaflets giving this information and entitled, "Restriction and Prevention of Tuberculosis," are distributed throughout the State by the Health Board. In these leaflets the disease is called communicable, and the mode of communication is clearly stated.

Although Michigan is the only State which has taken official action in the way of restricting tuberculosis, other parts of the country are also awake to its necessity. Two circulars, similar to the one I have mentioned, are published and distributed gratuitously, one by the Health Department of Providence, the other by the Pennsylvania Society for the Prevention of Tuberculosis. The language of both circulars is excellent, except that in both the disease is termed "contagious."

As we are about to follow the decided step taken by Michigan, let us in like manner call tuberculosis by its right name, a communicable disease.

I shall say but little regarding the other measures of

restricting infectious disease, as they are to be fully discussed this evening by others. In the case of a purely contagious disease, such as scarlet fever, notification of the disease would of course be of little value unless it were followed by prompt isolation of the patient and disinfection of the premises at the termination of the illness. Under the conditions which prevail in New York it is seldom possible to secure efficient isolation of the patient at home. It is, therefore, very unfortunate that there exists in this city such a prejudice against removal of the patient to a contagious disease hospital. In London there are sometimes as many as three or four thousand cases of scarlet fever in the Metropolitan Asylums Board hospitals at one time. In that city even well-to do people seek admittance to the fever hospitals, and many are turned away for lack of room. In New York, during the whole of the year 1890, only 324 patients were taken to the Willard Parker Hospital, a number too small to have much effect in restricting the spread of scarlet fever in the city. In Boston, also, it has been found that the disease prevails epidemically, or to only a slight extent, without much regard to the restrictive measures of the health authorities. But it is the intention, in both New York and Boston, to forcibly remove many more cases to the isolating hospitals as soon as the new buildings, now under construction, are completed.

In closing, I will again instance the experience of Michigan in order to show what can be accomplished under favorable conditions by efficient isolation combined with disinfection. During the year 1889 there were 417 outbreaks of scarlet fever in that State. In 72 of these outbreaks, isolation and disinfection were both neglected, and the number of cases per outbreak was 16.78. In 52 outbreaks, both isolation and disinfection were strictly enforced, with the result of limiting the number of cases to but 2.69 per outbreak. In many outbreaks one restrictive measure was enforced and the other neglected. In all such instances the spread of the disease was checked somewhat, but never to the same extent as when both isolation and disinfection were enforced.