

Forum, N. Y., 1893, XV, no. 3.

MUNICIPAL SANITATION: DEFECTS IN AMERICAN CITIES.

At the last meeting of the Public Health Association of Germany, in Würzburg, each member received a handsome volume entitled "Würzburg, insbesondere seine Einrichtung für Gesundheitspflege und Unterricht"; that is, Würzburg, especially its institutions for the care of public health and for education: a "Festschrift" or memorial volume, dedicated to the German Public Health Association, prepared at the request of the city, and published at its expense, by the Sanitary Association of the city.

Würzburg is a University town of a little over 60,000 inhabitants, about the size of Wilmington, Del., or Dayton, Ohio; smaller than New Haven, Conn., or Cambridge, Mass. The "Festschrift" contains chapters on the geology, climatology, ground-water, river, history, population, and death-rates of the city, and on its water-supply, sewerage, public baths, abattoirs, gas-works, schools, hospitals, public disinfecting establishment, modes of caring for the dead, prison, parks, laboratory for examining suspected articles of food and drink, and on the University and its laboratories and appendages. Some of these chapters are prepared by officers of the city, others by Professors of the University, and those requiring it are well illustrated by plans and views of the principal buildings.

It is, in short, a complete manual of Würzburg in its sanitary and educational relations—such a book as every educated citizen of the place would be glad to possess, and as every parent who was thinking of sending his son to the University would wish to examine. We have nothing like it for any city in the United States, and it must be confessed that if any of our municipalities were to set about the preparation and publication of such a work, the results would probably not be very satisfactory when compared with the Würzburg Festschrift.

The great majority of the dwellers in our cities have not, heretofore, taken any active personal interest in the sanitary condition of their respective towns. They may grumble occasionally when some

nuisance is forced on their notice, but, as a rule, they look on the city as a sort of hotel, with the details of the management of which they have no desire to become acquainted. They employ certain paid servants to look after municipal affairs: there is a Board of Health, or a Health Officer, whose business it is to prevent or mitigate nuisances, to stop epidemics, and to keep the death-rate low; there are engineers to manage the water-works, sewage disposal, etc., and there are newspapers to criticise and instruct the authorities upon any and every possible subject connected with the cleanliness and healthfulness of the place. The individual citizen, if he thinks about the matter at all, usually concludes that this is all that need be done, and that if the results are not wholly satisfactory they must be accepted as the necessary outcome of politics or the weather, and do not involve him in any responsibility. Quite recently, however, there seems to be a growing interest in sanitary matters in our cities, and people are asking whether the death-rates are higher than they ought to be; whether the city is in good condition to resist the introduction or spread of cholera, and to what extent it is worth while to expend money to secure pure water, clean streets, odorless sewers, etc. It seems desirable that this curiosity should be gratified as far as possible wherever it exists, and to this end it is proposed to present to the readers of *THE FORUM* some information as to the healthfulness, sanitary condition, and sanitary needs of a few of our large cities.

The best measure of the healthfulness of a given locality, whether it be a house, a block, a ward, or a city, would be the amount of sickness in proportion to the population, during a given time; but this measure we can use only in rare instances, because we cannot ascertain the amount of sickness. The next best measure is the number of deaths which occur in each thousand years of life, that is, in a thousand people living one year, or one hundred people living ten years, in the locality, being what is commonly called the annual mortality, or death-rate. To ascertain this we must have the number of deaths recorded during the year, or, better, during a series of years—and the mean population for the period in question; and to draw reliable and useful conclusions we must be able to calculate the death-rates separately for infants, adults, and old people, and for different parts of the city. Mere gross death-rates for the total population of a whole city give us very little useful information. Take, for example, the following table of death-rates of certain American cities for the year ending June 1, 1890, in which still-births are reckoned as deaths:

Cities.	Death-rate per 1,000.	Death-rate per 1,000 of Children under five years of age.	Death-rate per 1,000 of Infants under one year of age.
Newark	29.04	119.60	389.35
New York	28.63	116.75	367.82
New Orleans } White	25.41	87.33	339.93
} Colored	36.61	118.17	482.17
Washington } White	19.79	79.25	273.92
} Colored	38.22	205.20	696.12
Brooklyn	25.54	100.22	324.43
Boston	24.79	102.27	330.00
Baltimore } White	22.61	94.76	329.22
} Colored	36.41	208.23	714.08
San Francisco	23.61	89.14	325.88
Philadelphia	22.67	89.88	292.78
Cincinnati	22.36	89.35	259.72
Cleveland	21.95	93.94	210.07
Chicago	21.06	85.58	285.90
Detroit	20.42	84.09	278.34
Buffalo	19.90	75.06	274.05
St. Louis	19.14	72.64	264.79
Indianapolis	18.85	78.82	274.15
St. Paul	16.82	71.54	228.82

It is evident that the proportion of colored people in a city makes a considerable difference in its death-rate, and that the proportion of infants present is a still more important factor. In every large city the death-rate in certain districts is from two to three times as great as it is in other districts; hence to obtain really useful measures of the healthfulness of a place—which will show where the dangerous spots are, and where remedies should be applied, we need to know the average population and the number of deaths for different districts with distinction of ages and, in some cities, of color, in order that we may calculate these local death-rates. In the absence of this information we have no definite, reliable and accurate, or, in other words, scientific, means of discovering the location and character of the trouble in a sick city, or of telling whether the remedies are useful or not. We may guess, and estimate, and prescribe, as the doctors used to do before they learned how to count the pulse, and measure the temperature, and listen to the sounds of the lungs and heart, but it is all a matter of opinion and rule of thumb, with great variations in size and shape of the said thumbs. A proper system of municipal bookkeeping, which will show for different parts of the city the quantity of, and loss and gain in life, is, therefore, a very important sanitary need of a large city. The sub-divisions required for this purpose will not usually be wards, because ward boundaries are not formed with reference to altitude, or drainage,

or character of habitations, or other things which influence the healthfulness of a district. They should usually be smaller than wards, each including, as far as possible, a fairly homogeneous group of people, as for example a tenement-house group, a waterside group, a best house group, etc.

Now it should be distinctly understood that it is not an easy matter to obtain the information and keep the records required for such a set of books as has been indicated. There is not much difficulty in obtaining the records of deaths required, although even for this purpose constant vigilance is required to secure accurate returns as to age and cause of death, and, for persons dying in hospitals or public institutions, the proper locality to which the death should be charged; but the great trouble is to obtain the data as to the mean, or average, population of each group of ages in each district. No city in the United States has, or has ever had, such data for different parts of the city with the exception of the gross population by wards. In the eleventh census an attempt was made to provide such data for New York, Brooklyn, Philadelphia, Boston, Baltimore, and Washington, and the result may be the commencement of this kind of local records; but each large city should from time to time, at least once in five years, obtain this information for itself, ascertaining for each house the name, sex, age, race, and occupation of each inhabitant, and then compiling these by blocks or squares so as to be available for statistical material. Attempts to cheapen and simplify such a count by omitting details of age, race, and occupation are very poor economy; these details are required for many purposes in studies of means to improve the social condition, as well as of preventing unnecessary deaths, of the people.

The most important factor in municipal sanitation is the general water-supply. For all our large cities this is abundant in quantity, since over half of it goes to waste, through leaky fittings, in trickling drops and tiny streams which do not even serve to cleanse the waste-pipes. The quality is also generally good. Nevertheless, almost every city has present or prospective difficulties in preventing dangerous or offensive pollutions of its supply, and the recent possibilities of an invasion of cholera have drawn attention to the matter almost everywhere.

With a general water-supply comes the necessity for means of prompt removal of the water which has been fouled by use, that is, of sewerage. All of our large cities, with the exception of Baltimore, are provided with sewers, but these are in some cases unsatisfactory, having been badly planned, worse constructed, and too much uncared for,

and everywhere there is much work to be done in this respect to meet the needs arising from growth and extension of the municipalities.

If we turn to the list of subjects treated of in the Würzburg Festschrift, we shall find several things considered as matters of municipal sanitation which do not seem to have received much consideration from municipal authorities in this country, such, for example, as public baths and washhouses, abattoirs, public disinfection stations, etc.

Public wash and bathhouses are to be found in many European cities, and are of great value in promoting cleanliness of clothing and of the person among the poor. To them poor women can take their bundles of soiled clothing and bedding, and by the payment of a small fee can have the use of tubs, tables, hot and cold water, and drying facilities, and can also have a bath. In the evening, males can also obtain baths there. Some of our cities have waterside swimming-baths for summer use, but public washhouses under municipal management and control are practically unknown in this country. Abattoirs, or public slaughter-houses, where all animals are examined by skilled inspectors before being killed, where the meats can be inspected, and where all the nuisances and dangers connected with private slaughter-houses can be either done away with or reduced to the lowest limits, are to be found in only three or four of our cities.

In the constant struggle of health officials to prevent the spread of such contagious diseases as diphtheria and scarlet fever there are few things for which they find a more urgent need than hospitals specially calculated and set apart for the reception of this class of cases; yet very few cities are provided with them. There may be a shabby, desolate, dog-kennel sort of a building known as the pest-house, hastily erected during some former small-pox epidemic; but where is the place to which a lady living in a boarding-house, or temporarily stopping in a hotel, could take her child affected with scarlet fever? Philadelphia, Baltimore, and Washington are now considering their needs in this respect, and a year or two hence it is to be hoped that they can give a satisfactory answer to this question. What is wanted is a neat, attractive-looking building with a number of private rooms, and at least three totally distinct and isolated small wards for as many different kinds of contagious disease, where they will always be ready with clean and thoroughly disinfected rooms, bedding, and appliances to take the best possible care of a dangerous or suspicious case.

Most of our cities are also in need of one or more public disinfection stations under skilled management, provided with the best modern

means of disinfecting bedding, clothing, etc., and also with portable apparatus which can be sent to and used in an infected house. Another important means of aiding to check the spread of contagious disease, as well as of helping the very poor in their struggle to maintain a decent existence in the midst of sore trouble, is a public mortuary, a simple building in or near the poor quarter, where the bodies of the dead can be taken immediately after death and properly cared for, and where funeral ceremonies can be performed. The desire to preserve the dead mother or the dead child for two or three days in order to allow time to apprise friends and arrange for the funeral, is no less strong in the poor family than it is in the rich one; but when there are only one or two rooms, and the living must cook, eat, and sleep in the presence of the dead, this natural wish produces unnatural and sometimes dangerous results. All large European cities, and many of the smaller ones, have public mortuaries, and their privileges are highly valued. They are not connected with pauper administration, a small fee is charged for their use, and they are used by transient visitors of the well-to-do classes when occasion comes. They are not morgues, although sometimes one room, with a separate entrance, may be set apart for this purpose. They have a separate room for the care of the bodies of those dying of contagious disease, and special means of preventing infection therefrom. I do not know of any public mortuary belonging to any city in this country, although it is possible that there may be such.

These illustrations of municipal sanitary needs are perhaps sufficient to explain the remark made near the beginning of this paper that if any of our cities were to publish a full and accurate account of its sanitary condition and needs, the result would probably not be altogether satisfactory.

The problems of municipal sanitation will increase in importance in the near future. They must be handled by men who have devoted special study to them, but such men must be developed and sustained by an intelligent public opinion, demand, and sympathy. The steady increase of our cities, and of the poorer classes in those cities, is bringing about results which are attracting the attention of thinking men; and rapid transit, the housing of the poor, the education of the masses, the methods of dealing with the idle, criminal, and defective classes, are all inextricably complicated with sanitary problems and with each other. Voluntary associations of public-spirited citizens have been formed from time to time during the last thirty years in some of our

towns and cities, but they have usually been of only a few years' duration. Perhaps the Auxiliary Sanitary Association of New Orleans continued the longest. Quite recently a somewhat peculiar association of this kind has been formed in the city of Washington. This is called the "Sanitary League of the District of Columbia," which declares its object to be the collection and diffusion of information with regard to existing or threatened dangers to the public health, and the aiding of the municipal authorities in their efforts to improve the sanitary condition of the District and to prevent the introduction or spread of disease. The business of the League is managed by a council composed of the officers and of twenty-one additional members, elected annually by the members, and the work is divided amongst various committees, the most important of which are the local committees for the sub-districts into which the District has been divided. The chairmen of these local committees are members of the council, and each has authority to appoint as many members upon his committee as he deems desirable, the intention being that there shall be at least one for every square or block to collect information and furnish practical instruction when necessary. As no citizen of the District of Columbia has a vote, municipal politics there are very simple, and the conditions are unusually favorable for the trial of such an experiment as that of the League, which it will be seen is somewhat like the Elberfeld system described by Professor Peabody in the December number of *THE FORUM* for 1892.

In future articles the sanitary conditions and organizations of several of our large cities will be described and illustrated, so far as the obtainable data will permit.

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