HEALTH MATTERS.

Sanitary science in New Jersey.

The tenth annual report of the state board of health in New Jersey, just issued, is fully up to the standard of excellence which that board has for a number of years maintained in its reports. For a considerable period sanitarians were accustomed to regard the annual report of the Massachusetts board of health as the model for health reports; but, when this board was merged into that of charities and lunacy, this distinguishing characteristic was lost, and to the reports of New Jersey and Michigan the meed of honor was awarded which was formerly awarded to those of Massachusetts.

In the beginning of this report, which is made to the governor of the state, Dr. Hunt, the able secretary of the board, pays a deserved tribute to sanitary science, and to the progress which it has made not only as a science, but as an art, during the past decade. He regards this progress as one of the most important and notable achievements of the age, and directs attention to the fact that practitioners of the healing art have not only recognized it as essential to their calling, but have interwoven many of its principles not less with the treatment of disease than with its prevention. Dr. Hunt refers to the great improvements which have been made in the sewerage of the cities and towns of the state, notably Atlantic City, Orange, Long Branch, and Newark. Several subjects of importance are discussed by the secretary in this portion of the report, among them being the action of water upon lead pipes, the filtration of water, bathing accidents, the regulation of cemeteries, hydrophobia, small-pox and vaccination, summer resorts, contagious diseases, sanitary oversight of schools, the history of the cases of sickness from ice-cream and milk, diseases of animals as related to human health, and the sanitary education of health inspectors. In writing on this latter subject, Dr. Hunt says that sanitary fitness for advice or administration requires special training and the acquirement of knowledge from various departments. It is not until one comes to recognize it as demanding special study and practice that either it or the individual find their proper place. In eleven of the leading colleges of Great Britain, including the universities of Oxford, Cambridge, Edinburgh, Glasgow, and Dublin, special diplomas or degrees are given for public-health qualifications. In Great Britain and its provinces there are now about two hundred and fifty of these authorized practitioners. In addition to this, the Sanitary institute gives certificates to those who successfully pass the examination.

It has been the practice of the New Jersey board, in its annual reports, to publish special papers on various subjects connected with sanitary administration, and in this report the same plan has been followed. The disposal of house-sewage in districts not provided with sewers is treated by C. P. Bassett, C.E.E.M., of Newark, in one of these papers. He condemns privy-vaults and cesspools, and praises the pail system, which has reached such perfection in Rochdale and Birmingham. In the latter city this method has reached enormous proportions; more than 40,000 pails, representing 250,000 people, being collected weekly, and carried in specially constructed wagons to the dumping-station. At this station the contents are placed in a tank, treated with sulphuric acid to fix the ammonia, dried, and bagged for sale. At Rochdale, a city of 70,000 people, the pail system costs annually less than ten cents a head. J. J. Powers, sanitary plumber of Brooklyn, contributes a paper on the work of the plumber and the disposal of sewage. This was read at the meeting of the New Jersey sanitary association, and has already been referred to in *Science*. Professor Brackett of Princeton has prepared a paper on the physical laws of pipes and fixtures, and their contents. Illuminating-gas, its history and its dangers, is discussed by J. H. Raymond, M.D., of Brooklyn. In it a concise description is given of the various methods of gas-manufacture and the fixtures in ordinary use in gas-lighting. This paper is illustrated with twenty-seven illustrations. The paper on drinking-water and typhoid-fever, by D. Benjamin, M.D., has already been mentioned in *Science*. C. Phillips Bassett, C.E.E.M., contributes a paper on roads and streets as sanitary measures, and how to construct them, in which he discusses the advantages and disadvantages of the different materials used in road-making, their cost, methods of preparation, and use.

One of the most interesting subjects discussed in this report is the hygiene of occupations. In the general introduction, written by Dr. Hunt, the diseases which affect workers in iron and glass are described, and suggestions are given for the remedying of the evils which surround this class of artisans. Among the workers in iron, the 'boilers' and their 'helpers,' stripped to the waist, are exposed to the intense heat of the puddling-furnaces, and, while perspiring from every pore, gulp down large draughts of ice-water, or stand in the open air or in a stiff river-breeze. Such sudden coolings are liable to cause congestions, which may be followed by some of their manifold consequences. The nailers suffer from 'nailer's consumption,' due to the inhalation of minute parti-

cles of iron and steel. The peculiar diseases of the glass-workers are burns, catarrh caused by the irritation of the sand, soda, lime, arsenic, and manganese used in the manufacture of glass, emphysema of the lungs, and hypertrophy of the heart, due to over-distention of the lungs from long and hard blowing.

The diseases of hatters are described by J. W. Stickler, M.D., of Orange, to be catarrh, rheumatism, 'shakes,' mercurial sore mouths, and pulmonary affections. Diseases of the lungs seem to be the most fatal form of illness among hatters; 63.5 per cent of all the deaths being due to this class, 51.8 per cent being caused by consumption alone. It is doubtful if any other trade will show such an excess of deaths due to pulmonary phthisis. The average life of hatters does not exceed forty years.

Dr. Newton of Paterson contributes an article on the diseases of workers in silk, flax, and jute. Those who are engaged in dyeing the silk suffer from bronchial, pulmonary, and rheumatic affections, induced by the hot, moist atmosphere of the dye-house, and to inflammation of the skin of the hands and arms, caused by the irritant action of the dyes. Taken as a whole, however, the trade of silk-operatives may be considered a healthful one, and devoid of the dangers common to many of the textile trades. Those who work in flax and jute are, on the contrary, subject to great dangers to their health. The 'hacklers,' those who draw the flax or jute through steel combs in order to arrange the fibres in a parallel direction, and to remove short threads and dirt, are a short-lived class. Only from fifteen to eighteen out of a hundred survive, or enjoy good health at the age of forty. This is due to the irritant action of the dust on the lungs. A person entering one of the rooms where this work is being done, from the fresh air, is immediately seized with paroxysms of coughing. The same is true of the spinners as of the hacklers. Hemp and flax dressers inhale a dust which is peculiarly irritating; and so fatal is the result, that, if a girl of eighteen commences with this work, and is regularly employed, she nearly always dies of consumption before reaching the age of thirty years.

The diseases which occur in the manufacture of rubber boots and shoes are described by J. P. Davis, M.D., of Milltown. One of these is lead-poisoning; from six to twelve pounds of litharge and white lead being added to every twenty-four pounds of gum, for the purpose of drying the rubber and giving it weight. The pressure of the last against the pit of the stomach causes soreness of the muscles, congestion of the abdominal organs, and dyspepsia. In addition to this, accidents from machinery are not infrequent, the sticky rubber drawing a hand or an arm between the rollers. This series of papers on the hygiene of occupations is a most interesting and instructive one, and cannot but do great good by directing public attention to the dangers, many of which are remediable, of artisans in occupations which are usually considered healthful and free from danger of all kinds.

The entire report is a most valuable one, and should be in the library of every one interested in the public health, as a book of reference.

THE report of the dairy commissioner of the state of New Jersey for 1886 treats entirely of matters relating to imitation-butter, and is worthy of notice for a fairness and moderation usually conspicuous for its absence from publications relating to this subject. Aside from the report of the commissioner, it contains a somewhat extended paper upon the history and methods of manufacture of imitation-butter, and the sanitary, commercial, and legal questions relating thereto, also by the commissioner; a paper upon the chemistry of butter and its imitations, by Prof. H. B. Cornwall; a description of a method of identifying and determining coloring-matters in butter, by Prof. Albert R. Leeds; and various matters relating to the state law and its construction by the courts.

— 300,887 immigrants arrived at Castle Garden, New York, during 1886, an increase of 30,748 as compared with 1885. 997 were returned to Europe: of these, 70 were insane, 20 idiotic, 1 blind, 88 were enceinte, 8 were convicts, and 18 cripples, 350 suffered from diseases which rendered them unable to earn their living, and 437 had no means of support.

— The number of persons of unsound mind in England and Wales, Jan. 1, 1886, as reported to the commissioners in lunacy, was 80,156, exclusive of 248 chancery lunatics, residing with their committees, and 81 insane convicts, — a gross increase during the year of only 452 patients. The number of registered lunatics in Scotland on the same date, apart from 62 persons in the lunatic department of the general prison at Perth, and 230 imbeciles in training-schools, who are registered separately, was 10,895, — an increase for the year of 268. The total number in Ireland was 14,415, — an increase of 136. This gives an aggregate of 105,466 insane (including some idiots with them) in public and private institutions for lunatics or establishments for paupers, or boarded out, and subject to governmental inspection; and the total increase in twelve months was 856.