

ABSTRACT OF SANITARY REPORTS.

VOL. V.

WASHINGTON, D. C., MARCH 14, 1890.

No. 11.

[Published at the Marine-Hospital Bureau in accordance with act of Congress of April 29, 1878.]

UNITED STATES.

SPECIAL REPORTS.

Influenza and allied diseases.

NEW YORK, N. Y.—Week ended March 8. Influenza caused 5 deaths.

PHILADELPHIA, PA.—Week ended March 1. Phthisis pulmonalis caused 74 deaths; bronchitis, 15; pneumonia, 38; and influenza, 3.

BALTIMORE, MD.—Week ended March 8. Phthisis pulmonalis caused 25 deaths; pneumonia, 29; and bronchitis, 8.

CINCINNATI, OHIO.—Week ended March 8. Phthisis pulmonalis caused 22 deaths; bronchitis, 6; and pneumonia, 17.

NEW ORLEANS, LA.—Week ended March 1. Phthisis pulmonalis caused 17 deaths; bronchitis, 3; and pneumonia, 13.

NASHVILLE, TENN.—Week ended March 8. Influenza has about spent its force. Week shows a slight decrease in *acute* diseases of the lungs.

NEWTON, MASS.—Week ended March 8. One death from typhoid-pneumonia following a severe attack of influenza.

Influenza at the Government Hospital for the Insane, near Washington, D. C.

ST. ELIZABETH, *March 10, 1890.*

SIR: I inclose Dr. Witmer's resumé of the first appearance of the epidemic known as la grippe at St. Elizabeth, at least of cases of a bronchial influenza allied to that disease, if not the real thing. The general onset of the epidemic was nearly a month later, a number of the employés who had the opportunity to visit the city presenting the first cases. For some time the inmates of the institution were entirely exempt while the help suffered extensively. Later there were a considerable number of the patients attacked, about 10 per cent. of the whole. Of the employés not less than 50 per cent. suffered in varying degree of severity from the disease.

If the cases in Dr. Witmer's family are to be regarded as genuine cases of la grippe, they were a sort of advanced guard a month in ad-

vance of the main body of cases, a penumbra, as it were, of the epidemic wave that swept over the whole region.

The disease was general in Washington for some days before it became so at the Government Hospital for the Insane.

The mortality depending directly on the epidemic was light, but I think a general lowering of vitality, even in persons not sensibly attacked by la grippe, was observed. Certainly the general mortality of January and February has been considerably above the normal.

The symptoms were essentially those so generally observed and recorded elsewhere. The meningeal disturbance was exceptional and in no case very severe.

Very respectfully,

W. W. GODDING,
Superintendent.

[Inclosure.]

Report of Dr. A. H. Witmer.

After reflecting upon our experience in the observation and treatment of la grippe in the hospital I am confident that the first case which occurred here, though not recognized at the time, was that of my little boy's nurse, who was attacked the last week of November.

With my present knowledge of the disease I realize that some of the symptoms were well marked. The cephalalgia, most severe in the frontal region, alternated with occipital and cervical pains which extended into the shoulder, dorsal, and lumbar regions. There was some torticollis, which lasted several days. There was also great pain in the wrists and fore-arms without other indications of inflammation. The fever was no greater than is usually observed in ordinary colds. The nervous symptoms were a marked feature in this case. The emotions were much disturbed and the mental depression was painful. This I ascribed to the fact that it was about the fourth anniversary of her landing in this country, an event which she had annually celebrated with an attack of nostalgia. The bronchitis was well defined, though not so severe as in most cases observed here. This, I think, was due to the fact that she was housed most of the time, and not exposed to varying temperatures for about ten days. The treatment was: Calomel, grs. v, one dose; one seidlitz power; quinine, grs. xl, grs. x at night. For the purpose of relieving muscular pain she used camphor liniment liberally. After his nurse began to improve my little boy was attacked. He, as you know, is too young to describe his feelings well, but he complained a good deal of a "sore head," and frequently during the progress of the disease declared that the methods of treatment made him tired. Weariness is a condition he never will acknowledge when well. The coryza and bronchitis with spasmodic cough were very severe for three or four days. The aggravated symptoms disappeared at the end of a week. About this time, the first week in December, my wife was attacked with all the symptoms of the disease which shortly afterwards became epidemic in this community, but which I regarded and treated as a severe cold with malarial complications, until December 26, when I was prostrated, having personally suffered for ten days with general bronchitis.

Some of the attendants and domestic help were treated for colds and chills as early as December 5.

Influenza at San Diego, Cal.

HEALTH DEPARTMENT,
San Diego, Cal., March 6, 1890.

SIR: The epidemic of the grippe has disappeared from our midst. During the entire existence of the influenza there was only one death reported as from that cause, an elderly person, well advanced in years, and in very feeble health. Considering the great number of resident invalids, and those who come to pass the winter here, besides the great influx of those who have been more or less disabled by the grippe elsewhere, and who came here to recuperate, I think that our former opinion of our climate as one giving peculiar immunity to man from chest affections, and as to its beneficial effect in those so affected, has been more than confirmed.

Very respectfully, your obedient servant,
 P. C. REMONDINO, M. D.,
President Board of Health.

San Francisco quarantine station.

The Supervising Architect of the Treasury Department, who has charge of the construction of the buildings and plant for the United States quarantine station at Angel Island, San Francisco Bay, furnishes the following statement:

I have to advise you that I have accepted the proposal of the San Francisco Bridge Co., in amount \$111,578, for work required for the United States quarantine station at Angel Island, San Francisco, Cal., with the proviso that the item of hospital and adjunct building, in amount \$11,246;* and boat-house, landing, and gangway, in amount \$2,844, are to be omitted from the order at present, making the value of work now ordered \$97,488.

The order for boat-house and gangway, hospital and adjunct building will be issued as soon as Congress shall make a further appropriation for the work.

Quarantine inspectors on the Ohio frontier—Local inspectors appointed and clothed with the authority of United States inspectors.

The following letter was addressed January 16, 1890, to the secretary of the State board of health, Columbus, Ohio:

I have the honor to inclose herewith a circular containing regulations to prevent the introduction of leprosy into the United States; and, for the surveillance of the northern frontier, would suggest the co-operation of your board.

By the provision in section 5 of the act of Congress approved April 29, 1878, local inspectors may be designated as United States inspectors and clothed with the authority of the latter. If you will submit to this bureau the names of inspectors appointed by authority of your

*This does not refer to the lazaretto nor to the immigrant barracks. The hospital here mentioned refers to a contemplated emergency hospital for persons sick of other than contagious diseases.

board, their appointment as United States inspectors will be forwarded. No compensation, however, can be granted for their services by this bureau, but as State health officers it is suggested they could charge inspection fees, by which the expenses of the inspection service could be defrayed.

In response to the above a letter was received from the State board of health of Ohio recommending the following-named persons, who have been appointed United States inspectors by the Secretary of the Treasury, in accordance with the act above cited: Dr. G. C. Ashmun, Cleveland, Ohio; Dr. S. W. Beckwith, Toledo, Ohio; Dr. A. L. Bennett, Fairport, Ohio; Dr. S. S. Cox, Lorain, Ohio; Dr. A. W. Hopkins, Ashtabula, Ohio; and Dr. Louis Szendery, Sandusky, Ohio.

Report upon the sanitary condition of Key West, Fla.

U. S. MARINE-HOSPITAL SERVICE,
Key West, Fla., February 25, 1890.

SIR: In pursuance of your official order of the 13th of January, I left Jacksonville, Fla., on the 17th of January, arriving here at 4 o'clock p. m. the 18th of January, and have the honor to submit the following report upon the sanitary condition of the city of Key West, and results of an investigation of the causes of the recent cases of yellow fever. This investigation was ordered at the special request of the State board of health of Florida.

The city of Key West covers an area of $1\frac{1}{2}$ square miles of the island, which is 7 miles in length, and 2 miles in breadth, and is between latitude $24^{\circ} 32' 58''$, and longitude $81^{\circ} 48' 4''$; 80 miles distant from the city of Havana and 230 miles from the port of Tampa, Fla. The Plant Steamship Company gives a tri-weekly mail, freight and passenger service, between the above-named points, and the Morgan Line weekly passenger and freight service between Havana, Punta Gorda, Fla., and New Orleans, La. The entire island is a coral rock formation (oolitic limestone) rising at a slight elevation out of the waters of the Gulf of Mexico, constantly swept by strong and varying winds; and its atmosphere tempered by the gulf-stream. The products of the soil are tropical in character, lofty cocoanut and date palms, cactus trees, wild fig, and Indian laurel and many handsome flowering shrubs thrive in the gardens; low brush thickets of buttonwood, acacia, and mango cover the uninhabited area. The climate of this island is delightful, and is unexcelled, I think, in any section of the United States of America, with an average winter temperature of 70° , and 85° in summer. The surface of the island is generally level, with slight undulations north and south, east and west; the waters of the gulf being visible at either end of the public thoroughfares; the highest points, I am reliably informed, being 10 and 15 feet above mean low water. To the eye of the visitor looking from the deck of the steamer at a distance of some miles the island presents a pleasing picture and gives the impression of a truly tropical region, with no suggestion that beneath the shadows of its stately palms there may lurk the infection of a disease whose subtle poison has been borne over sea and land to the threshold of the frigid zone, from the low lands to an elevation of 2,000 feet. The estimated population is 20,000

souls, comprising Anglo-Saxons, Cubans (Spanish creoles), negroes, and mulattoes, the Cubans and negroes predominating. The manufacture of cigars and the sponge fisheries constitute the most valuable industries. After a thorough and systematic sanitary survey of this city, covering some weeks, and in which I was materially assisted by Dr. C. B. Sweeting, port physician, I find that there are many evils to condemn, and very few features in municipal sanitation to commend. The general condition of the principal streets is cleanly but badly graded, and imperfectly drained, and during the rainy season most of them are flooded, making it impossible for pedestrians to get about dry shod. On many of the streets there are no sidewalks and no drains. The average condition of premises as seen from the street is among the intelligent and better classes of Americans and Spanish creoles clean and well kept, and contrasts forcibly with the filthy yards and alley-ways where the negro and Cuban population, employés of the cigar factories, are huddled together in small huts and shanties, and whose stolid apathy and utter indifference to even ordinary personal cleanliness and domestic hygiene and sanitation is apparent. In the majority of instances the garbage, refuse of kitchens, and a variety of offensive material, when not cast loose into the narrow streets or alleys, is heaped under their wretched hovels to undergo a slow process of moist decomposition. The yards of many of these dwellings after the heavy tropical rains are inundated, the contents of the shallow cesspools, mingling with the festering garbage, are floated abroad to be subjected to the rays of a tropical sun, which promptly distills an abundance of mephitic vapors, whose baneful influence is in part happily diminished by the constant disinfection of the winds from the sea that sweep over the isle.

One of the main sources of atmospheric pollution, as well as of the soil (which, though rocky, is more or less porous), is the privy vault system which is in vogue here. These vaults are dug to a depth of 4 to 6 feet, 3 to 6 feet in length, and about 2½ feet wide, and although there are city sanitary ordinances regulating their construction, which require that they shall be cemented and emptied at stated intervals by means of an odorless excavating pump, I believe that practically in a large majority of cases the ordinance is a dead letter. I have ascertained that where the premises are small, the house occupying a greater portion of the lot, after the cesspool was filled it was covered over with sand and broken rock and a new one dug, and the practice repeated until many small yards were honey-combed with these fecal pools, and the important question to tenant or owner arose where to locate the next receptacle for human dejecta. This is certainly a deplorable system, and must be productive of foul atmospheric conditions in dwellings in a latitude where the thermometric markings range from 60° to 90° Fahrenheit the entire year. The water-supply for domestic purposes is obtained from underground reservoirs excavated in the rock and cemented, which receive the washings from the roofs of dwellings during the prevalence of heavy tropical showers of the spring and summer months. In the poorer classes of premises the privy vaults are not many feet distant from these subterranean cisterns, and during periods of drought and in badly-cemented reservoirs it is possible that by seepage from the closets the water may become contaminated with organic matter. I am of opinion that during the dry season water obtained from these reservoirs bears some close relation to the production of types of continued fever (non-malarial in character), presenting some

typhoidal symptoms. There are within the city limits several large ponds from 5 to 3 feet above low water, which, if not productive of noxious exhalations, are far from being ornamental. They contain, during high tides, salt water, and during the rainy season overflow into adjacent streets and yards. Their surfaces at the time of my inspection were covered with a variety of vegetable fungi, and borders fringed with empty tin-cans and refuse. There is little reason to doubt but that the wary and indolent Cubans and negroes who dwell near these ponds utilize them as a convenient dumping-place for the refuse of the kitchen and premises, if not for more noxious material. These places should be drained thoroughly, cleaned out, and filled with rock and sand and converted into small parks for the enjoyment of the public. The area contiguous to the wharves and ship landings is largely made-ground, where formerly the street-sweepings and house-garbage was deposited, and served as a public dumping-ground, but recent municipal action has checked this evil practice. The present dumping-grounds are beyond the inhabited area. There are several large covered drains in different parts of the city, one on Simonton street, leading from the head of Eaton street to the sea, and another on Angela street, extending to a salt-pond in the rear of quarters used by the sergeant in charge of Fort Taylor. The history of sickness along the course of these drains is well known to many old residents, and as these drains frequently become occluded, their board covers are removed and the contents thereof are thrown on the street for removal by the city carts. Where this cleansing is done during the summer season it is productive of disease, and I am reliably informed that cases of yellow-fever have frequently occurred in persons recently arrived in Key West who lived upon or frequented these streets while the drains were being cleaned. It has been held by competent observers that the island of Key West is non-malarious, and it would seem that the correctness of this opinion is in a certain measure borne out by its geographical position, its soil, and products. I have failed to discover during my inspection the existence of those conditions under which ordinarily malarial diseases are engendered. The greater part of the uninhabited area of the island is covered with salt-ponds and marshes subject to tidal influence, and the character of vegetation is not that of regions where malaria manifests itself. The absence of the usual sthenic types of malarial disease renders the recognition of yellow fever more clear and positive and eliminates the only possible source of confusion or uncertainty in forming correct conclusions.

The history of yellow fever in Key West (being the most exposed point in the United States) dates from a very early period. The frequent occurrence of epidemics of this disease, the recurrence of isolated cases between epidemic periods, its recent reappearance in October, 1889, and during the month of January, 1890, point, in my opinion, to but one rational conclusion—that the disease has finally become endemic in Key West. What constitute the principal factors involved in the production of this condition are matters of the first consideration: First, the very unsanitary conditions of the city yield a favorable nidus for the propagation and preservation of the germs of this disease; second, certain classes only of the population furnish the pabulum which evince the presence of the apparently inactive and latent poison of yellow fever. The negro race, as is well known, enjoy a marked immunity in regard to this disease, and the adult Spanish creoles, born

in Havana or other seaports of Cuba, are protected by an attack during infancy or childhood. There remains the foreign element, Europeans, Americans, Anglo-Saxons, Germans, strangers visiting the city, and the native infantile population, who, upon exposure to isolated foci of infection, develop, after the usual stage of incubation, all the symptoms of yellow fever in a milder form. This view of the endemicity of yellow fever in Key West is advanced by Dr. John Guitéras in his report upon the "Natural History of Epidemics of Yellow Fever" in the annual report of the Surgeon-General, Marine-Hospital Service, for the year 1888. I think its correctness is strongly illustrated and confirmed by the cases which have developed in Key West during the past three months. During the earlier part of September, 1889, cases of yellow fever began to occur in the persons of Jewish peddlers who had come direct from New York to Key West by steamer. About the 4th of September, Abram Hoen, Moses Goodman, and several other Jewish peddlers, were taken sick with mild but well-marked cases of yellow fever, and on the 23d and 27th Wolff Abraham and wife, and probably Dennis Egan, keeper of bonded warehouse, also had the disease, though of a mild type, about same time. Then followed the case of Reverend Householder, in which Dr. R. D. Murray differed as to diagnosis with Drs. Porter and Geddings. Julius Ellinger was the next case on the 17th of October diagnosed yellow fever by Surgeon Murray, who treated the case. Mr. Ellinger had left Havana by steamer direct from New York, and returned to Key West through Florida by rail to Tampa, and thence by Plant Line steamer to Key West; fully three weeks having elapsed since his departure from Havana. He was taken sick at the Russel House a few days after his arrival in Key West. In view of the long interval between his probable exposure to some infected focus in Havana and the development of the disease, I believe that he contracted the fever in Key West. On the 16th and 20th of October other cases occurred, in the persons of Hirsch Brothers, senior and junior, and Garfinkle, all being peddlers, with no history of exposure other than in Key West, none of these peddlers having been away from the island since their arrival.

On the 10th December Prof. Taylor Lee was taken with chill, succeeded by high temperature, and died on December 21. The history of his case, as given by his wife and nurses, and the post-mortem appearances, described by competent laymen, together with the admission by his medical attendant that during his illness the urine was notably albuminous, lead me to believe that his death was due to yellow fever. Then followed the cases of the two daughters, who were treated by Dr. J. W. V. R. Plummer. On the 2d January ultimo, Mabel Lee, two years old, was taken with chill, and presented all the symptoms of yellow fever—lack of correlation between pulse and temperature, paroxysm lasting three days, albuminous urine, icteroid sclerotics and skin, irritable stomach, subnormal pulse in convalescence. Marie Lee, five years old, was taken with similar symptoms on the 9th January. Finally, Mrs. Lee was taken sick about the 14th or 15th, and, in company with Dr. Plummer, who was the attending physician, and Dr. Sweeting, I saw her on the morning of the third day of the attack, with all the symptoms of yellow fever. I tested the urine very carefully, and obtained, by the "ring test," and by heat and acid, 10 per cent. albuminous deposit. The course of the attack was not severe and she recovered, as did all of the cases mentioned, with the exception

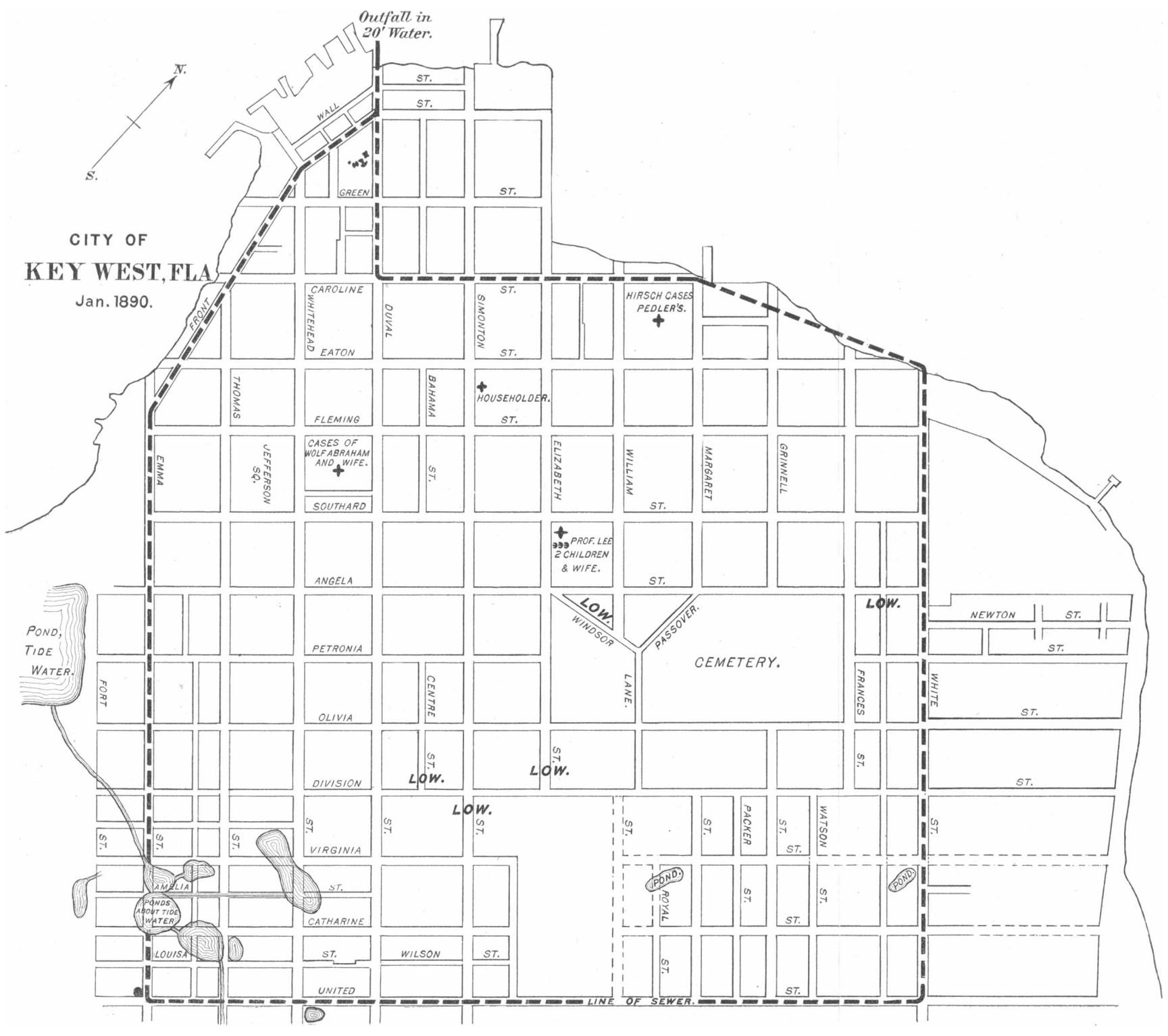
of Professor Lee. All these cases occurred in persons who had become residents of Key West during the past two years, coming from different parts of the United States, none of whom had been away from the island during that time, or visited any port of the West Indies known to be infected.

After a close and thorough investigation of their history it has been impossible to trace their illness to exposure to any "imported fomites." There is no doubt but that there exist in Key West isolated foci of infection, to which these persons were exposed, and, as a result, contracted yellow fever. The exceptional mildness of the winter season has, together with propitious unsanitary conditions, favored the manifestation of the latent poison of the disease, and I believe that only a thorough and vigorous cleansing of the city will rid it of the strongholds of disease, which will otherwise increase in number, and during the summer season develop the epidemic state, unless the municipal government of Key West begins at an early date to rid their rich and growing city of this "pest of the tropics," which was originally introduced on their island by infected vessels and by their creole industrial classes, but which, owing to years of criminal apathy and sordid indifference to the simplest laws of sanitation, has become (finding a congenial nidus in the filthy inhabited areas) at last domesticated.

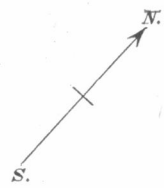
The city of Key West is the only point in the United States that continues to harbor this "dreaded infection," and is coming to be noted as a great manufacturing center of the fragrant "conchas, principes, and regalias," and also the distributing focus of yellow-fever fomites. A formidable rival of Havana in the manufacture of tobacco, she will soon enjoy the unenviable reputation, from the view of the sanitarian, of an equally active competition in the production of the "microbe." As long as her citizens are willing to live without the adoption and execution of such modern sanitary reforms as scientific sewerage, good drainage, abundant and pure water supply, cremation of garbage, well graded and clean thoroughfares, public parks, improved domestic hygiene, so long will her sister cities on the main-land secure the dollars of the tourist, invalid, and capitalist. A system of sewerage, which seems entirely practical and efficient, is contemplated by the present municipal council, who were especially appointed to carry out the needed sanitary reforms, and the taxpayers should demand that the work be commenced and completed as soon as the funds voted for that purpose are obtained. The city has issued bonds to the amount of a half million, and which is to be devoted to this general sanitary improvement.

In concluding this report I can not refrain from expressing as my conviction that yellow fever is a preventable disease, and that its intimate relation to foul and filthy conditions of soil in towns and cities is no longer a surmise, but a fact, and that this city has become temporarily an endemic center from such conditions, and will so remain until they are removed. The accompanying map, kindly executed for me by Mr. Woodward, city engineer, shows that all the cases of yellow fever occurred within a radius of five squares, and that this is probably the present circle of infection, though there are doubtless other foci. The policy of concealment of cases of this or any other infectious or contagious disease by medical men, or the subterfuges of "cooked up committees of investigation," whose members are chosen with a view of catering to political and popular prejudice, and health officials whose

CITY OF
KEY WEST, FLA.
Jan. 1890.



Outfall in
20' Water.



ST.
ST.

GREEN

ST.

CAROLINE
WHITEHEAD
EATON

DUAL

SIMONTON

ST.
ST.

HIRSCH CASES
PEDLER'S.
+

THOMAS

FLEMING

BAHAMA

HOUSEHOLDER.
ST.

JEFFERSON
SQ.

CASES OF
WOLFABRAHAM
AND WIFE.
+

ST.

ELIZABETH

WILLIAM

ST.

MARGARET

GRINWELL

SOUTHARD

PROF. LEE
2 CHILDREN
& WIFE.
+

LOW.
WINDSOR

ST.

LANE.

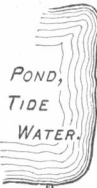
PASSOVER.

LOW.

NEWTON

ST.

ST.



POND,
TIDE
WATER.

FORT

PETRONIA

OLIVIA

CENTRE

ST.

LOW.

CEMETERY.

FRANCES

ST.

WHITE

ST.

ST.

ST.

ST.

DIVISION

LOW.

ST.

LOW.

ST.

ST.

ST.

PACKER

ST.

WATSON

ST.

ST.



PONDS
ABOUT TIDE
WATER.

AMELIA

ST.

CATHARINE

ST.

WILSON

ST.



POND.
ROYAL

ST.

ST.

ST.

ST.



POND.

ST.

LINE OF SEWER.

tenure of office depends upon political influence, can not be ignored or condoned by the State or national health authorities. The results of this practice subject the communities where they are tolerated to unjust suspicion and to severer restrictions in commercial intercourse than would be necessary if the truth were honestly told. Loud denunciations and puerile threats by the people, misled by political demagogues or their pliant tools, against a legally constituted "health board," can not alter facts or the diagnosis of medical men who are eminently competent to decide upon the true character of this disease. The people of the United States can not permit the city of Key West to remain a center of infection of the "fiebre amarilla" or "fiebre perniciosa," the prevalence of which among the infantile population of the island, city, and the strangers within their gates, excites no alarm or fear among the heterogeneous inhabitants of this island. The State and national health authorities will, if this condition prevails much longer, be forced to adopt the same measures against Key West as are enforced against the infected ports of the Island of Cuba.

Respectfully yours,

J. L. POSEY, M. D.,
Sanitary Inspector, Marine-Hospital Service.

For report on the yellow fever at Key West in 1875, by Surgeon Robert D. Murray, United States Marine-Hospital Service, together with a map of the city showing the infected portion at that time, see Annual Report of the Supervising Surgeon-General, 1875.

Reports of States, and Yearly and Monthly Reports of Cities.

COLORADO—*Denver*.—Month of February, 1890. Population, 150,000. Total deaths, 140, including croup, 4; diphtheria, 17; and enteric fever, 5.

Phthisis pulmonalis caused 25 deaths; pneumonia, 19; and influenza, 4.

DELAWARE—*Wilmington*.—Year ended December 31, 1889. Population, 60,000. Total deaths, 1,039, including croup, 28; diphtheria, 13; measles, 1; scarlet fever, 10; enteric fever, 30; and whooping-cough, 1.

Phthisis pulmonalis caused 163 deaths; bronchitis, 10; and pneumonia, 61.

Month of February, 1890. Total deaths, 84, including croup, 2; diphtheria, 1; measles, 1; scarlet fever, 1; and enteric fever, 1.

Phthisis pulmonalis caused 15 deaths; bronchitis, 2; and pneumonia, 9.

ILLINOIS—*Chicago*.—Month of February, 1890. Population, 1,100,000. Total deaths, 2,020, including croup, 29; diphtheria, 102; scarlet fever, 19; enteric fever, 136; and whooping-cough, 18.

Phthisis pulmonalis caused 178 deaths; bronchitis, 147; pneumonia, 295; and influenza, 37.

Galesburgh.—Month of February, 1890. Population, 17,000. Total deaths, 16, including whooping-cough, 1.

Phthisis pulmonalis caused 2 deaths; bronchitis, 1; and pneumonia, 2.

IOWA.—From the *Monthly Bulletin* for February the following is extracted:

Since the last number of the *Bulletin* the following diseases have been reported:

Diphtheria.—High Point Township, Henry County; Greeley Township and Leroy Township, Audubon County; Cook Township, Sac County; Dillon (epidemic) and Quarry, Marshall County; Fairville Township, Jones County; Ackley, Hardin County; Jewell, Hamilton County; Johnson Township, Webster County; Prairie City; Indianola; Mechanicsville; Tracy.

Scarlet fever.—Iowa Township, Iowa County; Felix Township, Grundy County; Montour, Tama County; Correctionville; Girls' Reform School, Mitchellville; New Hartford.

The reports for the month are indicative of subsidence of contagious diseases in the State.

Dubuque.—Month of February, 1890. Population, 35,000. Total deaths, 31, including none from contagious diseases.

Phthisis pulmonalis caused 6 deaths; pneumonia, 3; and influenza, 5.

Keokuk.—Month of February, 1890. Population, 16,000. Total deaths, 21, including croup, 1; croup with influenza, 2; and enteric fever, 1.

Phthisis pulmonalis caused 2 deaths, and influenza with complications, 3.

The monthly report says:

Highest mortality for February in ten years. Six deaths from influenza and complications with it. The epidemic, as in other places, was especially fatal to the older people. Eleven, or more than one-half, were over 50 years; one-third and more (8) were over 60 years—ages are 70, 79, 76, 61, 69, 81, 71, and 70.

CORRECTION.—In abstract No. 9, February 28, 1890, on page 87, the item KEOKUK, IOWA, should read "la grippe caused 1 death and influenza 1," instead of 43 and 76 as printed.

MICHIGAN.—Month of March, 1890. Reports to the State board of health, Lansing, from observers in different parts of the State, indicate that, compared with the preceding month, cerebro-spinal meningitis, cholera morbus, inflammation of brain, dysentery, measles, whooping-cough, typho-malarial fever, and inflammation of kidney increased, and that typhoid fever and cholera infantum decreased in prevalence.

Compared with the average for the month of February in the four years, 1886–1889, influenza, measles, cerebro-spinal meningitis, cholera morbus, and membranous croup were more prevalent, and cholera infantum, typhoid fever, typho-malarial fever, and scarlet fever were less prevalent in February, 1890.

Including reports by regular observers and others, diphtheria was reported present in Michigan, in the month of February, 1890, at fifty-eight places, scarlet fever at seventy-seven places, typhoid fever at thirty-four places, measles at sixty-nine places, and small-pox at two places.

Reports from all sources show diphtheria reported at three places less, scarlet fever at fifteen places more, typhoid fever at fourteen places less, measles at forty-two places more, and small-pox at two places more in the month of February, 1890, than in the preceding month.

The relative percentage of sickness during the month was as follows: Influenza, 97; neuralgia, 74; bronchitis, 72; rheumatism, 72; pneumonia, 56; phthisis pulmonalis, 51; measles, 20; whooping-cough, 15; diphtheria, 11; scarlet fever, 8; croup, 5; enteric fever, 3; and small-pox, 4.

In a carefully prepared paper, read before the sanitary convention at Vicksburg, the proceedings of which are just published, Dr. Baker gave official statistics and evidence which he summarized as follows:

The record of the great saving of human life and health in Michigan in recent years is one to which, it seems to me, the State and local boards of health in Michigan can justly "point with pride." It is a record of the saving of over one hundred lives per year from small-pox, four hundred lives per year saved from death by scarlet fever, and nearly six hundred lives per year saved from death by diphtheria—an aggregate of eleven hundred lives per year or three lives per day saved from these three diseases! This is a record which we ask to have examined, and which we are willing to have compared with that of the man who "made two blades of grass grow where only one grew before."

For the week ended March 1, 1890, reports from 57 observers indicate that puerperal fever, inflammation of brain, pneumonia, cholera morbus, and typhoid fever increased, and membranous croup, cerebro spinal meningitis, dysentery, pleuritis, and inflammation of kidney decreased in area of prevalence.

Diphtheria was reported at 35 places; scarlet fever at 51 places; enteric fever at 15 places; measles at 42 places; and small-pox at 2 places—Big Rapids and Grand Rapids.

Grand Rapids.—Month of February, 1890. Population, 70,000. Total deaths, 99, including diphtheria, 16; and scarlet fever, 1.

Phthisis pulmonalis caused 10 deaths; bronchitis, 2; pneumonia, 10; and influenza, 6.

MINNESOTA.—Month of January, 1890. Reports to the State board of health show a total of 1,169 deaths, against 956 for the previous month.

Measles caused 2 deaths; scarlatina, 21; diphtheria, 56; croup, 17; enteric fever, 35; bronchitis, 42; pneumonia, 178; and influenza, 70.

Minneapolis.—Month of February, 1890. Population, 200,000. Total deaths, 107, including enteric fever, 2; diphtheria, 19; whooping-cough, 2.

Phthisis pulmonalis caused 23 deaths; pneumonia, 15; and bronchitis, 11.

NORTH CAROLINA.—Month of January, 1890. Reports to the State board of health from 21 cities and towns, having an aggregate population of 124,200, show a total of 137 deaths, including enteric fever, 1, and whooping-cough, 1.

Phthisis pulmonalis caused 18 deaths and pneumonia 30.

RHODE ISLAND—*Newport*.—Month of February, 1890. Population, 22,000. Total deaths, 27, including none from contagious diseases.

Phthisis pulmonalis caused 2 deaths; pneumonia, 3; bronchitis, 2, and influenza, 2.

TENNESSEE—*Chattanooga*.—Month of February, 1890. Population, 40,000. Total deaths, 51, including croup, 1; measles, 1, and enteric fever, 2.

Phthisis pulmonalis caused 9 deaths; bronchitis, 3, and pneumonia, 13.

MISSOURI—*St. Louis*.—Month of February, 1890. Population, 450,000. Total deaths, 610, including scarlet fever, 3; diphtheria, 19; croup, 2; and enteric fever, 4.

Phthisis pulmonalis caused 80 deaths; bronchitis, 31; and pneumonia, 90.

VIRGINIA—*Lynchburg*.—Month of February, 1890. Population, 25,000. Total deaths, 43, including none from contagious diseases.

One case of whooping-cough was reported.

FOREIGN.

(Reports received through the Department of State and other channels.)

GREAT BRITAIN—*England and Wales.*—The deaths registered in 28 great towns of England and Wales during the week ended February 15 corresponded to an annual rate of 25.3 a thousand of the aggregate population, which is estimated at 9,715,559. The lowest rate was recorded in London, viz, 21.3, and the highest in Manchester, viz, 38.6 a thousand. Diphtheria caused 4 deaths in Salford, 4 in Manchester, 4 in Liverpool, 2 in Bolton, 2 in Sheffield, and 2 in Hull.

During the week ended February 22 the deaths registered corresponded to an annual rate of 25.1. The lowest rate was recorded in Brighton, viz, 14.1, and the highest in Preston, viz, 37.7 a thousand. Diphtheria caused 2 deaths in Liverpool, 5 in Manchester, and 5 in Salford.

London.—One thousand eight hundred and forty-seven deaths were registered during the week ended February 22, including small-pox, 1; measles, 14; scarlet fever, 13; diphtheria, 27; whooping-cough, 103; enteric fever, 8; and diarrhoea and dysentery, 21. The deaths from all causes corresponded to an annual rate of 21.8 a thousand. Diseases of the respiratory organs caused 452 deaths. In greater London 2,346 deaths were registered, corresponding to an annual rate of 21.2 a thousand of the population. In the "outer ring" the deaths included measles, 12; diphtheria, 5; whooping-cough, 28; and scarlet fever, 4.

Ireland.—The average annual death rate, represented by the deaths registered during the week ended February 22, in the 16 principal town districts of Ireland, was 37.3 a thousand of the population. The lowest rate was recorded in Lisbon, viz, 14.5, and the highest in Waterford, viz, 71.8 a thousand. The registrar of this district states that this large death rate was due to the fact that the workhouse officers were unable to register for the past three weeks, owing to attacks of influenza from which they suffered. In Dublin and suburbs 239 deaths were registered, including measles, 3; enteric fever, 6; whooping-cough, 4; and influenza, 2.

Scotland.—The deaths registered in eight principal towns during the week ended February 22 corresponded to an annual rate of 28.3 a thousand of the population, which is estimated at 1,345,563. The lowest mortality was recorded in Greenock, viz, 20.3, and the highest in Dundee, viz, 33.5 a thousand. The aggregate number of deaths registered

from all causes was 732, including measles, 24; scarlet fever, 7; diphtheria, 11; whooping-cough, 42; fever, 8; and diarrhoea, 8.

CUBA—*Havana*.—Month of February, 1890. Four hundred and fifty-nine deaths were registered during the month, including yellow fever, 4; so-called pernicious fever, 6; enteric fever, 6; bilious fever, 1; croup and diphtheria, 9; and glanders, 3.

BAHAMAS—*Nassau, N. P.*—March 1, 1890. Population, 12,000. Deaths never reported. City healthy.

Dr. Eugenio Fazio on the Epidemic Catarrhal Fever, Influenza, or Grippe.

[Translated for this Bureau from the *Rivista Internazionale d'Igiene*, Naples, January, 1890.]

The nature of grippe is still open to controversy. Some authorities, like Nothnagel, declare for the miasmatic nature of the disease; others assert it to be contagious. Letzerich considers influenza a mycotic affection of the blood, caused by micrococcus. Babes and Cornil, after a rigorous search, dispute this conclusion. Fränkel thinks he has discovered bacteria in the excreta of the sick.

The mode of propagation of the disease, which is in all directions following the course of an atmospheric current, requiring only a few days to traverse Europe and Asia, striking centers of population and isolated places, reaching islands and ships on the sea, seems to prove the miasmatic character of the disease. But the history of the several epidemics shows that the disease is communicated by contagion, as has been observed in barracks and institutions of various sorts at Copenhagen, Vienna, and Berlin, and in Russia.

It seems clear that the infectious principle belongs to the order of volatile virus. The involvement of the respiratory mucous surface is a marked characteristic of the disease. The disease is preceded by malaise and acute chill; then follows coryza, with copious nasal flow, sneezing, weeping; pharyngeal-laryngitis, with cough, often paroxysmal; bronchitis, and dyspnoea, accompanied or not by efforts at vomiting and hemorrhage, sometimes followed by pulmonary paralysis, especially in the case of feeble or consumptive persons. From the first, the patient experiences a sense of prostration, accompanied by intense headache, heaviness and pain in the lower limbs and in the thoracic muscles. The disease may be marked by a high or low febrile note. It lasts ordinarily from three to five days—at most two weeks. The mortality from it is not proportioned to the expansibility of the disease. This, however, depends on the special condition of the individual, and on place and season.

Public health officers generally have not thought it necessary to institute public precautionary measures.

MORTALITY TABLE—FOREIGN CITIES.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—								
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
London.....	Feb. 15....	5,758,600	2,246	.....	.....	.....	.....	12	14	44	25	.....
London.....	Feb. 22....	5,758,600	2,346	.....	.....	1	.....	8	17	32	26	.....
Paris.....	Feb. 15....	2,260,945	1,151	.....	.....	1	.....	5	2	34	22	.....
Paris.....	Feb. 22....	2,260,945	1,243	.....	.....	1	.....	17	2	38	20	.....
Glasgow.....	Feb. 15....	545,678	331	.....	.....	.....	.....	4	2	2	.....	.....
Glasgow.....	Feb. 22....	545,678	324	.....	.....	.....	.....	3	5	5	.....	.....
Rio de Janeiro.....	Feb. 1....	450,000	296	.....	14	10	13	5	.....	.....	.....	.....
Calcutta.....	Jan. 11....	433,219	258	30	.....	4	.....	.....	.....	.....	.....	.....
Calcutta.....	Jan. 18....	433,219	254	34	.....	9	.....	.....	.....	.....	.....	.....
Amsterdam.....	Feb. 8....	406,402	177	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amsterdam.....	Feb. 15....	406,402	184	.....	.....	.....	.....	.....	.....	.....	.....	.....
Copenhagen.....	Feb. 15....	307,000	142	.....	.....	.....	.....	3	.....	.....	.....	.....
Palermo.....	Feb. 22....	250,000	110	.....	.....	.....	.....	.....	3	15	.....	.....
Bristol.....	Feb. 22....	232,248	114	.....	.....	.....	.....	.....	4	1	.....	.....
Rotterdam.....	Feb. 22....	203,486	115	.....	.....	.....	.....	.....	1	.....	.....	.....
Genoa.....	Feb. 15....	180,234	112	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trieste.....	Feb. 15....	158,054	120	.....	.....	2	3	.....	.....	.....	.....	.....
Stuttgart.....	Feb. 21....	125,510	50	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pernambuco.....	Feb. 4....	120,000	86	.....	.....	.....	.....	.....	.....	.....	.....	.....
Havre.....	Feb. 15....	112,074	69	.....	.....	2	1	.....	3	.....	.....	.....
Catania.....	Feb. 17....	109,000	63	.....	.....	.....	.....	1	.....	.....	.....	.....
Barmen.....	Feb. 15....	109,000	55	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mayence.....	Feb. 15....	65,802	34	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gibraltar.....	Feb. 16....	23,881	12	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston, Can.....	Feb. 28....	18,284	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sagua.....	Feb. 22....	15,605	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sagua.....	Mar. 1....	15,605	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Guayra.....	Feb. 22....	7,428	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Juan del Norte.....	Dec. 9....	1,250	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Juan del Norte.....	Dec. 16....	1,250	2
San Juan del Norte.....	Dec. 23....	1,250	2
San Juan del Norte.....	Dec. 30....	1,250	1

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