



THE GREAT EPIDEMICS.

YELLOW FEVER

**R**ECENT events have invested this pestilence of the warmer regions of our country with new and terrible interest. We have seen it marching northward with steady pace, seizing upon city after city in its path, and ruthlessly devastating each town which it had stormed. The wail of the mourners has scarcely died out of our ears; the gloom of the funerals still shad-

ows our hearts. We have gazed sadly and helplessly at the doomed cities, while they lay swooning in the deadly embrace of the merciless pestilence.

Like all other epidemics, yellow fever hides its origin in the mists of the past. These giant devastators of nations have had no chroniclers to record their birth and early history. Nursing their tremendous potencies in some obscure

corner of the earth till they have arrived at adult vigor, their assault is always as sudden and impetuous as that of the hurricane. Some physicians imagine they can find this fever described in the writings of Hippocrates, but they forget that the peculiar symptoms on which they rely to establish the identity—black vomit and yellowness of the skin—are by no means peculiar to the disease in question, but may be, and have been found attendant upon quite a variety of acute and chronic disorders. The prevalent opinion among those who have investigated the subject is, that the disease is of modern origin; and some facts seem to connect it mysteriously with that dark blot upon the world's commerce, the Slave-trade. It certainly made its appearance simultaneously with the inauguration of that infamous traffic, and some of our Southern physicians are convinced that it, like the blacks, was imported from Africa.

However that may be, we have no satisfactory evidence of its existence till near the middle of the seventeenth century, although an attempt has been made to show that the companions of Columbus suffered from it. The sallow hue of those who returned, the suddenness of the seizure, and the rapidity with which the disease ran its course, are the only facts relied on to establish this opinion. The ordinary diseases of the climate, however, are amply sufficient to produce sallowness, while the malignity and speedy fatality of the disorders which affected the earliest European visitors to the shores of this Western world, excite no astonishment in the mind of the physician who has seen and treated the terrible congestive fevers of our Southern States.

As far as our knowledge extends, Père Du Tertre is the earliest writer who can be said to have alluded to this frightful scourge of the warmer shores of the Atlantic. He saw it in 1635, in the Antilles, and expressly tells us that before that time it was unknown in those islands. He called it *Coup de Barre*, in allusion to the severe muscular pains which accompany it, and which could only be compared to heavy blows. He also alludes to the yellowness of the skin, and believes in the importation of the malady. In 1647 it was in Barbadoes, whence it spread to other West India islands. Père Labat, on landing at Martinique, in 1649, found it raging there. The monks in the convent of his order suffered severely. He says that he had it twice in his own person, and speaks of those scenes which have since his day become too familiar to American medical men—the bleedings from the mouth, nose, and stomach; the “walking cases” dropping dead in the street, and other characteristic phenomena which we now witness so often in New Orleans and Charleston. He tells us that it was first introduced into Martinique by a ship-of-war, the *Oriflamme*, coming from Siam, which contracted the disease by touching at a Brazilian port. Hence one of the numerous aliases of yellow fever, *Mal de Siam*. The earliest epidemic in the territory of the United States occurred in 1693, at Boston, into which

city it was believed to be imported from Martinique, by the fleet under Admiral Wheeler.

Since then it was unfortunately too well known to our ancestors over the whole Atlantic coast. Numerous epidemics of it have been recorded by our earlier medical writers. Their accounts, however, must be closely examined, as this disease and bilious fever were then almost universally, as they are now often, confounded. Many of the so-called epidemics of yellow fever were only high grades of bilious fever, occurring in an uncommonly unhealthy autumn. Such, for example, was unquestionably the so-called yellow fever of Virginia in 1741-2. With all these allowances, however, we shall find that this malignant pestilence was any thing but uncommon in our growing seaports during the eighteenth century.

There is a marked peculiarity which distinguishes yellow fever from the other epidemics which we have been considering in this series of articles. Plague, we have seen, has ravaged the earth from the torrid sands of Africa to the icy mountains of Norway; cholera has stricken down its victims alike on the steaming deltas of the tropics and the cold plains of Asiatic Russia; but yellow fever is essentially a disease of hot climates, and is consequently confined to a particular zone. It requires a certain amount and duration of heat to awaken it to life, and can never prevail where Indian corn will not ripen. Nor does it only haunt a particular zone, but a special portion of that zone. It is confined to the neighborhood of the hot coasts of the Atlantic and of the rivers which flow into it. Bilious fever, and the pernicious and congestive varieties of the paludal fevers, prevail alike in all the hot regions of the world, but yellow fever infests a limited portion of the lands “too near the sun.” While it has ravaged repeatedly the western coast of Africa, Spain, and Portugal, it has never made its appearance in the Levant or on the eastern coast of Africa. While the islands of the Atlantic have over and over again been swept by it as by a tornado, the archipelagoes of the Pacific have never heard its name.

It loves the haunts of men, frequents cities, garrisons, and ships, but never gets far from the sea-coast, except along navigable rivers. Only in violent epidemics is it wont to scourge rural populations, and has never succeeded in penetrating the heart of the continent. It thus partakes of the nature of both endemic and epidemic diseases. In some of the cities of the tropics it is rarely or never absent. In higher latitudes, as in New Orleans, Mobile, and Charleston, it is frequently present, but does not prevail, as a matter of course, every summer. Farther north, it is only an occasional visitant, and always epidemic. A marked difference exists between the common and the epidemic forms—so striking, indeed, that some have considered them as two distinct diseases. Physicians, who have seen both forms, recognize the deadly epidemic variety at once, and can

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almost predict from the first case the probable extent of the visitation.

Those who like to trace coincidences, have not failed to point out that epidemic yellow fever moves in cycles of from fifteen to thirty years. Thus, in 1762 the disease prevailed in Philadelphia, but did not visit that city again till 1793, thirty-one years later. At this time there was, as we shall presently see, a general activity of the cause of yellow fever. Thus, in 1791 it was in New York, in 1794 in Baltimore; and it continued to rage, summer after summer, among the different cities, till 1804, when it subsided, to break out again in 1819, fifteen years later. This period of activity lasted till 1824; and again, in 1854, thirty years later, we have had it on the shores of the Chesapeake Bay.

As our space is limited, we must confine ourselves to the account of a few characteristic epidemics. The first which will attract our attention is that which revolved around the pestilence of 1793 in Philadelphia. The origin of this well-known epidemic is still in doubt, although it has been discussed by some of the most able of medical controversialists. Without committing ourselves to any theory of its origin or spread, we give a brief history of the pestilence.

In April, 1792, the ship *Hankey* sailed from England with more than two hundred emigrants on board, for a new settlement at Bulama, a fertile island on the west coast of Africa, opposite the mouth of the Rio Grande. There was no accommodation for them on shore, so that they were obliged to make the ship their head-quarters during their stay of several months at the island. A fever soon broke out among them, and became extremely malignant. No attention being paid to cleanliness—the clothes, bedding, etc., of the sick and dead being allowed to remain on board—the fever was so fatal that when the time for which the ship had been chartered expired, there were no seamen left to navigate her. She therefore went to sea with the captain, the mate, one of the settlers, and two sailors, three-fourths of the original number having perished.

In February, 1793, the *Hankey* entered the carenage at St. George, in the island of Granada. Shortly afterward a malignant fever broke out at that port. Two-thirds of the inhabitants were attacked, and one out of every five died. The vessels in port suffered severely. Out of five hundred regular sailors, two hundred died. The severity of the fever caused Chisholm to call it *Nova Pestis*, for which he has been sharply criticised. It should be remembered, however, that the physicians of the South, who have long been accustomed to seeing yellow fever, were struck with the uncommon malignity of the recent epidemic, and that many of them entertain an opinion concerning it very much like that which Chisholm promulgated concerning the pestilence of 1793. Few medical men approached the bedside of a patient laboring under the Norfolk fever without being painfully sensible

of the presence of a morbid element to which they were unaccustomed. Chisholm traces the subsequent frightful epidemic which so severely scourged the United States and the West Indies to this importation. This has been stoutly denied, and the whole subject will be discussed in a future article.

The most terrible of these visitations of yellow fever in that pestilential year was the well-known epidemic in Philadelphia. Dr. Chisholm was of the opinion that the disease was imported into that city from the West Indies; Dr. Rush, as we shall presently see, attributed its origin to the effluvia arising from some damaged coffee. In deciding the question, it would be necessary to know whence this coffee came, a point upon which we have been able to learn nothing whatever.

The situation of Philadelphia is known to most of our readers. It lies upon a low and level tract between the Delaware and Schuylkill rivers, and the disposition of its authorities to make streets with very low grades, adds to the natural difficulty of ventilation. Hence, it is one of the hottest cities of the Atlantic coast, the range of the thermometer being usually several degrees higher than in Baltimore, which is one degree of latitude further south. Devèze, the French physician who had charge of the hospital at Bush Hill, complained that the heat was more oppressive than in his former home, St. Domingo. The wharves, being built in slips, included water which was cut off from the current of the river, so that the filth which was brought in by high tide remained there. Chips and all sorts of vegetable matter slowly sunk to the bottom and mingled with the mud, where, under the influence of a burning sun, they slowly putrefied and sent up deadly gases into the air. Below the city were extensive marshes, and around it numerous pools left by the removal of clay for brick-making. The stagnant water, left here by the rains, slowly evaporated during the summer, and could not fail to render the city very unhealthy. Hence the great frequency of intermittent and remittent fevers every autumn. Besides this, it must be remembered that there were numerous unpaved spots in which the water settled, forming little marshes in different parts of the town. At that time no water-works had been erected, and the inhabitants were compelled to use wells, which, being shallow, were tainted with all the impurities which can filter through the soil of a city. Devèze says, that the drainings of the graveyards found their way into some of these wells, and that the water from them became putrid within twelve hours after it was drawn.

The summer of 1793 was unusually hot and oppressive. The air was calm, or stirred by but feeble breezes, and the drought was protracted. During the month of July, the average range of the thermometer, at three o'clock in the afternoon, was 88° Fahrenheit; and in August, one degree lower. The dew-point is not recorded, since the meteorologists of that day were not in

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the habit of noticing it. It must have been high, however, for there was a universal complaint of an unusual oppressiveness in the heat. Laborers were often compelled to cease work when the mercury stood no higher than 84°. It was noticed that the sweat on the surface of the body dried but slowly. On the 25th of August there was a heavy rain, the last which fell till the 15th of October.

Early in August Dr. Rush noticed a peculiar aggravation of the ordinary bilious fever, which was then prevalent. On the 6th of the month a young man was taken violently ill with a fever, which, after a hemorrhage, proved fatal on the 12th. Shortly after, two other young men sickened. On inquiry, it was ascertained that the three had spent the greater portion of their time in a counting-room near one of the wharves where a quantity of damaged coffee had been thrown out. This lay upon the wharf and in the dock, putrefying and emitting a most horribly offensive smell, which sickened many persons who came near it. About the same time a number of persons living on Water Street, between Arch and Race Streets, in the immediate vicinity of the pestilential dock, died of fever, some of them being carried off in twelve hours. Dr. Rush maintains that all the early cases of the disease can be traced to this source.

Convinced that the city was on the eve of a great calamity, this eminent physician gave the alarm. At first it was met in the usual spirit of trade. The fact was denied, and the informant was ridiculed. It soon became evident that the information was only too true, and on the 24th the Governor of the State directed the port physician to inquire into the matter. The result of his investigation was to establish beyond doubt the fact, that a malignant fever existed along the Delaware front, especially between Arch and Race streets, and in Kensington, and that it was spreading toward the heart of the city. Sixty-seven persons were sick in that part of Water Street, and the deaths throughout the city were estimated at forty. The bills of mortality, however, show that already a hundred and fifty had perished. On the 26th of the month, the College of Physicians issued an address to the public, in which they acknowledged the presence of yellow fever, and suggested certain precautions to be adopted.

A sudden change came over the feelings of the people. They passed from apathy and derision to the wildest alarm. The merchants and the United States authorities hurried away from the city. Business was at a stand-still. The infected portion of Water Street became a desert. The streets and roads leading into the country were thronged by the terrified fugitives. Even physicians, dead to the lofty instincts of their profession, fled ignominiously from the helpless city. Such was the alarm that the very hospitals were closed. At this crisis, the Mayor called a meeting of the inhabitants at the State House. Some of the most influential citizens met and organized a permanent

Committee of Public Health. The poor especially attracted their attention. They were laboring at once under the evils of disease and poverty. A hospital was opened on Bush Hill, an elevated, dry, and airy portion of Philadelphia, and some feeble efforts were made to put the city in a better sanitary condition.

When fairly established, the disease spared no age, sex, nor complexion. Men, indeed, were more subject to it than women, and the extremes of life enjoyed a comparative exemption, those between the ages of fifteen and forty being most liable to its attack. Fear was observed to predispose strongly to the disease. Any irregularity of living, violent and unaccustomed exercise, undue exposure, and in general any deviation from accustomed modes of life, had a similar effect.

The physiognomy of the disease was peculiar. The eyes were usually inflamed, and had a sad and watery look, and sometimes an unnatural brilliancy and ferocity. The face was lividly flushed or dusky, and its expression gloomy and downcast. Toward the close of the disease, and sometimes not till after death, it assumed the yellow hue which has given rise to the common name of the fever. A dark matter, like coffee-grounds, was rejected from the stomach, and this symptom also has increased the nomenclature of the malady, by the significant title, Black Vomit. The mental condition was various. Occasionally there was delirium, but ordinarily the faculties remained apparently unimpaired. Dr. Rush has observed a tendency to self-deception, the patients being unwilling to acknowledge that they were afflicted with the prevailing epidemic. He has also told us that there was usually great depression of spirits and irritability of temper. This differs from the mental condition ordinarily observed in epidemics of this disease. It is characterized by a hardihood and self-possession painful to the beholders. The victims are fully conscious of their condition, laugh at their dingy complexions, and find subjects of amusement in the most frightful accompaniments of their malady.

The "walking cases" were observed in this, as in all other great epidemics in yellow fever. In some of these the patient appeared to enjoy his habitual health, till suddenly he was seized with an indefinable terror and a universal trembling; he fell senseless, and died in a few hours. More commonly, however, the persons so affected experienced a vague uneasiness, to which they attached but little importance. They maintained that they were not sick, that they had only a slight indisposition, arising from cold or imprudence in diet, that it would soon pass off of itself. The physician, on examining them, detected signs of the most profound disturbance of the vital organs, but could not convince either them or their friends of their danger. They continued to walk about and attend to their business or pleasure for the few hours of life which remained to them.

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These cases are, as has already been said, common in all countries where yellow fever prevails. Dr. Fergusson tells us of an officer who, on the fourth day of the fever, rose from his bed in perfect possession of his senses, dressed himself, went to the market, bought fruit, and returned to his room, where "he shortly expired in a torrent of black vomit." In New Orleans, during the epidemic of 1853, a physician, going into a livery-stable, noticed one of the men sitting on a wheel-barrow. He asked after his health, and received for reply that he was perfectly well. "My good fellow!" urged the doctor, "you ought to go immediately home and attend to yourself; you are dangerously ill with the yellow fever." The man laughed at him, and rose to attend to his duties. In a few hours he was dead. One more case to illustrate this peculiar feature of yellow fever and this digression will be brought to a close. It is quoted from Humboldt:

"A person with whom I was on friendly terms during my stay in Mexico, had spent a very little time at Vera Cruz, on his first trip from Europe to America. He arrived at Jalapa without experiencing any sensation to apprise him of the danger in which he soon found himself. 'You will have the vomito this evening,' gravely remarked the Indian barber who was lathering his face, 'the soap dries as fast as I put it on; it is a sign which I never knew to fail, and for twenty years I have shaved the *chapetons* who pass through this city on their way to Mexico. Out of every five of them three die.' This sentence of death made a strong impression upon the mind of the traveler, who was at great pains to explain to the Indian how exaggerated was his estimate, and that a great heat of the skin by no means proves the existence of infectious fever; but the barber persisted in his prognosis. The disease declared itself a few hours afterward, and the traveler, already on his way to Perote, was obliged to have himself carried back to Jalapa, where he narrowly escaped falling a victim to the violence of the vomito."

The disease gradually increased in severity till it reached its height on the 11th of October, on which day it swept into eternity 119 souls; a fearful mortality for a population originally only 50,000, and now greatly diminished by flight and death. The entire number of deaths in the city from the 1st of August to the 9th of November was 4044. It is supposed that, in addition to these, 500 persons who had contracted the disease in the city died of it in different parts of the country.

The blacks, who escape the fever in ordinary seasons, enjoyed no exemption at this time. The same fact has been observed in all the violent epidemics of yellow fever, and has led some to believe that there are two distinct maladies confounded under this name. Prisoners in the jail, and those families who voluntarily imprisoned themselves, escaped the disorder. Dr. Rush has noticed the remarkable immunity afforded

by certain employments. Thus, out of nearly a hundred butchers who remained in the city, and most of whom attended market daily, only three died. Strangely enough, a similar exemption was enjoyed by persons whom we should suppose to be specially liable to infection. The grave-diggers very generally escaped; out of forty scavengers employed in removing the dirt of the streets, only one sickened and died; and there was scarcely a case of fever among laborers employed in digging cellars.

By the 12th of September the whole city was infected. Narrow streets and alleys, as might have been expected, suffered most severely. In the latter few escaped. Even those residents who were not actually sick with the fever, gave evidence of the influence of the poison by various external signs, such as yellowness of the eyes, sallowness of the skin, preternatural quickness of the pulse, yellow sweats of an offensive smell resembling that of the washings of a gun, and other symptoms of a poisoned condition of the blood. Country people who visited the city and remained in it but a few hours were attacked by the disease and died.

The streets now put on the aspect of desolation, so common during the prevalence of mortal disease. More than half the houses were shut up; grass grew up between the bricks of great thoroughfares; and an ominous silence reigned at mid-day. The passer-by heard only the echo of his own footsteps, or the dull rumble of the dead-cart, and the cry of its driver, "Bring out your dead!" He saw none of the activity of a great city, no groups of people hurrying along in pursuit of business or pleasure; only now and then an anxious and agitated face looked hurriedly at him, as its owner hastened to summon the physician, the nurse, or the sexton to the side of some loved one. The streets which led to the cemeteries still retained a ghastly imitation of the old sound of carriage wheels, in the heavy, slow, continuous roll of the hearse. At no hour of the day or night was that sad sound out of the ears of the dwellers along these dismal thoroughfares. Funeral processions were given up, bells ceased to toll, but at all hours those who were in the streets met corpses driven to their last home, often alone, sometimes with half a dozen relatives or friends following at a distance, for fear of contagion.

At first, when the disease had fully established itself, the city resounded with the noise of lamentations. At all hours of the day and night voices of wailing women and children were heard through the open windows of the plague-smitten houses. Later in the pestilence, however, "grief descended below weeping," and the blows of fate were received with a silent, sullen resignation. A settled gloom rested upon every brow; no cheerful face met the eye. An eminent physician records the shock given to his feelings by seeing a little child look up into his face and smile. "I was strangely affected with this sight (so discordant to my feelings and

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the state of the city) before I recollected the age and ignorance of the child. I was confined the next day by an attack of the fever, and was sorry to hear, upon my recovery, that the father and mother of this little creature died a few days after my last visit to them."

The moral effects of this pestilence were not so deplorable as those which have been recorded of other visitations. Its influence seemed saddening and softening rather than hardening. Robberies were rare, only two occurring in more than two months, although many hundred houses were left wholly unguarded. Sympathy was excited on behalf of the unhappy sufferers, and a thousand acts of open and secret benevolence soothed the pathway to the grave. The Sisters of Charity were conspicuous here as elsewhere; so were the clergy of all the religious denominations; and a few benevolent negroes, trusting to the supposed immunity of their race, rendered invaluable services to the sick. The neighboring cities, and indeed the whole country, sympathized with the capital, and sent liberal contributions of money, provisions, and fuel.

Still the pestilence raged with unabated violence. The stagnant air teemed with deadly vapors. Scarcely a breeze ruffled the unbroken calm. The light of the sun, shining steadily in the sky, became hateful to those who were sickening under his beams. In vain they looked up to the unmerciful heavens for the shadow of a cloud. The blue arch bent over them, hot and stifling, like the dome of a furnace. Anxiously did they look for the change of the moon, in the hope of an alteration in the state of the atmosphere; but no change came, no breeze blew, no rain fell. Occasionally a haze would overspread the sky, light clouds would form, and supplicating eyes would gaze upon the mocking promise, only to see it fade away into the general vapor that had no healing in its misty wings. So the hot September wore away, and October, usually so balmy, arrived, but only brought increased mortality. The springs and wells began to fail; the pastures were burnt up; the dust extended two feet below the surface of the soil. To add to the universal distress, medical aid began to fail the people. Some of the physicians had fled, many were dead, more were sick, and all were worn down with extreme fatigue. In one day it was estimated that six thousand persons lay burning with fever, and that only three medical men were able to be out of their houses. The stoutest hearts now began to fail, and despair reigned supreme over the city. At this moment, as if to verify the adage, "man's extremity is God's opportunity," a change took place. Dark clouds gathered over the sky, and on the 15th of October the long-desired, the prayed for, the benignant rain, came pouring upon the panting city. The pestilence had received its death-blow. The number of the sick immediately diminished, and by the 9th of November the plague was over.

General statements have far less force than the record of individual feelings, and as the ob-

ject of this sketch is to give a vivid idea of the visitation of a great pestilence, a brief extract from a record of personal experience can not be out of place.

Dr. Rush has not only given us a history of the disease, but has also left us a sketch of his own personal experience and feelings. His wife and children had gone to the country on a visit, before the outbreak of the epidemic, and his family consisted of his mother, his sister, who had unfortunately selected this season to visit him, and two servants. He had five students, three of whom took rooms in his house after the disease had made some progress. The whole of them were actively engaged in practice. The Doctor visited a hundred or a hundred and twenty patients daily, and several of the students attended a fourth or fifth part of that number. The hours for meals were necessarily shortened, and even then they were encroached on. The house was thronged with patients, and the benevolent physician rarely ate a meal without prescribing for several as he sat at the table. His continual presence in infected places caused him to suffer many of the symptoms which have already been mentioned as present in many who did not fully develop the fever.

"My nights," says he, "were rendered disagreeable, not only by the sweats, but by the want of my usual sleep, produced in part by the frequent knocking at the door, and in part by anxiety of mind, and the stimulus of the contagion upon the system. I lay down in conformity to habit only, for my bed ceased to afford me rest or refreshment. When it was evening, I wished for morning; and when it was morning, the prospect of the labors of the day caused me to wish for the return of evening. The degree of my anxiety may be easily conceived, when I add, that I had at one time upward of thirty heads of families under my care.

"Every moment in the intervals of my visits to the sick was employed in prescribing in my own house for the poor, or in sending answers to messages from my patients; time was now too precious to be spent in counting the number of persons who called upon me for advice. From circumstances, I believe it was frequently 150, and seldom less than 50 in a day, for five or six weeks. The evening did not bring with it the least relaxation from my labors. I received letters every day from the country, and from distant parts of the Union, containing inquiries into the mode of treating the disorder, and after the health and lives of persons who had remained in the city. The business of every evening was to answer these letters, also to write to my family. These employments, by affording a fresh current to my thoughts, kept me from dwelling on the gloomy scenes of the day. After these duties were performed, I copied into my note-book all the observations I had collected during the day, and which I had marked with a pencil in my pocket-book in sick rooms or in my carriage. To these labors of

body and mind were added distresses from a variety of causes. Having found myself unable to comply with the numerous applications that were made to me, I was obliged to refuse many every day. My sister counted forty-seven in one forenoon before 11 o'clock. Many of them left my door with tears, but they did not feel more distress than I did from refusing to follow them. In riding through the streets, I was often forced to resist the entreaties of parents imploring a visit to their children, or of children to their parents. I recollect, and even yet I recollect with pain, that I tore myself at one time from five persons in Moravian Alley who attempted to stop me, by suddenly whipping up my horse and driving my chaise as speedily as possible beyond the reach of their cries."

To add to all this, his students were taken ill, and three of them died. His servant man, his sister, and his mother all fell sick, so that the only person left up about the house was a little mulatto boy eleven years of age. "At 8 o'clock in the evening," he continues, "I finished the business of the day. A solemn stillness at that time pervaded the streets. In vain did I strive to forget my melancholy situation by answering letters, and by putting up medicines to be distributed next day among my patients. My faithful black man crept to my door, and, at my request, sat down by the fire; but he added, by his silence and dullness, to the gloom which suddenly overpowered every faculty of my mind.

"On the first day of October, at 2 o'clock in the afternoon, my sister died. I got into my carriage within an hour after she expired, and spent the afternoon in visiting my patients. According as a sense of duty, or as grief has predominated in my mind, I have approved and disapproved of this act ever since. She had borne a share in my labors. She had been my nurse in sickness, and my casuist in my choice of duties. My whole heart reposed itself in her friendship. Upon being invited to a friend's house in the country, when the disease made its appearance in the city, she declined accepting the invitation, and gave as a reason for so doing that I might probably require her services in case of my taking the disorder, and that if she were sure of dying, she would remain with me, provided that by her death she could save my life. From this time I declined in health and strength. My short and imperfect sleep was disturbed by distressing or frightful dreams. The scenes of them were derived altogether from sick-rooms and grave-yards. I concealed my sorrows as much as possible from my patients; but when alone, the retrospect of what was past and the prospect of what was before me, the termination of which was invisible, often filled my soul with the most poignant anguish."

His house had by this time become a focus of infection, and before the close of the epidemic he was attacked by the fever, and narrowly escaped falling a victim to it.

In 1794, Baltimore suffered from the same visitation. That city consisted of two portions, connected by straggling houses, known as the Point and the Town. The Point, as its name implies, was built on and near a tongue of land jutting out into the estuary on the banks of which the city stands. It lies low, and at that time was filthy, and badly or not at all paved. The docks are in long slips, and necessarily contain more or less stagnant water. The tides are much governed by the winds, so that the daily rise and fall of water in the docks varies very greatly.

The summer of 1794 was hot and moist, and the water unusually low. At Bowly's Wharf, then much shallower than at present, when the wind blew long from the northwest, the mud was exposed. The rooms over some of the stores on that wharf were used as residences. They were without cellars, and water from twelve to eighteen inches deep, black, putrid, and offensive, stagnated under the floors. On the Point many cellars were filled with stagnant, fetid water. "Its effluvia," says Dr. Drysdale, "were so envenomed, that if a fly came within its influence it fell dead upon its surface. This was so notorious a truth that it could not escape the observation of persons in the neighborhood, who led me to witness the immense number of those dead insects floating on the surface of the putrid water."

Here were elements of disease sufficient, without resorting to any hypothesis of importation. This was charged against certain ships, but upon what appears to us very unsatisfactory evidence. The fever broke out almost simultaneously at these two places. The first recorded case occurred on the 4th of August on Bowly's Wharf. At the same time an unusual malignity was observed in the bilious fevers on the Point. Other cases followed in rapid succession, and though their true character was, as usual, loudly and pertinaciously denied, the alarm was such that many persons fled from the infected districts. Several physicians and priests were taken sick, and some of them died. Late in September a favorable change took place in the weather, which checked the further progress of the disease, and saved the city from further suffering. The disease confined itself to the places in which it originated, and did not spread over the hills. No case occurred in the upper part of the city which was not carried thither from one or other of the infected districts.

The entire number of deaths from the fever was 360. Small-pox, of a very malignant character, prevailed before the commencement and during the continuance of yellow fever, and proved nearly as fatal. The population of Baltimore at that time was about 18,000.

Philadelphia was also visited this year.

The following year, 1795, the disease prevailed to a limited extent in New York. It broke out in Water Street, in the neighborhood of some unfinished docks, which were full of all manner of vegetable and animal corruption.

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Across one of these a bulkhead had been built, in consequence of which a pool of stagnant water was inclosed and suffered to putrefy under a burning sun. There was much new ground in the same region, made up of dirt from the streets and cellars of the city. Fortunately the disease did not extend far from its place of origin.

The next year the unfavorable sanitary condition of the lower part of the city was increased. Numerous cart-loads of dirt, not only of the original soil but of the sweepings and refuse of the streets, were used to make new docks; and this perishable material lay putrefying under a burning sun. As early as June a horribly offensive odor arose from this decaying mass, and by July it had become so insupportable that the people who lived near were compelled to close up the windows which looked toward it. Yellow fever broke out here, and was peculiarly fatal among the market-men who frequented Whitehall, and the ferry-men from Staten Island and Jersey. Ships lying off these new docks also suffered severely with the same disease. The same section was visited again in 1797.

Baltimore suffered again in 1797. The fever began, late in August, on Fell's Point, to which it was entirely confined until after the launch of a frigate, on the 3d of September, at which many persons from the upper and healthier part of the city were present. Several who witnessed the launch were attacked with fever. The epidemic lasted till the 29th of October, and destroyed 545 lives, chiefly among a population of 2679 souls who remained on Fell's Point.

The year 1798 was characterized by an increase in the violence of this disease, and a widening of the sphere of its devastation throughout the country. It attacked Boston and many of the smaller New England towns, desolated Wilmington, Delaware, and raged terribly in New York and Philadelphia. The accounts we have of that summer indicate some remarkable meteorological phenomena. The weather was both hot and moist. The rains were frequent and heavy, so that in New York the cellars in the lower part of the city were inundated. These copious showers had but little effect in cooling or clearing the atmosphere, for the thermometer soon rose, the heat became more stifling in consequence of the dampness, and a fog hovered over the city nearly every morning. The iron railings rusted with unusual rapidity, and it was said that the pump-handles became corroded over night—that the leaves of the trees were spotted by the unwholesome mist, and that linen exposed to its action contracted indelible stains.

In addition to this, New York grossly violated the laws of health during that fatal summer. In different parts of the city spoiled provisions were stored. It having been observed that the mortality was considerable in the neighborhood of such nuisances, the authorities ordered an inspection of all the provisions in store, and the

removal of the tainted meats. By some strange oversight, the putrid pickle was emptied into the gutters—a piece of folly which was attended by a great increase of the disease, not only along the course of this poisonous current, but about the wharves into which it finally emptied, and throughout all those portions of the city to which the prevailing winds could carry the effluvia.

The population of New York, at that time, was about 54,000. Of these, it is said, two-thirds, vividly remembering how fearfully Philadelphia had been scourged, fled into the country—many of them leaving at the very commencement of the epidemic. Nevertheless 2086 persons fell victims to the remorseless fever.

In Boston, similar violations of hygienic laws were visited by a similar, though milder penalty. That city lost 145 of her inhabitants. Philadelphia suffered most. Forty thousand people are computed to have left. The deaths by the fever among those who remained reached the number of 3645.

In 1799 a few cases occurred in the Northern cities. Charleston suffered severely.

In 1800 Baltimore and Norfolk bore the heaviest brunt of the pestilence in the United States. We have already made a slight sketch of the topography of the former city, but some further description of localities is necessary to give the reader a clear idea of its sanitary condition. Jones's Falls, a stream varying greatly in depth, in accordance with the season, divides the eastern and western sections of the city. At its mouth there was, at that time, a land-locked expanse of water, known as the Cove, which extended well up into the Point. For several weeks before the outbreak of fever, the prevailing winds had blown so much water out of this confined pool that the bottom in many parts was bare, and the mud sent up horribly offensive gases. Not satisfied with the deadly emanations of the reeking mud, the residents on the margin of this infectious water used it as the receptacle of all the refuse of their houses. Dead animals and every variety of offal floated on the green and slimy surface, or lay half buried in the soft and oozy mud, exposed to the burning rays of the sun. So overpowering were these noisome effluvia, that men who were employed to fill its margin with earth, for the purpose of making new docks, were driven away by the stench. The floating impurities, unfortunately, could not get out, as the only breeze which could drive them through the narrow opening which communicated with the harbor failed, and the prevailing winds came from the south. The attempts which had been made to close up this pond by filling up new docks, only increased the mischief by the exposure of fresh earth to the action of the sun.

The neighborhood of the Cove soon became unhealthy, and it was rumored that a fever of unusual malignity was ravaging the dwellings in its immediate vicinity. The rumors were, however, contradicted; every effort was made to smother up the facts, and the inhabitants re-



covered from their alarm. At length, concealment being no longer possible, the Board of Health published a very guarded acknowledgment of the existence of fever of a graver character than ordinary, studiously suppressing the name of the disease, and at the same time informing the public that the Town (the western part of the city) was unusually healthy. This announcement was not made till the 22d of August, and three days afterward they commenced a daily report of deaths and of new cases. A hospital was opened, capable of accommodating 130 patients at a time, and it was soon filled.

Meanwhile, new distresses were added to those of the pestilence. The merchants on the Point soon took the alarm and fled, and the citizens west of Jones's Falls became so frightened that they suspended all intercourse with their diseased neighbors. The consequence was, that many poor men were thrown out of employment, and were unable either to get away from the city or to find the means of subsistence in it. The authorities, touched by their misfortunes, spared no pains to ameliorate their condition. The Mayor and Board of Health established a camp north of the hospital. Sixty wooden huts were erected, and into these the people from the most infected districts were removed. The plan was a good one, and its success was admirable. The citizens came forward and contributed liberally both provisions and money. The Mayor, in his annual Message, stated that from two to three thousand persons, who otherwise would have perished either by famine or by pestilence, were supported upon these contributions. In spite, however, of these commendable efforts, there was no little wretchedness in the city. The streets were full of beggars, who could not gain admission to the Alms House because the Trustees of that institution had fled, and could not be accommodated in camp because of its crowded condition.

On the 4th of September the health officers announced that some cases had originated west of the Falls; and by the 12th the flight of those who could escape became general. The newspapers of the time are full of various appeals to the absentees, the most urgent of which related to the necessity of leaving their fire-buckets in some accessible place if they wished to find their houses standing upon their return. By the middle of the month the pestilence had reached its height, and continued with little abatement till October. Then a favorable change taking place in the weather, a diminution of the number of deaths was observed, which induced many of the absentees to be guilty of the folly of too speedy a return, though cautioned by the Board of Health against such rashness. The consequence was a marked increase in the mortality from the fever—a re-kindling of the half-extinguished flame. On the 22d of October, the Board formally announced that all danger was over, very few new cases having occurred within the preceding ten days.

One of the most painful accompaniments of

the disease was the number of helpless creatures it threw upon the world. The health officers, in their rounds through the infected district, met with many houses in which the adults were all dead, and little children, from two to ten years of age, were wandering about the desolate abodes, and wailing for those who were forever deaf to their appeals. Fortunately, there appears to have been a peculiar tenderness and thoughtfulness in the men who at that time held municipal office. Their hearts were moved; they took a vacant school-house, fitted it up as a hospital, and employed a matron to take charge of the little orphans. Confident of success, they appealed to their fellow-citizens to assist them by donations of linen and other clothing, and met a generous response.

The population of Baltimore at that time was 26,114. Of these there died, during the two months of pestilence, 1197 of all diseases. The deaths by the fever were not published separately.

Other cities and towns in our country were visited during the same year, but none so severely as Baltimore and Norfolk. The disease also crossed the Atlantic, and fell upon Spain with great fury. Seville alone lost 21,000 of her inhabitants.

The disease continued to assail our sea-board cities till 1805, after which it bade farewell to our shores for a time. It is not necessary to give a minute description of its progress from place to place during the last five years of its first epoch of activity. We can not, however, pass over in silence its visit to Spain, in 1804. During that awful year not less than twenty-five Spanish cities and towns, with an aggregate population of 427,228, were attacked by this fever, which destroyed 52,559. Other accounts raise this mortality to 124,200.

In certain cities it was peculiarly fatal. Thus Carthagená lost 14,940. In Gibraltar, out of a population of 9000, 4864 died, and only 28 persons in all escaped an attack. Malaga was terribly desolated. After losing nearly 7000 by the same disease in 1803, the town was again attacked in 1804, and out of a population of 31,460, there perished, *in four weeks*, 11,486. A letter from that place, dated the 3d of December, 1804, increases this terrible mortality to 26,000, and says that only 7000 escaped.

This awful visitation left the place almost a desert, and it seemed that the pestilence wore itself out for want of victims. The people—pent up within the limits of the city, not allowed to seek safety in the surrounding country, such was the dread of the pestilence—abandoned themselves to despair. Famine was added to disease, for the farmers and gardeners about the town would carry no provisions to their perishing brethren. There were soon no physicians, no nurses, no magistrates. The sick tossed on their untended beds, and turned their pale faces to the wall to die alone. The well were almost frantic with fear. The panic extended to the rural districts, and desolation girdled the

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plague-smitten city. The grapes rotted on the vines for want of hands to gather them, and famine finished what pestilence had begun.

The whole frame of nature seemed disjointed during that mortal year. Earthquakes added their horrors to those of the other deadly visitors of the unhappy peninsula. There was mourning all over the land, for the census revealed the fact that the population of the kingdom had diminished one million during those fatal twelve months.