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CONTRIBUTIONS

TO THE

STUDY OF YELLOW FEVER.

A.—The Distribution and Natural History of Yellow Fever in the United States; with Chart showing Elevations of Localities where it has appeared from A. D. 1668 to A. D. 1874,

By J. M. TONER, M. D.

B.—The Yellow-Fever Epidemic of 1873; Reports from Medical Officers, U. S. Marine-Hospital Service, with Note by the Supervising Surgeon,

JOHN M. WOODWORTH, M. D.

WASHINGTON:
1874.

THE DISTRIBUTION AND NATURAL HISTORY OF YELLOW FEVER AS IT HAS OCCURRED AT DIFFERENT TIMES IN THE UNITED STATES.

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The map which accompanies this paper, and which indicates the region where yellow fever has prevailed, either in an epidemic or in a sporadic form since the settlement of our country, is made up from notes taken in the study of the geographical distribution of the diseases of the United States.*

No special opportunities for studying the disease in question are claimed, nor originality in the mode of presenting the facts. Nevertheless, the map is believed to be accurate as far as it goes, if the data derived from past and contemporary medical literature can be relied upon.

Nor is it pretended that this paper is exhaustive, localities not named having, no doubt, been visited by this fever; but we are confident such localities will be found within the region of its general distribution, as here indicated.

The table accompanying this paper, which furnishes mainly the data upon which the map is projected, gives the names of the cities and other localities where yellow fever has occurred in our country from its first settlement, arranged by States in alphabetical order, with the years and dates of its appearance and disappearance.

The elevation of each locality above the sea-level, as far as possible, has been given from reliable sources. In some instances the elevation of a place is assumed from a general knowledge of the altitude of the surrounding country. The errors in these, if any, will be unimportant.

The influence upon localities of elevation above the sea-level, with the exemption from yellow-fever they seem to thence possess, is the view we here wish to call to the attention of sanitarists and of the profession.

We are inclined to give much weight to the theory that diseases have geographical areas and limits, modified somewhat by topographical and climatic conditions, which determine the types of disease as do climate and elevation the fauna and flora of a locality.

The fact has always been patent to the profession, that there are parts of the earth in which particular forms of disease occur, to the almost entire exclusion of others. The study of the causes of this difference is

* The map herewith published is projected from a large one, 8 by 10 feet in size, for the execution of which Dr. Toner desires to express his indebtedness to the kindness of the Hon. Willis Drummond, Commissioner of the United States Land Office.—W.

as important as any that can engage the attention of the physician. As a simple factor elevation will, we apprehend, be found to possess qualities both preventive and curative.

We shall in this paper studiously avoid discussing the questions whether yellow fever is a specific disease or not; whether it is always imported; or whetherunder certain conditions it may originate within our own country.

Nor do we aim to speak as an expert, never having seen a case of yellow fever, but rather appear as a collator of facts in its history. At the present time the natural history of disease, if we may so use the term in describing the special characteristic distribution of diseases that exist in limited geographical areas, is attracting much attention. There can be no doubt that an accurate knowledge of the climate and other physical peculiarities, and of the prevailing meteorological conditions of a region, will greatly aid the sanitarist and physician in preventing sickness, and in treating successfully the diseases incident to a locality.

The more exact and extended this information becomes, the more definitely can physicians mark out the boundaries and the distribution of diseases over the globe, and suggest measures of relief.

The chief factors usually and most naturally taken into account in the study of the salubrity of a State, or even a city, are latitude, longitude, the extremes of heat and cold and mean annual temperature, the prevailing direction of the winds, the general humidity of the air, and the annual precipitation, drainage, etc.

These undoubtedly furnish most valuable information, but there is another important element, that of elevation, which has the power to intensify or counteract the influence of most of them.

The most insalubrious regions are, confessedly, the savannas and tide-water lands of the tropic and temperate zones. The impression is quite general that persons of the same nationality, living on mountains or high table-lands are more rugged and healthy, as a general rule, than their friends engaged in similar occupations on the low lands in the same latitude.

The accompanying map enables us, in a comprehensive way, to consider the question whether elevation has presented any barrier to the progress of yellow fever in the United States, by bringing all localities where it has prevailed, with their altitudes, before the eye at one time.

The fact will be patent to any one that the low lands of the Gulf States and the Atlantic coast, with the water-courses emptying into them, are the regions of its most frequent visitations in the United States.

The conceded home of yellow fever is in the West Indies and the Bahamas, with a portion of the adjacent continents of North and South America. A square formed by the forty-fifth and the one hundredth degrees of longitude, and the thirty-fifth north and the fifth south latitude, will include the favorite region of this disease.

Although originating within the square named, history shows that it may prevail on the sea-coast in any locality within the tropics, north and south of the equator, where malarial fevers prevail, and the daily average of the thermometer is over 75° or 80° with a high dew-point for weeks or months together.

If these latter conditions, however, were the only ones necessary to the development of this disease, it should prevail much more widely; for they exist, during parts of the summer at least, in almost all of our Atlantic cities, as may be seen by reference to the record of temperature as shown by the admirable isothermal maps in Lorin Blodgett's *Climatology*.

There are, no doubt, other climatic conditions essential to its origin, if not to its propagation and spread. Once the disease has become epidemic in a place, it can exist at a much lower average daily range of the thermometer than seems to be required for its development.

It is, however, always controlled in its severity and checked in its spread, or entirely arrested by storms, heavy rains, and, most effectually, by frost. This has been exemplified by the polar waves, or "northers," that occasionally blow from the Arctic regions down over Texas, and by long-continued rains.

Yellow fever does not prevail in the East Indies nor in China. It has appeared in most of the maritime cities of the United States on the Atlantic coast, as far north as Boston, and indeed has been chronicled at Quebec and Halifax. But while it is true that it has thus visited many of the cities and towns on the sea-coast, it has, fortunately, never extended far into the interior of our country.

In the United States, it seems to prevail in the large sea-ports and in localities along the navigable water-courses having their outlet in the Gulf of Mexico. Dr. Drake, many years ago, observed that while the disease had appeared at almost every town on the Mississippi, as far up as Vicksburg, that Woodville, twelve miles from the river, was the most remote inland point it had reached. During the late epidemic at Shreveport, a number of deaths occurred, according to the report of the Howard Association, at points outside the city limits—distances from the city not given. The places named are Caddo Parish, Marshall, Greenwood, and Summer Grove.

The same accurate observer (Dr. Drake,) remarks that yellow fever is eminently a disease of cities rather than of rural districts, and of villages rather than of scattered country dwellings. It has been shown that towns of small population are less liable to suffer than larger ones, and the same town within the yellow-fever zone, as its population increases, is more likely to suffer than when its population was less. Hence density of population, or proximity of numerous individuals approaching to crowding, is believed to be a factor of no small influence in the propagation and spread of the disease.

Its appearance in a locality is generally coincident with bilious intermittents, and the first cases are said always to occur near the water in the lowest and most insalubrious places.

It has been observed that its epidemical limits coincide with the range of the growth of the live-oak, the cypress, and the long mosses. Certainly the regions of our country most frequented by this disease are particularly low and flat, with numerous rivers and much marsh and swamp lands, as may be inferred from the localities and their elevations marked on the map. These low lands are to a considerable extent covered with the cypress, long-leaved pine, and other indigenous trees, with thick undergrowth when in an unredeemed or natural state. The northern limit of the growth of the cypress is not much north of Norfolk.

Yellow fever has been considered by nearly all writers a distinct disease from the autumnal remittent fevers of the temperate zone. All agree that it is indigenous at Vera Cruz on the Gulf of Mexico. When we examine into the climatic conditions of this locality, nothing special or satisfactory as an explanation of the peculiarities and origin of the disease has been discovered.

Protracted average high temperature is a constant factor there, but this of itself is deemed insufficient. The time has, perhaps, not come, if it ever does, for the discovery of all the elements entering into its development.

No doubt there are numerous undiscovered factors and conditions, essential to its existence and present in varying intensity, in different years, and which greatly add to its rapid spread and virulence. The mortality from the disease at the same place is much greater in some seasons when the conditions of heat and moisture are apparently the same. Again, extreme heat and dryness stop the epidemic, as do heavy and protracted rains.

As we have already stated, the conditions of long-continued heat, averaging over 75° throughout the twenty-four hours, and great humidity exist almost constantly during the summer in the Gulf States. Occasionally during the summer season, for months together, this condition of high temperature, but with less moisture, may exist in many of the coast cities of our country, as far north as Boston, and yet rarely ever are these cities visited by this disease in an epidemic form.

Is the exemption of these more northern coast cities due alone to climatic conditions, or are they in part exempted by sanitary and quarantine regulations? Yellow fever is almost annually reported on vessels at the quarantine stations, where it is fortunately arrested and prevented from entering the cities. In the table of the localities where the disease has prevailed, no distinction has been made between the city proper and the quarantine stations which, in a more careful study, should be made.

The average annual distribution of moisture throughout our country is made manifest by a glance at Chas. A. Schott's Tables and Results of

the Precipitation in Rain and Snow, published in 1872 by the Smithsonian Institution, a most valuable contribution to knowledge in this direction. The humidity in the atmosphere is relative to the season, and, as is well known, the absolute humidity is greater in the summer than in the winter, warm air having a greater capacity to contain moisture than cold air, as the following table from Professor Guyot will show. This table expresses, in troy grains, the weight of vapor contained in a cubic foot of saturated air at the stated temperatures of Fahrenheit:

Temperature of air.	Vapor in grains.	Temperature of air.	Vapor in grains.	Temperature of air.	Vapor in grains.
0°	0.545	63°	6.361	80°	10.949
5	0.678	64	6.575	81	11.291
10	0.841	65	6.795	82	11.643
20	1.298	66	7.021	83	12.005
30	1.968	67	7.253	84	12.376
32	2.126	68	7.493	85	12.756
40	2.862	69	7.739	86	13.146
45	3.426	70	7.992	87	13.546
50	4.089	71	8.252	88	13.957
55	4.860	72	8.521	89	14.378
56	5.028	73	8.797	90	14.810
57	5.202	74	9.081	91	15.254
58	5.381	75	9.372	92	15.709
59	5.566	76	9.670	93	16.176
60	5.756	77	9.977	94	16.654
61	5.952	78	10.292	95	17.145
62	6.154	79	10.616	96	17.648

To see how far the conditions of a higher than ordinary average of temperature and a greater degree of humidity may have existed in Memphis and Shreveport during the prevalence of the epidemic of the past summer, we have been enabled, through the courtesy of General Myer, to tabulate the returns, nearly complete, made from Memphis to the United States Signal Bureau for the months of August, September, October, and November, 1872 and 1873. The former year, being healthy at this place, is included for the purpose of contrast. The meteorological tables for Shreveport are compiled from the observations furnished by Dr. J. L. Moore, of Shreveport, the regular observer for the Smithsonian Institution at that point. In addition to the ordinary observations, Dr. Moore gives the daily number of deaths occurring from yellow fever, which, for convenience, is placed in a parallel column on the side of the meteorological table, and on the line of the other daily observations. For Shreveport we are not able to give the observations in 1872 for contrast:

TABLE SHOWING THE METEOROLOGICAL CONDITIONS OBSERVED AT SHREVEPORT, LA., DURING THE YELLOW-FEVER EPIDEMIC OF 1873.

Compiled from the Register of Meteorological Observations under the direction of the Smithsonian Institution, J. L. Moore, M. D., Observer, to which is added the daily Number of Deaths from Yellow Fever.

SHREVEPORT: County of Caddo, State of Louisiana; latitude, 32° 30′ north; longitude, 93° 45′ west; height above the sea-level, 228.52 feet.]

Day of month.	Thermometer in the open air.				Rain-fall, inches.	Amount of cloudiness.			Winds.*						Barometer reduced to freezing point.	Relative humidity or fraction of saturation.†			Deaths from yellow fever.
						7 a. m.			7 a. m.		2 p. m.		9 p. m.						
	7 a. m.	2 p. m.	9 p. m.	Mean.		7 a. m.	2 p. m.	9 p. m.	Direction.	Force.	Direction.	Force.	Direction.	Force.	Mean.	7 a. m.	2 p. m.	9 p. m.	
Aug. 1	79	88	81	82⅔	....	4-4	1-2	3-4	S.W.	5	S.	5	0	0	30.111	.86	.55	.83	..
2	80	89	84	84⅓	....	1-4	4-4	0	S.W.	6	0	0	0	0	30.068	.82	.53	.79	..
3	80	90	85	85	.01	1-2	3-4	1-4	S.W.	7	N. W.	5	N.	1	30.083	.82	.53	.79	..
4	80	80	79	79⅔	.40	3-4	4-4	1-4	E.	6	N. E.	12	0	0	30.132	.78	.78	.87	..
5	74	84	78	78⅔	....	3-4	3-4	0	N. E.	8	N. E.	7	N. E.	5	30.135	.76	.53	.69	..
6	74	87	81	80⅔	....	1-4	1-2	1-4	N. E.	6	N. E.	7	N.	5	30.065	.72	.45	.70	..
7	80	81	80	80⅓	....	4-4	4-4	1-2	0	0	E.	5	0	0	29.996	.78	.55	.82	..
8	78	88	77	81	.13	0	4-4	3-4	S. E.	1	0	0	E.	2	29.994	.73	.52	.77	..
9	77	87	81	81⅔	.11	1-4	3-4	3-4	E.	5	E.	7	E.	1	30.055	.82	.55	.78	..
10	76	87	80	81	....	4-4	3-4	4-4	E.	2	E.	8	E.	1	30.102	.91	.58	.82	..
11	81	90	83	84⅔	....	1-2	3-4	0	N. E.	4	S. E.	8	N.	4	30.031	.78	.60	.71	..
12	82	91	81	84⅔	....	3-4	3-4	4-4	N.	2	E.	5	E.	4	30.038	.79	.57	.78	..
13	78	91	85	84⅔	....	3-4	3-4	1-2	S.W.	6	S.W.	7	S.W.	2	30.014	.86	.54	.72	..
14	80	90	76	82	.60	3-4	3-4	1-2	0	0	S.W.	7	0	0	29.971	.82	.56	.91	..
15	76	91	77	81⅓	.24	3-4	3-4	4-4	N.	4	N.	2	S. E.	8	29.895	.91	.60	.91	..
16	75	85	79	79⅔	....	4-4	4-4	3-4	N. E.	4	N. E.	4	0	0	29.939	.90	.68	.87	..
17	76	82	79	79	.05	4-4	4-4	1-2	N.	8	N.	5	N. E.	5	29.997	.91	.83	.78	..
18	78	85	79	80⅔	....	1-2	1-4	0	N. E.	5	N. E.	6	0	0	30.062	.69	.41	.70	..
19	77	85	79	80⅓	....	1-4	1-2	1-4	N. E.	1	E.	4	0	0	30.043	.69	.44	.66	..
20	76	85	81	80⅔	....	3-4	1-2	1-4	E.	1	S. E.	4	S. E.	4	29.961	.73	.47	.67	2
21	76	82	79	79	....	1-4	1-4	0	S.W.	1	N.	7	E.	2	29.969	.77	.83	.78	1
22	79	86	79	81⅓	....	1-2	3-4	0	0	0	E.	7	N. E.	2	30.029	.74	.48	.74	4
23	76	86	79	80⅓	....	3-4	3-4	0	E.	2	E.	5	0	0	30.076	.82	.58	.82	..
24	81	88	84	84⅓	....	0	1-2	1-4	S.	2	N. W.	5	0	0	30.107	.70	.49	.75	2
25	81	90	83	84⅔	....	0	1-2	1-2	S.	1	N. E.	4	0	0	30.037	.74	.50	.75	2
26	79	90	77	82	....	3-4	3-4	3-4	W.	6	N.	4	S.W.	2	30.020	.78	.53	.82	1
27	78	91	86	85	....	0	1-2	0	S.W.	1	N. E.	1	0	0	30.016	.78	.51	.68	3
28	78	91	81	83⅓	....	1-4	1-4	1-4	W.	4	N. W.	2	S. E.	2	30.053	.73	.54	.70	4
29	79	84	80	83	.05	0	3-4	0	S.W.	1	0	0	S. E.	4	30.118	.74	.68	.87	4
30	80	91	84	85	....	0	1-2	0	S.	2	S.	5	S.W.	6	30.175	.82	.48	.64	2
31	80	89	82	83⅔	....	0	1-2	1-4	0	0	0	0	S. E.	1	30.133	.74	.50	.71	4

REMARKS.—Normal summer-heat for this latitude prevailed during the month; mean temperature 82°.56; highest at 2 p. m., 91° on the 12th, 13th, 15th, 27th, 28th, and 30th; lowest, 80° on the 4th. Force of wind remarkably uniform and moderate, scarcely rising at any time above the degree of "gentle." *Yellow fever:* The first death from yellow fever in Shreveport this summer was observed on the 20th day of August, which date proved the beginning of the epidemic of 1873. Total deaths from the disease during the month, 29.

* The force is estimated and registered by figures from 1 to 10, as in the first column of the following table. The figures in the last column, expressing the number of miles per hour, are used in the above.

1. Very light breeze	2 miles per hour.	6. Gale	45 miles per hour.
2. Gentle breeze	4 do.	7. Strong gale	60 do.
3. Fresh breeze	12 do.	8. Violent gale	75 do.
4. Strong wind	25 do.	9. Hurricane	90 do.
5. High wind	35 do.	10. Most violent hurricane	100 do.

† The numbers under the head of "Relative humidity" denote the percentage of saturation; full saturation being indicated by 1, and half saturation by 0.5.

Table showing the Meteorological Conditions observed at Shreveport, La., during the Yellow-Fever Epidemic of 1873—Continued.

Day of month.	Thermometer in the open air.				Rain-fall, inches.	Amount of cloudiness.			Winds.						Barometer reduced to freezing-point.	Relative humidity or fraction of saturation.			Deaths from yellow fever.
									7 a. m.		2 p. m.		9 p. m.						
	7 a. m.	2 p. m.	9 p. m.	Mean.		7 a. m.	2 p. m.	9 p. m.	Direction.	Force.	Direction.	Force.	Direction.	Force.	Mean.	7 a. m.	2 p. m.	9 p. m.	
Sept. 1	79	86	83	82⅝	....	0	3-4	1-4	S. W.	4	S.	5	0	0	30.071	.78	.58	.71	6
2	78	91	81	83½	....	1-2	1-2	4-4	S.	7	S.	7	S.	7	30.042	.82	.45	.70	5
3	79	98	83	84⅜	....	3-4	3-4	1-4	S. W.	6	S. W.	10	S.	4	30.022	.82	.45	.60	5
4	78	92	82	84	....	3-4	1-2	0	S. W.	5	S.	7	S.	4	30.052	.82	.43	.63	2
5	79	91	85	85	....	1-4	1-4	1-2	S. W.	2	N. W.	5	0	0	30.127	.82	.36	.64	4
6	77	91	79	82½	....	3-4	1-2	3-4	N.	1	N. E.	6	N.	14	30.167	.77	.45	.71	7
7	74	83	72	76⅓	.01	1-2	3-4	3-4	N.	7	N.	12	N. E.	8	30.214	.76	.67	.71	10
8	68	79	71	72⅝	....	1-2	1-2	1-4	N. E.	8	E.	10	N. E.	4	30.178	.70	.58	.62	11
9	67	85	77	76⅓	....	1-4	3-4	3-4	N. E.	5	N. E.	5	0	0	30.074	.69	.51	.73	8
10	75	87	79	80⅓	....	1-2	1-2	1-4	N. E.	1	N. E.	4	S. E.	2	30.065	.77	.69	.70	15
11	77	87	81	81⅝	....	1-4	1-2	1-2	N. E.	1	E.	4	S. E.	4	30.050	.73	.65	.59	18
12	77	76	73	75⅓	....	4-4	4-4	4-4	0	0	S. E.	6	S. E.	5	29.999	.75	.82	.90	15
13	69	76	70	71⅝	1.56	4-4	1-4	0	S. W.	1	N. E.	1	N. E.	10	30.076	.90	.64	.80	26
14	61	69	64	64⅔	.06	0	0	0	N. E.	7	N. E.	7	N. E.	4	30.140	.71	.56	.78	24
15	64	81	69	71⅓	....	0	0	0	N. E.	2	S. E.	4	E.	1	30.121	.68	.41	.85	31
16	67	83	73	74⅓	....	0	1-4	0	E.	2	E.	6	0	0	30.107	.74	.30	.67	24
17	69	85	74	76	....	0	1-4	0	0	0	E.	2	0	0	29.978	.70	.41	.76	18
18	70	87	79	78⅓	....	0	1-4	0	E.	1	N. E	1	0	0	29.899	.80	.45	.74	19
19	75	87	72	78	....	0	1-2	0	N. E.	2	N. E.	1	N. E.	8	29.939	.72	.49	.76	16
20	63	77	69	69⅜	....	0	1-4	0	N. E.	6	E.	7	N. E.	4	30.028	.62	.46	.56	14
21	63	80	69	70⅓	.01	3-4	3-4	0	E.	4	E.	7	N. E.	6	30.021	.67	.51	.75	15
22	65	71	68	68	.05	4-4	1-2	1-4	0	0	N. E.	10	N. E.	2	30.002	.78	.85	.95	18
23	66	78	68	70⅜	....	0	3-4	0	N. E.	5	N.	7	N.	5	29.970	.89	.54	.84	11
24	62	85	74	73⅓	....	0	1-2	0	S. E.	2	S. W.	8	S.	8	29.866	1.00	.47	.76	10
25	70	87	75	77⅓	....	0	1-2	0	S.	4	S. E.	4	S. E.	2	29.935	1.00	.62	.77	14
26	73	83	76	77⅓	....	1-4	3-4	4-4	S. E.	6	S.	5	S. E.	5	29.988	.85	.83	.82	15
27	75	82	74	77	.48	4-4	4-4	1-2	S. E.	10	S. E.	4	S. E.	5	29.981	.90	.75	1.00	20
28	77	87	80	81½	....	3-4	1-2	1-2	S. E.	2	S.	4	S.	6	29.928	.91	.62	.82	11
29	72	76	69	72⅝	.12	4-4	4-4	4-4	N. E.	13	N. W.	6	N. E.	13	30.066	.95	.82	.95	7
30	64	74	64	67⅓	....	4-4	1-4	0	N. E.	7	N. E.	6	N. E.	7	30.146	.73	.76	.73	7

REMARKS.—Extremes of temperature during this month: Highest at 2 p. m., 92°, on the 4th; lowest, 61°, on the 14th; mean for the month, 76°.14. Humidity appears much greater than last September. Wind variable in force and direction. *Yellow fever:* Heavy mortality from yellow fever during this month, proving most fatal about the middle of the month, averaging seventy-five per cent. Total deaths from the disease, 406.

Table showing the Meteorological Conditions observed at Shreveport, La., during the Yellow-Fever Epidemic of 1873—Continued.

Day of month.		Thermometer in the open air.				Rain-fall, inches.	Amount of cloudiness.			Winds.						Barometer reduced to freezing-point.	Relative humidity or fraction of saturation.			Deaths from yellow fever.
										7 a. m.		2 p. m.		9 p. m.						
		7 a. m.	2 p. m.	9 p. m.	Mean.		7 a. m.	2 p. m.	9 p. m.	Direction.	Force.	Direction.	Force.	Direction.	Force.	Mean.	7 a. m.	2 p. m.	9 p. m.	
Oct.	1	61	75	67	67⅔	....	0	2-4	1-2	N. E.	5	N.	5	N. E.	7	30.083	.55	.44	.69	8
	2	65	79	71	71⅝	....	3-4	0	0	N. E.	2	N. W.	2	N. W.	1	30.090	.73	.43	.80	11
	3	69	84	77	76¾	....	0	1-2	0	N. E.	2	E.	2	S. E.	1	30.028	.75	.54	.69	16
	4	73	88	80	80⅓	....	0	1-2	0	S.	1	W.	5	0	0	29.953	.72	.40	.70	7
	5	74	88	80	80⅔	....	0	3-4	1-4	0	0	N. W.	2	0	0	29.915	.72	.43	.70	11
	6	61	66	57	61¼	....	1-4	0	0	N.	18	N. E.	14	N.	10	30.137	.61	.32	.47	12
	7	54	64	59	59	....	0	0	0	N.	4	N.	5	0	0	30.136	.55	.34	.70	6
	8	54	68	63	61⅔	....	3-4	3-4	0	0	0	E.	6	S. E.	2	30.116	.74	.56	.67	12
	9	55	77	69	67	....	0	1-2	1-2	S. E.	1	S. E.	7	S. E.	2	30.129	.81	.61	.75	10
	10	64	79	69	70⅝	....	0	3-4	0	0	0	E.	5	0	0	30.178	.78	.47	.75	2
	11	65	87	75	75⅔	....	4-4	1-2	0	0	0	N. W.	8	0	0	30.184	.78	.45	.68	3
	12	66	74	65	68⅓	....	0	0	0	0	0	N. E.	10	N. E.	1	30.217	.54	.29	.49	8
	13	57	73	61	63⅝	....	0	0	0	N. E.	1	E.	2	E.	5	30.163	.63	.24	.71	7
	14	56	74	65	65	....	0	0	0	0	0	E.	10	S. E.	4	30.186	.69	.36	.68	7
	15	62	79	73	71⅓	....	3-4	1-2	1-4	S. E.	1	S. E	10	S. E.	4	30.277	.72	.51	.63	8
	16	70	77	73	73⅓	.05	4-4	4-4	1-2	S. E.	2	S.	4	S. E.	1	30.190	.90	.77	.81	5
	17	69	80	75	74⅔	.01	1-2	3-4	4-4	S. E.	4	S. W.	8	S. E.	8	30.040	.80	.87	.78	7
	18	67	70	59	65⅓	1.17	4-4	1-2	1-4	N.	12	N.	8	N.	14	30.106	.95	.53	.70	2
	19	50	60	52	54	....	0	0	0	N.	5	N.	18	N. W.	2	30.253	.65	.29	.60	7
	20	46	70	56	57⅓	....	0	0	0	W.	2	N. W.	7	N. E.	2	30.073	.77	.36	.81	5
	21	49	71	65	61⅔	....	0	1-2	0	S. E.	2	S.	18	S.	7	29.860	.78	.49	.63	3
	22	63	68	50	60⅓	1.00	4-4	4-4	4-4	S. E.	2	S. W.	13	N. W	7	29.969	.89	.95	1.00	4
	23	41	49	47	45⅔	1.06	4-1	0	0	N.	8	N. E.	8	N. E.	4	30.193	.91	.93	.85	6
	24	39	53	48	46⅔	.01	1-4	1-4	4-4	N. E.	4	S. E.	4	E.	6	30.246	.91	.80	1.00	3
	25	48	62	63	57⅝	.85	4-4	4-4	4-4	E.	5	S. E.	4	S. E.	4	30.133	1.00	.83	.94	2
	26	68	78	61	69	....	4-4	4-4	4-4	S.	5	S. W.	5	N. W.	12	29.936	1.00	.91	.77	5
	27	45	60	54	53	....	3-4	1-4	0	N. W.	4	N.	5	S. W.	4	30.088	.84	.39	.61	5
	28	37	47	40	41⅓	....	0	0	0	N.	7	N. W.	19	N. W.	8	30.454	.62	.28	.56	4
	29	33	55	47	45	....	0	0	0	.....	....	S. W.	2	S.	4	30.376	.89	.62	.48	3
	30	42	67	53	54	....	0	0	0	S. W.	4	W.	10	N.	1	30.170	.74	.60	.80	3
	31	45	57	47	49⅔	....	0	0	0	N.	8	N. E.	10	N. E.	4	30.341	.61	.31	.62	4

REMARKS.—Extremes of temperature: Highest at 2 p. m., 88°, on the 4th; lowest, 47°, on the 28th; mean for the month, 62°.68. Variable winds; fluctuating barometer; thunder-storm on the 26th of the month; greatest force of the wind sixty miles an hour. *Yellow fever:* An abatement of the yellow fever, as shown by mortality, was noticed about the middle of September and continued through this month, making a difference of 210 in deaths. Total deaths from yellow fever for November, 196.

Table showing the Meteorological Conditions observed at Shreveport, La., during the Yellow-Fever Epidemic of 1873—Continued.

Day of month.	Thermometer in the open air.				Rain fall, inches.	Amount of cloudiness.			Winds.						Barometer reduced to freezing-point.	Relative humidity or fraction of saturation.			Deaths from yellow fever.
									7 a. m.		2 p. m.		9 p. m.						
	7 a. m.	2 p. m.	9 p. m.	Mean.		7 a. m.	2 p. m.	9 p. m.	Direction.	Force.	Direction.	Force.	Direction.	Force.	Mean.	7 a. m.	2 p. m.	9 p. m.	
Nov. 1	44	66	58	56	....	1-2	3-4	4 4	E.	4	S.	5	S. E.	1	30. 313	. 60	. 59	. 70	1
2	53	56	58	55⅝	1. 18	3.4	4-4	4 4	N. E.	5	S. E.	2	N.	6	30. 162	. 80	1. 00	1. 00	..
3	54	57	54	55	. 28	4-4	4-4	4-4	N. E.	7	N. E.	5	N. E.	6	30. 182	1. 00	. 87	. 93	2
4	54	60	58	57⅛	. 32	4-4	4-4	4-4	N. E.	6	N. W.	2	N. W.	2	30. 074	1. 00	. 88	. 94	1
5	56	60	58	58	. 07	4-4	4-4	4-4	N.	4	0	0	N.	4	30. 106	1. 00	. 88	. 94	1
6	55	68	61	61½	....	3-4	3-4	0	N. W.	6	N.	2	0	0	30. 042	. 93	. 65	. 88	2
7	51	73	62	62	....	0	0	0	W.	2	S. W.	6	W.	2	30. 016	1. 00	. 46	. 77	..
8	55	71	56	60⅔	....	0	0	0	N.	4	N.	1	N.	4	30. 230	. 80	. 37	. 81	2
9	47	74	60	60⅓	....	0	0	0	0	0	W.	2	0	0	30. 224	. 92	. 29	. 65	..
10	51	78	66	65	....	0	0	0	0	0	W.	5	S.	8	30. 116	. 86	. 29	. 50	1
11	56	79	62	65⅔	....	1-4	0	0	S. W.	7	S. W.	8	N. W.	4	30. 000	. 69	. 35	. 46	..
12	47	54	48	49⅔	....	1-4	0	0	N.	18	N. W.	16	N. W.	4	30. 271	. 48	. 32	. 36	..
13	35	59	50	48	....	0	0	0	0	0	S. W.	4	S. W.	7	30. 179	. 70	. 47	. 80	..
14	42	67	58	55⅔	....	1-4	3-4	3-4	S.	2	S.	1	S.	4	30. 171	. 74	. 33	. 58	..
15	55	69	64	62⅔	....	3-4	4-4	4-4	S.	4	S. W.	6	S.	6	30. 135	. 87	. 65	. 83	..
16	65	74	66	68⅓	....	4-4	1-2	0	S. W.	5	S. W.	8	N. W.	30	29. 966	. 99	. 59	. 19	..
17	51	73	68	64	....	1-2	0	1-4	N. W.	6	N. W.	20	S. W.	4	29. 623	. 52	. 17	. 22	..
18	53	58	48	53	....	3-4	0	3-4	N. W.	¾	N. W.	30	N.	20	30. 033	. 67	. 26	. 51	..
19	54	53	58	55	....	0	0	0	N. W.	1	N. W.	13	0	0	30. 271	. 45	. 24	. 64	..
20	35	60	53	49⅓	. 05	0	3-4	4-4	S. E.	2	S.	5	S.	4	30. 179	. 70	. 20	. 73	..
21	49	64	61	58	8. 50	4-4	3 4	4-4	E.	2	S. E.	2	S. E.	6	30. 135	. 92	. 67	. 77	..
22	60	66	64	63⅓	3. 85	4-4	4-4	4-4	S. E.	4	S. E.	2	N. E.	2	29. 853	. 94	. 84	1. 00	..
23	62	62	59	61	....	4-4	4-4	4-4	N. E.	10	E.	11	N.	4	29. 808	. 88	. 94	. 94	..
24	47	50	48	48⅓	....	4-4	4-4	0	N.	11	N. W.	5	W.	4	30. 119	. 92	. 72	. 85	..
25	66	63	55	61⅓	....	1-4	3-4	1-2	W.	4	N. W.	11	0	0	30. 168	. 69	. 33	. 50	..
26	45	63	55	54⅓	....	3-4	3-4	1-2	S. E.	2	S.	6	S.	12	29. 930	. 76	. 47	. 68	..
27	52	63	57	57⅓	....	4-4	1-2	4-4	S.	5	S.	1	0	0	29. 985	1. 00	. 67	. 81	..
28	45	46	45	45⅓	....	4-4	4-4	4-4	N. E.	11	N. E.	5	E.	4	30. 345	. 53	. 47	. 53	..
29	40	59	53	50⅔	....	4-4	0	1-2	E.	0	S. E.	4	S. E.	2	30. 355	1. 00	. 48	. 73	..
30	51	70	63	61⅓	....	0	4-4	1-4	S.	6	S.	6	S.	8	30. 275	1. 00	. 61	. 78	..

REMARKS.—Mean temperature for the month, 57.45°: highest at 2 p. m., 79°, on the 11th; lowest, 46°, on the 28th; first frost, night of the 12th and 13th. *Yellow fever:* Yellow fever continued to abate, until the 10th of the month, when the last death occurred: total deaths from yellow fever for the month, 10.

TABLE OF THE METEOROLOGICAL CONDITIONS OBSERVED AT MEMPHIS, TENN.

Compiled from the Reports of the Signal-Service, U. S. A., for Comparison

[MEMPHIS: County of Shelby, State of Tennessee; latitude 35° 07′ north;

1872.	Thermometer.				Rain-fall, inches.	Amount of cloudiness.*						Wind.						Barometer.†	Humidity, per cent.		
						7.35 a.m.		4.35 p.m.		11 p. m.		7.35 a.m.		4.35 p.m.		11 p. m					
Aug.	7.35 a. m.	4.35 p. m.	11 p. m.	Mean.		Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Direction.	Velocity.	Direction.	Velocity.	Direction.	Velocity.	Mean.	7 a. m.	2 p. m.	9 p. m.
1	72	89	...	80. 50	....	0	2-4	0	2-4	.....	.....	N. W.	6	N. W.	4	.....	..	30. 07	.85	.56	....
2	76	85	77	79. 66	....	0	1-4	0	1-4	2-4	0	N. E.	5	N. W.	11	N. W.	2	30. 09	.72	.46	.64
3	73	81	70	74. 66	....	0	0	0	1-4	0	0	N. E.	4	N. W.	14	N. E.	4	30. 11	.71	.44	.65
4	...	82	71	76. 50	....	.....	....	0	2-4	0	0	.....	..	N. W.	10	N. E.	6	30. 16	....	.45	.70
5	69	70	90	76. 33	....	0	1-4	0	1-4	0	0	N.	4	N.	6	N.	4	30. 15	.70	.50	.76
6	74	88	78	80. 00	....	0	0	0	2-4	0	0	N. E.	..	N. E.	4	N. E.	..	30. 14	.76	.52	.77
7	78	90	85	84. 33	....	0	1-4	0	2-4	1-4	0	N. E.	..	N. E.	..	N. E.	..	30. 11	.73	.47	.77
8	80	88	78	82. 00	....	1-4	0	0	2-4	0	0	S. E.	..	E.	..	S. W.	0	30. 10	.74	.55	.77
9	78	94	75	82. 33	....	0	1-4	0	1-4	4-4	....	S. E.	..	S. E.	..	E.	..	30. 10	.77	.40	.81
10	77	90	80	82. 33	....	0	2-4	0	....	1-4	0	0	0	S. W.	..	0	0	30. 05	.73	.44	.78
11	80	93	83	85. 33	....	0	0	0	2-4	1-4	0	S. E.	..	S. E.	..	S. E.	0	30. 05	.78	.48	.71
12	84	78	76	78. 33	....	1-4	0	2-4	1-4	3-4	0	S. W.	..	S. E.	..	0	0	30. 06	.78	.77	.81
13	77	85	79	80. 33	....	0	1-4	2-4	1-4	1-4	2-4	S. E.	..	N. W.	..	W.	..	30. 06	.81	.68	.38
14	79	88	79	82. 00	....	0	2-4	0	1-4	0	0	W.	10	N. W.	..	N. E.	..	30. 02	.82	.46	.74
15	75	85	76	78. 66	....	0	0	0	4-4	0	0	N.	..	N. W.	..	N. W.	..	30. 07	.68	.41	.81
16	74	88	77	79. 66	....	0	0	0	2-4	0	0	0	0	N. W.	..	0	0	30. 05	.81	.37	.64
17	75	91	78	81. 33	....	0	0	0	1-4	0	0	S. W.	1	S. E.	4	0	0	30. 07	.68	.36	.69
18	78	92	80	83. 33	....	0	1-4	0	1-4	0	0	S. E.	1	N. E.	5	0	0	30. 12	.65	.37	.70
19	78	93	82	84. 33	....	0	0	0	1-4	0	0	S.	1	S. E.	4	S. E.	4	30. 18	.77	.40	.66
20	80	93	82	85. 00	....	0	0	0	2-4	0	0	0	0	E.	2	0	0	30. 20	.70	.43	.70
21	84	93	83	85. 66	....	0	0	0	2-4	1-4	0	0	0	0	0	0	0	30. 22	.70	.43	.75
22	80	94	84	86. 00	....	S.	2-4	0	1-4	0	1-4	0	0	N. W.	4	0	0	30. 17	.78	.40	.67
23	82	94	82	86. 00	....	0	0	0	2-4	1-4	1-4	0	0	0	0	N. E.	1	30. 03	.74	.40	.59
24	78	96	84	86. 00	....	0	0	0	1-4	1-4	0	N. E.	1	S. W.	5	S. W.	7	29. 96	.69	.39	.64
25	83	98	87	89. 33	....	0	1-4	0	1-4	1-4	0	0	0	N. W.	4	0	0	30. 02	.67	.38	.65
26	82	97	84	89. 33	....	0	1-4	1-4	4-4	2-4	0	S. E.	1	N. E.	4	S.	1	30. 06	.70	.37	.64
27	80	93	82	85. 00	.54	0	2-4	1-4	2-4	1-4	0	S.	1	W.	4	0	0	30. 02	.78	.48	.74
28	80	95	84	86. 33	....	S.	1-4	0	1-4	1-4	0	S.	1	W.	6	S. W.	2	29. 97	.78	.44	.71
29	79	87	64	76. 66	....	0	2-4	0	2-4	2-4	0	N. W.	4	N. W.	12	N. E.	8	29. 99	.77	.58	.67
30	68	80	66	74. 33	....	0	1-4	0	1-4	1-4	0	N.	6	N. E.	10	N. E.	4	30. 08	.74	.30	.58
31	62	78	66	68. 66	....	1-4	2-4	0	1-4	1-4	0	N. E.	4	N. E.	8	N. E.	4	30. 09	.66	.29	.58
Sept.																					
1	60	83	69	70. 66	....	0	0	0	0	0	0	N. E.	3	N. E.	6	N.	4	30. 17	.59	.21	.65
2	64	85	73	74. 00	....	0	0	0	1-4	1-4	0	E.	1	N. W.	8	N.	1	30. 16	.67	.32	.58
3	65	87	75	75. 66	....	0	0	0	1-4	1-4	0	E.	1	N. W.	6	0	0	30. 10	.73	.27	.63
4	69	89	75	77. 66	....	0	1-4	0	0	0	0	0	0	S. W.	8	0	0	30. 01	.84	.32	.59
5	69	91	79	79. 66	....	S.	H.	S.	H.	0	0	S. W.	1	S. W.	10	S.	4	29. 96	.70	.39	.78
6	74	92	79	81. 66	....	0	0	0	2-4	0	0	S.	5	S. W.	9	S.	3	30. 01	.67	.37	.58
7	75	93	82	83. 33	....	1-4	0	0	1-4	0	0	S.	1	S.	6	S. W.	1	30. 04	.68	.40	.59
8	76	93	80	83. 00	....	0	0	0	1-4	0	0	S.	2	S. W.	10	S.	3	29. 99	.68	.40	.62
9	76	89	76	80. 33	....	0	1-4	0	2-4	0	0	S.	4	S. W.	7	S.	2	30. 02	.68	.46	.68
10	71	91	84	81. 00	....	S.	0	0	1-4	1-4	1-4	0	0	W.	4	S. E.	6	30. 02	.71	.36	.67
11	76	....	....	76. 00	1. 10	0	2-4	.....	.....	.....	.....	N.	1	.....	.....	.....	.....	30. 02	.72	.....	....
12	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....
13	59	74	65	66. 00	....	0	0	0	0	0	0	N. W.	5	N. W.	10	N.	4	30. 20	.87	.39	.63
14	60	75	65	66. 66	....	0	0	0	0	0	0	N.	4	W.	12	N. W.	4	30. 20	.70	.36	.63
15	60	77	66	67. 66	....	0	0	0	0	0	0	0	0	W.	8	N.	1	30. 13	.70	.41	.63
16	60	79	71	70. 00	....	S.	0	0	2-4	0	2-4	N. W.	1	N. W.	8	N.	8	30. 07	.82	.40	.66
17	60	77	65	67. 33	....	0	1-4	0	0	0	0	N. E.	1	N. E.	6	0	0	30. 08	.65	.31	.63
18	58	84	75	72. 33	....	S.	1-4	0	0	0	0	0	0	S. W.	5	S. W.	6	29. 98	.77	.40	.63
19	61	74	61	65. 33	....	0	0	0	0	0	0	N.	5	N. E.	4	N. E.	2	30. 11	.60	.32	.65
20	58	86	77	73. 66	....	H.	2-4	0	2-4	0	0	S. E.	6	S. W.	6	S.	1	30. 07	.64	.41	.77
21	72	89	79	80. 00	....	H.	H.	0	H.	0	0	0	0	S. W.	6	S.	2	30. 05	.71	.40	.61
22	72	89	79	80. 00	....	2-4	1-4	0	2-4	1-4	2-0	S.	4	S. W.	8	S. E.	6	30. 06	.75	.46	.58
23	70	87	76	77. 66	....	1-0	2-4	0	2-4	1-4	2-0	S.	5	S.	8	S.	2	30. 03	.79	.42	.64
24	75	87	83	81. 66	....	2-4	1-4	2-0	2-4	0	4-4	S.	8	S.	12	S.	12	29. 95	....	.....	....
25	61	70	60	63. 66	1. 88	4-4	0	4-4	....	4-4	....	N.	8	S.	7	N. E.	4	30. 13	.76	.55	.60
26	61	75	63	66. 33	.33	4-4	....	3-4	....	3-4	....	S. E.	4	N.	6	S. W.	4	29. 99	.76	.44	.70
27	56	77	66	66. 33	...	1-4	0	0	1-4	4-4	....	N. E.	4	N. E.	6	E.	8	30. 01	.88	.51	.72
28	70	73	67	66. 66	.31	4-4	....	0	3-4	1-4	0	S.	8	S. W.	16	W.	8	29. 87	.80	.31	.63
29	61	73	61	65. 00	....	1-4	0	1-4	2-4	1-4	0	W.	2	W.	8	N. W.	2	30. 14	.84	.80	.69
30	55	67	57	59. 66	....	0	0	0	2-4	1-4	0	N. W.	6	N. W.	10	0	0	30. 17	.76	.31	.71

* The letters "F," "H," and "S," indicate *foggy*, *hazy*, and *smoky*, respectively.

† The barometer-readings here given, and in the subsequent tables, are at the temperature given for the corresponding days, and not, as in the preceding tables, reduced to freezing-point.

DURING THE AUGUSTS, SEPTEMBERS, OCTOBERS, AND NOVEMBERS OF 1872 AND 1873.

of Conditions during the Absence and the Prevalence of Yellow Fever.

longitude 90° 07′ west; height above the sea-level, 260 feet.]

1873.	Thermometer.				Rain-fall, inches.	Amount of cloudiness.						Wind.						Barometer.	Humidity, per cent.		
						7.35 a.m.		4.35 p.m.		11 p. m.		7.35 a.m.		4.35 p.m.		11 p. m.					
Aug.	7.35 a. m.	4.35 p. m.	11 p. m.	Mean.		Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Direction.	Velocity.	Direction.	Velocity.	Direction.	Velocity	Mean.	7.35 a. m.	4.35 p. m.	11 p. m.
1	70	85	69	74.66	2.94	4-4	....	3-4	1-4	4-4	....	S. W.	5	S. W.	6	S. W.	2	30.06	1.00	.68	.94
2	70	89	79	79.33	....	1-4	1-4	1-4	1-4	1-4	0	S. W.	2	S. W.	6	0	0	30.03	.94	.59	.86
3	....	82	72	77.00	....	....	....	1-4	1-4	0	0	0	0	N.	12	N.	5	30.08	....	.59	.85
4	68	79	69	72.00	....	0	1-4	0	1-4	0	0	N. E.	4	N. W.	10	N. E.	5	30.15	.81	.44	.74
5	69	82	72	74.33	....	0	0	1-4	1-4	0	0	N.	3	N. E.	12	N. E.	3	30.15	.74	.42	.75
6	71	87	76	74.66	....	0	1-4	2-4	1-4	1-4	....	N. E.	12	S. E.	5	S. E.	2	30.08	.75	.51	.81
7	72	81	74	75.66	....	2-4	1-4	2-4	1-4	0	1-4	E.	12	N.	8	N. E.	1	30.01	.80	.66	.90
8	75	88	78	80.33	....	0	0	1-4	1-4	0	1-4	S. E.	2	S. W.	5	E.	1	30.00	.85	.52	.77
9	77	91	78	82.00	.03	S.	1-4	1-4	1-4	0	1-4	0	0	N. W.	5	S. E.	1	30.05	.81	.50	.90
10	....	92	80	86.00	.23	....	....	1-4	2-4	2-4	0	6	0	N. W.	6	0	0	30.05	....	.56	.91
11	81	91	82	84.66	....	S.	1-4	1-4	1-4	0	0	E.	4	N.	6	N.	2	29.67	.82	.50	.82
12	79	93	82	84.66	....	1-4	2-4	1-4	1-4	2-4	H.	0	0	W.	5	N.	2	29.98	.82	.45	.78
13	78	86	76	80.00	1.09	2-4	2-4	1-4	2-4	1-4	0	S. W.	4	W.	7	N. W.	1	29.96	.86	.68	.90
14	75	85	75	78.33	....	S.	0	1-4	1-4	0	0	N. E.	1	N.	11	0	0	29.96	.76	.41	.76
15	72	87	79	79.33	....	S.	H.	1-4	2-4	1-4	0	N. E.	2	W.	4	S.	2	29.89	.75	.48	.77
16	73	79	74	75.33	....	4-4	....	4-4	....	4-4	....	W.	4	N. W.	11	N.	5	29.92	.90	.77	.85
17	....	82	74	78.00	....	....	....	1-4	1-4	1-4	0	0	..	N. W.	12	N. W.	5	29.98	....	.55	.81
18	71	81	71	74.00	....	S.	0	0	0	0	0	N.	2	N. W.	12	N.	2	30.05	.70	.41	.70
19	69	85	75	76.33	....	H.	1-4	1-4	2-4	1-4	0	N.	3	N.	8	E.	2	30.04	.70	.47	.92
20	71	86	74	77.00	....	S.	2-4	1-4	1-4	1-4	0	N. E.	1	N. W.	6	N.	2	29.93	.70	.31	.72
21	71	88	76	78.33	....	1-4	1-4	1-4	2-4	1-4	0	N. E.	2	E.	7	S.	2	29.98	.75	.76	.72
22	71	86	75	77.33	....	2-4	1-4	2-4	1-4	1-4	0	S. E.	2	N. E.	6	N. W.	1	30.01	.85	.51	.81
23	73	89	79	80.33	....	1-4	1-4	1-4	1-4	1-4	0	E.	1	E.	6	S. E.	1	30.09	.85	.49	.73
24	78	92	81	83.66	....	S.	1-4	H.	2-4	1-4	....	S. E.	1	S. W.	5	0	0	30.09	.86	.48	.67
25	80	92	82	84.66	....	0	0	1-4	1-4	0	0	N. E.	1	W.	4	N.	2	30.09	.78	.45	.83
26	79	94	83	85.33	....	0	1-4	1-4	1-4	0	0	S.	4	S. W.	5	S. W.	9	29.99	.82	.43	.75
27	77	93	75	81.66	....	2-4	1-4	0	2-4	4-4	....	N.	2	W.	4	S. E.	5	29.96	.86	.43	.81
28	75	88	77	80.00	....	S.	1-4	1-4	1-4	0	0	N.	4	N. W.	12	N. E.	4	29.95	.85	.49	.68
29	72	83	78	79.33	....	S.	1-4	1-4	1-4	1-4	0	N. E.	3	N. W.	8	N.	3	30.01	.80	.46	.69
30	77	92	78	82.33	....	0	0	1-4	1-4	S.	0	N.	1	S. W.	5	0	0	30.09	.77	.34	.69
31	77	93	82	84.00	....	0	0	1-1	1-4	0	0	S. W.	1	S. W.	7	S. W.	6	30.11	.77	.48	.70
Sept.																					
1	80	92	81	84.33	....	1-4	1-4	2-4	1-4	1-4	H.	S. W.	6	S. W.	12	W.	3	29.67	.74	.45	.82
2	78	82	73	77.66	.48	0	1-4	H.	1-4	4-4	...	S. W.	1	N. W.	1	N. W.	7	30.01	.81	.66	.90
3	76	77	76	76.33	.40	2-4	1-4	2-4	1-4	0	1-4	S.	8	S. W.	3	S.	5	29.97	.86	.77	.90
4	76	89	79	81.33	....	H.	....	1-4	2-4	0	2-4	S. W.	6	S.	10	S. W.	5	30.12	.86	.52	.65
5	77	86	76	79.66	....	4-4	....	2-4	1-4	H.	1-4	S. W.	1	N.	9	N. E.	4	30.17	.75	.64	.81
6	74	84	72	76.66	....	S.	1-4	0	2-4	H.	H.	N. E.	3	N. E.	9	N. E.	5	30.20	.74	.84	.72
7	66	....	65	65.50	....	2-4	4-4	1-4	1-4	0	0	N.	3	N. E.	14	N. E.	3	30.26	.78	.54	.78
8	60	77	65	67.33	....	0	1-4	S.	0	0	0	N. E.	6	N.	10	N.	4	30.22	.65	.31	.68
9	63	83	73	73.00	....	0	1-4	1-4	2-4	0	1-4	N. E.	3	N.	10	N. E.	3	30.09	.72	.52	.76
10	69	86	76	77.00	....	2-4	1-4	2-4	1-4	0	0	S. E.	1	N.	4	0	0	30.07	.84	.44	.77
11	72	86	76	78.00	....	S.	1-4	1-4	1-4	1-4	0	S.	1	W.	5	0	0	30.05	.72	.48	.77
12	77	83	70	76.66	..	0	1-4	4-4	...	4-4	....	S. W.	2	S. W.	11	N.	13	29.96	.68	.52	.75
13	67	71	58	65.33	.10	4-4	....	1-4	2-4	0	0	N. E.	4	N.	14	N.	7	30.08	.84	.49	.64
14	53	68	58	59.66	....	S.	0	0	0	0	0	N.	5	N.	8	N.	2	30.14	.73	.42	.69
15	55	76	64	65.00	....	S.	0	S.	0	0	0	E.	2	W.	2	0	0	30.11	.68	.41	.78
16	65	82	71	72.66	....	S.	0	S.	1-4	0	0	0	0	N. W.	8	0	0	30.11	.71	.42	.75
17	66	86	75	75.66	....	S.	1-4	S.	1-4	0	0	0	0	W.	4	S. E.	4	29.99	.83	.41	.55
18	70	85	75	76.66	....	S.	1-4	1-4	1-4	S.	0	0	0	N. W.	6	0	0	29.91	.70	.50	.76
19	63	69	56	62.66	....	4-4	....	S.	1-4	S.	0	N.	13	N.	13	N.	5	30.00	.72	.39	.56
20	53	64	58	58.33	....	1-4	1-4	4-4	....	4-4	....	N. E.	4	N. W.	10	N. E.	2	30.09	.60	.52	.25
21	58	73	65	65.33	....	1-4	2-4	3-4	1-4	4-4	....	N. E.	2	N. W.	9	N. E.	2	30.07	.64	.42	.73
22	65	70	63	66.00	.54	1-4	2-4	4-4	....	1-4	0	W.	3	N.	11	N. E.	3	30.06	.78	.65	.94
23	60	70	61	63.66	....	4-4	....	1-4	1-4	0	0	N. E.	8	N. W.	6	N.	2	29.98	.92	.61	.82
24	56	73	68	65.66	....	F.	...e	2-4	1-1	4-4	....	S. E.	3	S. E.	6	S.	4	29.86	.87	.67	.79
25	66	79	71	73.00	....	1-4	....	1-1	2-4	0	0	N.	5	N. W.	6	S.	4	29.93	.89	.65	.81
26	70	87	76	77.66	....	0	0	1-4	1-4	0	0	S.	7	S. W.	8	S. E.	4	29.99	.89	.45	.72
27	72	78	76	75.33	.82	4-4	....	4-4	....	4-4	....	E.	4	S. E.	2	S. W.	4	30.03	.85	.86	.81
28	72	84	74	75.66	.24	....	....	1-4	2-4	4-4	....	S. E.	2	S.	9	N.	9	29.95	.90	.64	.89
29	71	63	59	64.33	1.18	4-4	....	....	....	4-4	....	0	0	N. W.	13	N. W.	9	30.05	.89	.83	.84
30	54	66	56	58.66	....	0	1-1	0	0	0	0	N. E.	8	N.	13	N. E.	7	30.17	.80	.45	.77

Table of Meteorological Conditions observed at Memphis, Tenn., during the Augusts,

1872.	Thermometer.				Rain-fall, inches.	Amount of cloudiness.						Wind.						Barometer.	Humidity per cent.		
						7.35 a.m.		4.35 p.m.		11 p. m.		7.35 a.m.		4.35 p.m.		11 p. m.					
Oct.	7.35 a. m.	4.35 p. m.	11 p. m.	Mean.		Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Direction.	Velocity.	Direction.	Velocity.	Direction.	Velocity.	Mean.	7.35 a. m.	4.35 p. m.	11 p. m.
1	45	71	61	59.00	....	1-4	0	0	0	1-4	0	W.	1	N. W.	4	S. W.	8	30.21	.85	.36	.71
2	56	78	66	66.66	....	S.	0	0	0	0	0	S.	2	S. W.	5	S.	1	30.14	.74	.42	.73
3	64	84	73	73.33	....	0	0	H.	0	0	0	S.	4	S. W.	8	S. W.	8	30.00	.76	.40	.71
4	67	84	71	74.00	....	F.	0	0	H.	0	0	S. W.	4	S. W.	6	S.	4	30.12	.84	.40	.70
5	65	83	70	72.66	....	S.	0	0	2-4	1-4	H.	S.	3	S.	8	S.	1	30.02	.73	.42	.70
6	65	65	63	64.33	1.96	2-4	2-4	4-4	....	0	0	S.	1	N. W.	4	N.	12	30.05	.73	.94	.94
7	56	70	58	61.33	....	1-4	1-4	0	1-4	0	0	N. E.	5	N.	8	N.	2	30.13	.87	.65	.80
8	53	72	58	61.00	....	0	1-4	0	0	1-4	0	N. E.	4	N. E.	8	0	0	30.13	.79	.34	.81
9	52	76	63	63.66	....	S.	0	0	2-4	S.	2-4	N. E.	4	N. W.	4	N. W.	2	30.13	.86	.41	.88
10	53	58	46	52.33	....	0	0	S.	0	0	0	W.	16	N.	16	N.	4	30.31	.55	.42	.54
11	42	59	48	49.66	....	S.	0	0	0	S.	0	N.	4	N. W.	8	N.	1	30.29	.66	.43	.77
12	38	65	53	52.00	....	S.	0	0	0	0	0	N.	1	S. W.	8	S. W.	4	30.11	.90	.38	.66
13	51	67	56	58.00	....	S.	0	H.	0	0	0	N. W.	8	N. W.	8	N. W.	8	30.09	.72	.28	.51
14	42	55	44	47.00	....	S.	0	H.	0	S.	0	N. W.	8	N. W.	4	N.	2	30.22	.66	.33	.75
15	43	68	61	57.33	....	S.	0	4-4	....	0	2-4	S.	8	S.	12	S. W.	12	30.02	.66	.38	.45
16	59	70	64	64.33	....	1-4	2-4	H.	4-4	1-4	2-4	S.	12	S. W.	8	S.	4	30.12	.64	.61	.78
17	59	75	63	65.66	....	2-4	2-4	H.	1-4	S.	0	S.	1	S. W.	4	S. W.	1	30.21	.81	.51	.83
18	53	71	55	59.66	....	F.	....	H.	0	S.	0	W.	4	N. W.	8	0	0	30.25	.93	.29	.74
19	47	71	55	57.66	....	F.	0	0	0	S.	0	N. W.	1	N.	3	0	0	30.24	.92	.25	.74
20	49	73	56	59.33	....	F.	0	0	2-4	0	1-4	0	0	N.	2	0	0	30.14	.85	.31	.68
21	53	71	65	64.00	.02	S.	4-4	1-4	2-4	4-4	....	E.	3	S.	4	S. E.	12	30.06	.66	.51	.89
22	63	64	54	60.33	.77	4-4	....	4-4	....	4-4	....	N.	2	N. E.	8	N.	12	30.14	.94	.94	.86
23	51	58	51	53.33	.05	4-4	....	4-4	....	1-4	....	N.	8	N.	12	N. E.	5	30.29	.85	.69	.72
24	46	63	55	51.66	....	S.	2-4	0	2-4	1-4	0	N.	4	N.	7	N.	4	30.24	.76	.51	.68
25	48	64	53	55.00	....	S.	0	0	2-4	S.	0	N. W.	4	N. W.	5	N. E.	3	30.11	.85	.57	.86
26	45	67	53	55.00	....	0	....	0	0	0	0	0	0	N. W.	2	0	0	30.07	1.00	.41	.79
27	47	70	56	57.66	....	S.	0	0	H.	S.	0	0	0	S. W.	2	0	0	30.07	.81	.48	.80
28	49	72	60	60.33	....	S.	0	0	0	1-4	0	N. E.	1	E.	5	E.	8	30.10	.78	.34	.44
29	56	66	65	62.33	....	2-4	2-4	4-4	....	2-4	0	S. E.	5	S. E.	12	S. E.	8	30.09	.51	.45	.53
30	56	61	49	55.33	.27	4-4	....	0	1-4	S.	0	S.	4	N. W.	8	N. W.	1	30.18	.93	.40	.78
31	38	61	51	50.00	....	F.	....	0	1-4	S.	0	0	0	N. E.	3	0	0	30.24	1.00	.30	.65
Nov.																					
1	42	62	52	55.33	....	S.	1-4	2-4	2-4	2-1	0	E.	2	S.	3	S. W.	2	30.14	.82	.62	.86
2	47	62	50	53.00	....	1-4	H.	0	0	S.	0	W.	8	W.	8	S. W.	2	30.09	.84	.22	.61
3	41	65	55	53.66	....	S.	H.	0	H.	0	0	N. E.	6	E.	4	S. E.	4	30.13	.65	.35	.56
4	51	62	64	59.00	....	S.	2-4	4-4	....	4-4	....	S. E.	4	E.	4	S. E.	12	30.00	.65	.51	.43
5	54	57	47	52.66	.03	4-4	....	4-4	....	S.	....	S.	4	N. W.	8	N.	4	30.12	.86	.75	.81
6	43	47	47	45.66	.21	4-4	....	4-4	....	4-4	....	N.	1	N.	8	N.	8	30.16	.75	.77	.69
7	41	57	52	50.00	....	4-4	....	1-4	H.	4-4	....	0	0	S. W.	2	0	0	30.11	.91	.54	.66
8	47	60	55	54.00	....	4-4	....	1-4	3-4	4-4	....	N. E.	3	N. E.	8	N. E.	3	30.03	.77	.44	.50
9	50	65	53	56.00	.01	1-4	0	0	1-4	S.	1-4	N. E.	8	N. E.	4	N. E.	5	29.92	.51	.18	.18
10	51	58	56	55.00	....	4-4	....	4-4	....	4-4	....	S. E.	4	S. W.	4	S.	4	30.00	.92	.58	.56
11	53	65	52	57.33	.35	4-4	....	1-4	3-4	4-4	....	S. W.	3	S. E.	2	N.	12	30.07	.86	.63	1.00
12	43	55	51	49.66	....	1-4	0	0	2-4	4-4	....	N.	4	S. E.	16	E.	6	30.07	.83	.50	.59
13	51	58	44	51.00	....	4-4	....	0	0	0	0	S.	8	N. W.	10	N. W.	16	29.97	.85	.31	.37
14	31	39	31	33.66	....	0	0	H.	0	0	1-4	W.	8	N. W.	12	W.	6	30.30	.38	.34	.58
15	26	36	31	31.00	....	2-4	1-4	0	2-4	0	0	W.	5	W.	14	S. W.	8	30.03	.75	.55	.58
16	27	34	29	30.00	....	S.	2-4	S.	0	S.	0	W.	8	N. W.	4	N.	2	30.15	.52	.34	.52
17	21	36	33	30.00	....	S.	1-4	0	2-1	S.	1-4	0	0	W.	3	0	0	30.29	.71	.46	.80
18	27	40	33	33.33	....	F.	H.	S.	H.	S.	0	S. W.	1	S. W.	8	S.	3	30.42	.76	.39	.59
19	33	52	47	44.00	....	S.	2-4	S.	3-4	4-4	....	S.	6	S. W.	7	N.	8	30.17	.51	.29	.41
20	26	35	29	30.00	....	S.	0	0	1-4	0	1-4	N.	8	N. E.	3	S. E.	6	30.30	.63	.35	.41
21	29	46	40	38.33	.01	S.	1-4	4-4	....	S.	0	S.	4	S. W.	4	S. W.	4	30.06	.55	.69	.55
22	34	51	41	42.00	....	S.	0	0	0	0	0	W.	4	S. W.	4	S.	5	30.58	.74	.33	.56
23	36	57	47	46.66	....	S.	0	H.	1-4	0	0	S.	5	S. E.	12	S. E.	4	30.23	.70	.30	.34
24	48	65	61	58.00	....	4-4	....	3-4	1-4	4-4	....	S.	8	S.	13	S.	2	30.07	.63	.53	.65
25	47	40	39	42.00	.90	4-4	....	4-4	....	2-4	....	N. W.	14	N. E.	2	N. E.	8	30.12	1.00	.82	.90
26	40	48	41	43.00	....	4-4	....	S.	H.	S.	0	N.	3	N. E.	5	0	0	30.17	.64	.56	.73
27	34	43	31	36.00	....	F.	0	0	0	0	0	N.	8	N. E.	5	N. E.	4	30.43	.61	.21	.38
28	26	....	37	31.50	....	S.	H.	....	....	S.	H.	N. W.	1	.....		N. W.	8	30.47	.63	....	.39
29	18	26	23	22.33	....	0	0	0	2-4	S.	H.	N. W.	12	W.	7	N.	3	30.67	.52	.34	.46
30	20	34	34	29.33	....	S.	1-4	S.	1-4	....	....	S.	2	S.	6	S.	14	30.25	.70	.34	.43

Septembers, Octobers, and Novembers of the years 1872 *and* 1873—Continued.

1873.	Thermometer.				Rain-fall, inches.	Amount of cloudiness.						Wind.						Barometer.	Humidity. per cent.		
						7.35 a.m.		4.35 p.m.		11 p. m.		7.35 a.m.		4.35 p m.		11 p. m.					
Oct.	7.35 a. m.	4.35 p. m.	11 p. m.	Mean.		Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Direction.	Velocity.	Direction.	Velocity.	Direction.	Velocity.	Mean.	7.35 a. m.	4.35 p. m.	11 p. m.
1	53	69	63	61.66	....	0	2-4	3-4	1-4	2-4	2-4	N.	6	N.E.	8	N.	4	30.10	.73	.56	.77
2	63	73	65	67.00	....	4-4	....	2-4	2-4	0	0	E.	2	N.E.	2	N.E.	2	30.09	.77	.71	.94
3	62	....	70	66.00	....	0	1-4	1-4	1-4	0	2-4	E.	2	S.W.	5	S.	2	30.03	.82	.54	.79
4	70	76	66	70.66	....	0	2-4	0	1-4	0	0	S.W.	4	N. W.	10	N.	2	29.94	.79	.64	.81
5	63	....	63	63.00	....	S.	2-4	....	....	4-4	....	E.	1	.....	..	N.	18	29.96	.77	....	.67
6	46	56	47	49.66	.04	2-4	1-4	0	1-4	0	0	N.	12	N.	16	N.	5	30.16	.69	.39	.62
7 *.	42	59	50	50.33	....	0	0	S.	0	0	0	N.	7	N.	6	N.	2	30.13	.75	.43	.64
8	46	69	56	57.00	....	0	0	S.	1-4	S.	0	E.	4	N. W.	4	N. W.	1	30.12	.69	.42	.23
9	52	68	60	60.00	....	S.	0	S.	0	S.	0	0	0	N. W.	5	S.W.	1	30.12	.79	.43	.76
10	52	76	64	64.00	....	0	0	S.	2-4	S.	1-4	E.	2	S.W.	6	S.W.	1	30.11	.79	.56	.83
11	60	77	65	67.33	....	0	1-4	1-4	2-4	0	0	S.W.	3	N. W.	4	N.	6	30.13	.88	.60	.78
12	54	66	55	58.33	....	0	0	S.	1-4	0	0	N. W.	7	N. W.	10	N.	1	30.20	.73	.38	.62
13	46	69	54	56.33	....	F.	0	S.	0	S.	0	E.	2	N. W.	3	W.	18	30.17	.61	.35	.67
14	46	74	61	60.33	....	S.	0	S.	0	S.	0	E.	1	E.	7	0	0	30.24	.69	.28	.65
15	57	....	66	61.50	....	0	1-4	1-4	2-4	1-4	0	S. E.	3	S. E.	8	S.W.	1	30.28	.75	.44	.73
16	67	80	70	72.33	....	1-4	2-4	1-4	2-4	0	0	S.	6	S.	5	S. E.	4	30.26	.74	.54	.70
17	64	79	72	71.66	....	1-4	2-4	1-4	2-4	4-4	....	S	3	S.W.	10	S. E.	5	30.05	.78	.54	.66
18	55	57	52	54.66	1.76	4-4	....	4-4	....	1-4	0	N. W.	16	N.	12	N.	5	30.09	.93	.75	.86
19	46	56	47	49.66	....	0	1-4	0	1-4	1-4	0	N.	6	N. W.	12	N.	3	30.17	.76	.34	.69
20	44	55	46	48.33	....	0	0	S.	0	0	0	N. W.	4	N. W.	14	0	0	30.07	.85	.33	.76
21	40	63	56	53.00	....	S.	0	S.	0	0	0	W.	1	S.W.	6	S.	6	29.91	.73	.42	.62
22	58	68	57	61.00	1.12	1-4	2-4	4-4	....	4-4	....	S.	8	S.	8	N. W.	10	29.92	.81	.84	.87
23	40	40	36	38.66	1.09	4-4	....	4-4	....	0	0	N.	8	N.	10	N.	5	30.23	.91	.82	.90
24	38	55	47	46.66	....	4-4	....	S.	2-4	2-4	0	N.	5	N.	5	N.E.	2	30.29	.79	.62	.77
25	46	52	52	50.00	....	4-4	....	4-4	....	4-4	....	N.E.	1	N E.	4	E.	3	30.23	.92	.86	.93
26	57	65	...	61.00	1.04	4-4	....	4-4	.....	.....	.....	S.	12	S.W.	5	.....	..	29.85	1.00	.94	....
27	38	56	50	48.00	....	4-4	....	S.	1-4	2-4	0	W.	4	S.W.	11	N. W.	16	29.97	.84	.39	.58
28	32	41	34	35.66	....	0	0	0	1-4	0	0	W.	8	W.	8	N. W.	2	30.37	.89	.32	.79
29	30	48	42	40.00	....	0	0	S.	1-4	S.	1-4	0	0	S.W.	3	S.	2	30.35	.78	.29	.50
30	42	58	46	48.66	....	1-4	2-4	S.	1-4	S.	0	S.W.	8	S.W.	6	S.	2	30.11	.57	.37	.76
31	36	47	37	40.00	....	0	0	S.	0	S.	0	N. W.	8	N. W.	6	0	0	30.34	.55	.27	.71
Nov.																					
1 *	29	54	47	43.33	....	0	0	S.	1-4	S.	1-4	E.	3	S. E.	5	S. E.	5	30.39	.88	.26	.44
2	45	59	47	53.66	....	1-4	1-4	4-4	....	4-4	....	S.	3	S. E.	2	N. W.	10	30.24	.84	.38	.84
3	48	58	49	51.66	.04	4-4	....	S.	1-4	S.	1-4	N. E.	4	N. E.	6	N. E.	2	30.24	.85	.47	.63
4	46	53	52	50.33	.27	4-4	....	4-4	....	4-4	....	N. E.	1	N. E.	4	N. E.	3	30.14	.76	.93	.93
5	53	61	59	57.66	....	4-4	....	4-4	....	4-4	....	N.	3	N. E.	2	N. E.	1	30.12	.93	.76	.59
6	52	64	55	57.00	....	4-4	....	3-4	1-4	S.	0	N.	5	N. E.	0	N. E.	1	30.01	.72	.62	.36
7	50	68	62	60.00	....	S.	1-4	S.	0	2-4	0	N. W.	..	S. W.	8	N. W.	6	29.96	.92	.51	.64
8	48	65	53	55.33	....	S.	0	S.	0	S.	....	N. W.	2	N.	4	S. W.	4	30.18	.48	.26	.60
9	46	69	56	57.00	....	S.	0	0	0	S.	0	S. W.	2	W.	2	0	0	30.18	.77	.27	.62
10	48	74	59	60.33	....	S.	0	S.	0	S.	0	S. W.	1	S. W.	2	S. E.	2	30.03	.77	.31	.59
11	54	75	60	63.00	....	S.	1-4	S.	0	4-4	....	S. W.	6	W.	11	N. W.	12	29.90	.64	.22	.15
12	45	46	40	43.66	....	4-4	....	4-4	....	0	0	N. W.	8	W.	8	N. W.	1	30.15	.60	.33	.47
13	33	49	42	41.33	....	S.	1-4	S.	0	S.	0	W.	1	S.	8	S.	6	30.16	.69	.24	.42
14	38	57	49	48.00	....	S.	0	S.	0	0	0	S. W.	1	N. W.	1	S.	6	30.13	.62	.39	.50
15	50	68	64	60.00	....	1-4	2-4	S.	1-4	3-4	0	S. W.	6	S. W.	14	S. W.	8	30.07	.85	.55	.62
16	62	....	....	62.00	....	4-4	.....	.....	.....	.....	.....	S. W.	8	.....	..	.....	..	29.87	.77	....	....
17	....	60	55	57.50	....	.....	....	4-4	....	0	H.	.....	..	S.	6	S. W.	3	29.38	....	.34	.50
18	47	43	33	41.00	....	4-4	....	4-4	....	0	0	N. W.	27	N. W.	16	N. W.	20	29.82	.34	.43	.54
19	26	36	32	31.33	....	S.	0	S.	H.	0	0	N. W.	4	N. W.	12	W.	1	30.18	.63	.29	.59
20	29	45	40	38.00	....	H.	H.	H	....	H.	0	.....	4	S.	8	S.	2	30.20	1.00	.38	.47
21	45	55	49	49.66	....	F.	....	4-4	....	4-4	....	S. W.	11	S.	6	S. E.	1	30.21	.49	.62	.78
22	49	52	49	50.00	1.80	4-4	....	4-4	....	4-4	....	S.	2	E.	10	S. E.	7	30.02	.92	.93	.92
23	53	56	54	54.33	.79	4-4	....	4-4	....	4-4	....	S. E.	5	S. W.	1	N.	9	29.80	.93	.93	4.00
24	46	46	43	45.00	.07	4-4	....	1-4	....	0	0	N. W.	2	W.	9	S.W.	9	29.97	.92	.69	.75
25	45	50	44	46.33	....	S.	0	S.	0	0	0	W.	9	S. W.	10	N. E.	4	29.74	.45	.38	.52
26	37	59	54	49.60	...	S.	0	4-4	0	4-4	....	S. E.	7	S.	10	S.	6	29.93	.74	.43	.52
27	44	54	43	47.00	....	S.	0	S.	0	4-4	....	S. W.	1	N.	8	N. E.	10	29.99	.75	.32	.35
28	....	42	35	38.50	....	.....	....	S.	0	0	1-4	.....	..	N. E.	6	N. E.	5	30.46	....	.34	.53
29	34	45	44	41.00	....	S.	2-4	F.	2-4	0	2-4	N. E	5	N. E.	..	N. E.	3	30.43	.61	.53	.52
30	38	58	57	51.00	....	0	2-4	3-4	2-4	2-4	2-4	E.	3	S. E.	3	S. E.	8	30.37	.81	.64	.84

* Frost during nights of October 6-7, and October 31 and November 1.

The foregoing record of the meteorological conditions observed during the period of the prevalence of the epidemic yellow fever at Memphis and Shreveport in 1873, undoubtedly furnish important facts which are essential to a correct study of the habits and climatic conditions under which this disease exists. Yet we are unable to deduce from them, or to recognize any positive factor or factors that can satisfactorily account for the outbreak and the prevalence, for months, of a specific fever which is very generally believed by physicians to have been imported from New Orleans, where, however, it was not recognized as being epidemic or even extensively prevalent during any part of the summer.

We may here remark, that in the study of this disease as seen in the United States, it is to man himself, and his neglect of the laws governing health and the sanitary conditions of his abode, that we must look for at least some of the exciting causes.

That the disease has limits varying its boundaries during particular seasons, will be readily conceded. One of the limiting causes assigned by most observers, is low temperature. We believe that elevation and a comparatively dry atmosphere may be added.

We ask the question if, from the facts furnished by the different visitations of yellow fever within the United States, elevation is entitled to be credited in any degree with controlling the spread of the disease to interior towns; and if so, does the elevation control it in any other mode than by the effect of a cooler and drier atmosphere than prevails in the low lands in the same vicinity?

Nothing is truer than that man's health is affected by his surroundings. Where a rapid vegetable growth and decay go on, as in the tropical and semi-tropical regions, these localities must always have conditions peculiar to themselves, which influence powerfully both health and disease, although their modes of action may escape our observation.

Humboldt long ago observed that this fever did not exist at high altitudes. A. Keith Johnson, in his valuable *Physical Atlas*, says: "At Xalapa, in Mexico, on the same parallel with Vera Cruz, but 4,330 feet above the sea, yellow fever is unknown." In Jamaica, Maroontown and the Phœnix Park, at an elevation of 2,000 feet, are noted for their healthfulness, while yellow fever rages along the coast, cutting off many hundreds annually. In this island, however, it has been known to exist in a mild form on Stony Hill, elevated 1,360 feet.

Major Tullock, of the British army, remarks that this disease has never been known in any climate at an elevation of 2,500 feet. Mount Desmoulin, near Roseau, in the island of Dominica, 1,500 feet above the sea, is always free from fever, even while it is epidemic at the water-line. The same exemption is observed in the northern and elevated parts of San Domingo, whatever may be the character of the soil.

Dr. Drake, in his work, fixes a limit to this fever in the United States at 400 feet. These figures would seem to be not far out of the way.

This view of the limitation to the spread of yellow fever by elevation has been observed in Cuba and elsewhere.

Fort Smith, in Arkansas, 460 feet above the sea, is the highest point at which this fever has prevailed as an epidemic in the United States. Although Winchester, Va., at an altitude of 700 feet, is placed upon the map, the cases reported to have occurred there in 1802 are not well authenticated. A correspondence with Dr. G. Miller, an old and intelligent physician of that place, was opened to verify the report, but nothing could be learned that would give credibility to the statement. As a faithful chronicler, however, we do not feel at liberty to omit the mention of the disease at this place, with the authority, and the less so since a person *en route* from the South died there shortly after his arrival, in 1871, of what was supposed to be yellow fever. There is much room for doubt, also, as to the correctness of the diagnosis that recognized yellow fever at Gallipolis, in Ohio, in 1796, and in Bald Eagle Valley and Nittany, in Pennsylvania, in 1799.

The cases at Cincinnati in 1871 and 1873 were strangers, reported to have been brought there on boats from New Orleans and Memphis, which renders it probable that they were yellow fever, but contracted before sailing. No new cases occurred at Cincinnati. Those reported at Winchester, Gallipolis, Bald Eagle Valley, Nittany, and other points, not here questioned, may have been only aggravated cases of bilious fevers.

But lest we be misled, and attribute too much influence to elevation, we should not forget the remark of the late Dr. La Roche, who notices how securely a stranger may live in the near vicinity of the epidemic, provided he does not enter the infected district. This fact suggests that the stratum of air, in which the infection peculiar to yellow fever exists, is heavier than air free from the poison, and which therefore seeks the lowest and dampest localities.

If this view should be verified by careful and repeated observations, it would suggest that houses and hospitals, in districts particularly liable to yellow fever, should be built upon columns or supports 10 or 12 feet high, with the space beneath paved and left open for the free circulation of air. The occupants might thus, to some extent, escape breathing the heavier and more noxious stratum of air.

It is clear, as shown by this map, that the disease has, in the United States, never in an epidemic form reached an elevation of 500 feet. If elevation, then, can exempt the inhabitants of a place from such a terribly destructive disease, the profession should, and will, avail itself of this means of protecting life, namely, the removal of all susceptible persons out of the infected district to an elevation above 500 feet if practicable. So far as we could collect facts bearing upon the point in question as to each locality we have done so, and they are given in the following table:

TABLE OF LOCALITIES IN THE UNITED STATES WHERE YELLOW FEVER HAS APPEARED SINCE A. D. 1668.

With their Elevations above the Sea-level; Dates of Commencement and Suspension of the Disease; Mortality; and Authorities for the Statements.

State.	Locality.	Situation.	Elevation, in feet, above sea-level.	DATE OF COMMENCEMENT.		DATE OF SUSPENSION.		Mortality.	Authority.
				Year.	Month.	Year.	Month.		
Alabama	Blakely, Baldwin Co	On Tensaw River	25	1822					Drake, Principal Diseases of Interior Valley, North America, p. 225.
	Cahawba, Dallas Co	On Alabama River	175	1853					E. H. Barton, Report Sanitary Commission of New Orleans, 1857, p. 65.
	Citronelle, Mobile Co	On Mobile and Ohio Railroad.	65	1853					J. C. Nott, N. O. M. & S. J., 1854, p. 571.
	Dog River Cotton Factory	Five miles from Mobile	30	1853	Aug. 8				C. Whattleworth, Ch. M. J. & Rev., 1859, p. 479.
	Demopolis, Marengo Co	On Tombigbee River	125	1853					E. D. Fenner. History of Epidemic Yellow Fever, 1853, p. 49.
	Fort Claiborne, Monroe Co.	Alabama River	75	1819	July 4	1819	Dec. 1		Harvey E. Brown, (asst. surg., U. S. A.,) Quarantine, on the southern and Gulf coasts, 1872.
	Fort Morgan Island	Mobile Bay	20	1867	Aug. 13				Brown, Quarantine, p. 44.
	Fort Saint Stephens, Washington Co.	Tombigbee River	75	1849	July 4	1849	Dec. 1		Dowler, Yellow Fever of 1853, p. 16.
	Hollywood	Tombigbee River	75	1853					E. H. Barton, Report Sanitary Commission of New Orleans, 1857, p. 65.
	Mobile, Mobile Co	Mobile Bay	20	1705					P. H. Lewis, N. O. M. J., 1845, vol. 1, No. 4, p. 283.
				1765					Drake, Dis. Int. Valley of N. A., p 216.
				1766					P. H. Lewis, N. O. M. J., vol 1, No. 4, 1845, p. 283.
				1819	Aug. 15		Nov. —	274	P. H. Lewis, N. O. M. J., vol 1, No. 4, 1845. p. 284.
				1821					Drake, Dis. Int. Valley of N. A., p. 191.
				1822					Do.
				1824					Do.
				1825	Sept. —				Drake, Dis. Int. Valley of N. A., p. 219.
				1827	Aug. —				Do.
				1828					Drake, Dis. Int. Valley of N. A., p. 191.
				1829	Sept. 14			130	Drake, Dis. Int. Valley of N. A., p. 220.
				1837	Sept. 20	1837	Nov. —	350	Do.
				1838					Drake, Dis. Int. Valley of N. A., p. 191.
				1839	Aug. 11	1839	Oct. 20	650	Drake, and Brown, Quarantine, 1872.
				1841					J. H. Lewis, N. O. M. J., 1844, p. 31.
				1842	Aug. 20			60	Drake, p. 222, and Brown, Quarantine, 1872.
				1843	Aug. 18	1843	Nov. 5	240	Do.
				1844					Drake, Dis. Int. Valley of N. A., p. 191.
				1847				76	Brown, Quarantine, and Fenner's South Med. Reports, vol. 2, p. 304.
				1848				75	Fenner, South Med. Reports, vol. 2, p. 304.

				1849					50	Do.
				1851						Brown, Quarantine, 1872, p. 43.
				1853	July 13	1853	Nov. 1		115	N. O. M. & S. J., 1854, p. 571.
				1854						Ed. Nash., J. M. & S., 1854, p. 345.
				1858						Ed. Va. M. J., 1858, p. 517.
				1867	Aug. 13					Brown, Quarantine, 1872, p. 44.
	Montgomery, Montgomery Co.	On Alabama River	150	1853	Sept. —		Nov. —		35	R. F. Michel, Charleston Med. Journal and Review vol. 1, No. 4, 1874, p. 303.
				1854	Sept. —		Nov. —		45	Do.
				1855	Sept. —		Nov. —		30	Do.
				1873	Sept. 4		Nov. 10		102	R. F. Michel, Charleston Med. Journal and Review vol. 1, No. 4, 1874, p. 289.
				1870	Aug. 22	1870	Nov. 19			G. A. Ketchum, Trans. A. M. S., 1871, p. 269.
				1873	Aug. 21	1873	Nov. 29		27	O. L. Crampton, Report Supervising Surgeon, (J. M. Woodworth,) U. S. Marine-Hospital Service, 1873.
	Pollard, Escambia Co		60	1873						J. Jones, B. M. & S. J., 1873, p. 543.
	Selma, Dallas Co	On Alabama River	200	1853	Sept. 17	1853	Nov. 13		32	J. C. Marks, N. O. M. & S. J., 1854, p. 88.
	Spring Hill, Mobile Co	Six miles west of Mobile	50	1853						J. C. Nott, Ch. M. J. & Rev., 1859, p. 476.
Arkansas	Columbia, Chicot Co	On Mississippi River	135	1853	June —					Trans. A. M. A., 1854, p. 526.
	Fort Smith, Sebastian Co	On Arkansas River	460	1823						Dowler, Tableau of Yellow Fever, p. 24.
	Grand Lake, Chicot Co	On Mississippi River	130	1853						D. N. Jones, N. O. M. & S. J., 1853, p. 328.
	Little Rock, Pulaski Co	On Arkansas River	350	1873						Washington Republican, vol. 13, No. 280, p. 1.
	Napoleon, Desha Co	On Mississippi River	142	1853						E. D. Fenner, His. Epi. Yellow Fever, 1853, p. 49.
Connecticut	Chatham, Middlesex Co	On Connecticut River	200	1796	Aug. 29					Miner and Tully on Fevers, p. 357.
	Hartford, Hartford Co	On Connecticut River	60	1798						Brown, Quarantine, p. 8.
				1800						M. Repos., 1800, p. 197.
	Knowles' Landing	On Connecticut River	25	1796	Aug. —				9	N. Y. M. & Ph. J., 1822, p. 153.
	Middletown, Middlesex Co.	On Connecticut River	40	1820	June —					W. Tully, N. Y. M. & Ph. J., 1822, p. 153.
	New Haven, New Haven Co.	On Connecticut River	35	1794						W. Hume, Ch. M. J. & Rev., 1860, p. 24.
				1803						Brown, Quarantine, 1872, p. 9.
				1804						Do.
				1805						Dowler, Tableau of Yellow Fever, p. 13.
				1743						Daily Shreveport Times, vol 2, No. 34, 1873.
				1819						F. Pascalis, M. Repos., 1820, p. 239.
	New London, New London Co.	On Thames River, 3 miles from ocean.	25	1798	Aug. 26		Nov. —		81	Ed. M. Repos., 1799, p. 211.
	Norwalk, Fairfield Co	On Norwalk River	25	1798						J. Gotham, jr., M. Reporter, 1856, p. 563.
	Stamford, Fairfield Co	On Long Island Sound	20	1745						
	Stonington, New London Co.	On Long Island Sound	20	1798						J. Comstock, M. Repos., 1807, p. 23.
Delaware	Christiana, Newcastle Co	On Christiana Creek	20	1798						J. Vaughan, Med. Repos., 1800, p. 372.
	Duck Creek, Newcastle Co.	Near Delaware Bay	20	1798						J. Stephens, Med. Mus., 1809, p. 153.
	Newcastle, Newcastle Co	On Delaware River	25	1798						Do.
	Wilmington, Newcastle Co	On Christiana Creek, 2 miles from Delaware River.	45	1798					250	Do.
				1802					86	Med. Repos., 1803, p. 235.
Florida	Apalachicola, Franklin Co	On Apalachicola Bay	15	1826						Drake, Diseases Int. Valley. N. A.
	Cedar Keys, Levy Co	Isles of the Ocean	15	1871						Brown, Quarantine, p. 42.
	Gainesville, Alachua Co		160	1871	Aug. —					Do.
	Jacksonville, Duval Co	On Saint John's River	14	1857						F. M. Robertson, Ch. M. J. & Rev., 1858, p. 45.
	Key West, Monroe Co	On an island in the sea	15	1824						B. Ticknor, N. A. M. & S. J., 1827, p. 213.

Table of Localities in the United States where Yellow Fever has appeared since A. D. 1668, &c.—Continued.

State.	Locality.	Situation.	Elevation, in feet, above sea-level.	DATE OF COMMENCEMENT.		DATE OF SUSPENSION.		Mortality.	Authority.
				Year.	Month.	Year.	Month.		
				1829	.....	.....	.....	.....	C. C. Dupré, Am. J. of Med. Sci., 1841, p. 380.
				1841	June —	.....	.....	26	Do.
				1853	Aug. —	1854	Aug. —	112	Army Medical Statistics, p. 323.
				1854	.....	.....	.....	.....	Ed. N. O. M. & S. J., 1854, p. 423.
				1862	June 20	.....	Oct. —	71	Ed. M. and S. Reporter, 1862, p. 513.
				1864	.....	.....	.....	.....	E. B. Hunt, Med. Reporter, 1864, p. 340.
				1865	.....	.....	.....	.....	Brown, Quarantine, p. 40.
				1867	.....	.....	.....	.....	Surgeon-General's Office, Circular No. 1, 1868, p. 152.
				1869	.....	.....	.....	.....	Brown, Quarantine, p. 41.
Florida	Milton, Santa Rosa Co	On Blackwater River, near Pensacola Bay.	20	1853	.....	.....	.....	.....	Brown, Quarantine, p. 38.
				1855	.....	.....	.....	.....	Do.
	Pensacola, Escambia Co	On Pensacola Bay	15	1764	.....	.....	.....	.....	P. S. Townsend, N. Y. M., and Ph. J., 1823, p. 315.
				1765	.....	.....	.....	125	Drake, Dis. Int. Valley of N. A., p. 190.
				1811	.....	.....	.....	.....	Do.
				1822	Aug. 12	.....	Oct. 10	257	Drake, Dis. Int. Valley, of N. A., p. 229.
				1825	.....	.....	.....	.....	Brown, Quarantine, p. 36.
				1827	.....	.....	.....	.....	Med. Statistics, United States Army, p. 58.
				1834	Aug. 23	.....	.....	.....	Drake, Dis. Int. Valley of N. A., p. 232.
				1839	.....	.....	.....	.....	Drake, Dis. Int. Valley of N. A., p. 233.
				1841	.....	.....	.....	.....	Do.
				1842	.....	.....	.....	.....	S. C. Laurason, Maryland M. & S. J., 1843, p. 393.
				1843	.....	.....	.....	.....	Dr Wedderburn, Report of San. Com., p. 125.
				1844	.....	.....	.....	.....	Do.
				1845	.....	.....	.....	.....	Brown, Quarantine, p. 36.
				1846	.....	.....	.....	.....	Do.
				1847	.....	.....	.....	.....	Dr. Wedderburn, Report of San. Com., p. 125.
				1848	.....	.....	.....	.....	Dr. Wedderburn, Report of San. Com. of N. O., p. 125.
				1853	July 9	.....	.....	.....	E. D. Fenner, His. of Yellow Fever, N. O., 1853, p. 49.
				1854	.....	.....	.....	.....	R. B. S. Hargis, N. O. M. N., 1859, p. 727.
				1858	.....	.....	.....	.....	Do.
				1863	Aug. 25	.....	.....	.....	B. F. Gibbs, A. J. M. Sc., 1866, p. 340.
				1867	July 24	.....	.....	34	M. Reporter, 1868, p. 227.
				1873	Aug. 6	.....	.....	61	R. F. Michel, Charleston M. J. and R., 1874, vol. 1. No. 4, p. 289.
	St. Augustine, St. John's Co.	On Matanzas Sound, two miles from the sea.	10	1807	.....	.....	.....	.....	Brown, Quarantine, p. 32.
				1821	Aug. —	.....	.....	140	J. Gotham, M. Reporter, 1856, p. 564.
				1838	.....	.....	.....	.....	C. C. Dupré, A. J. Med. Sci., 1841, p. 384.
				1839	Aug. 15	.....	.....	.....	Do.

				1841	.....	.....	26	Do.
	Saint Joseph's, Calhoun Co.	On Saint Joseph's Bay, near Gulf of Mexico.	15	1841	.....	.....	.....	B. M. and S. J., 1841, p. 17.
	Suwanee, Columbia Co....	On Suwanee River.....	50	1836	.....	.....	.....	T. Lawson, Surg. Gen. Report, 1840, p. 308.
	Tampa, Hillsborough Co..	Head of Tampa Bay, forty miles from the Gulf of Mexico.	20	1871	.....	.....	.....	Med. and Surg. Reporter, No. 17, p. 377, vol. 25.
				1839	.....	.....	.....	Drake, Dis. Int. Valley of N. A., p. 191.
				1853	Sept. —	.....	.....	Army Medical Statistics, p. 323.
	Tortugas	Gulf of Mexico.....	12	1862	.....	.....	4	Circular No. 1, Surgeon General's Office, 1869.
				1867	July 4	.....	38	Brown, Quarantine, p. 46.
	Pensacola.....	Pensacola Bay.....	.....	1873	Aug. 14	Nov. 19	62	John M. Woodworth, Supervising Surgeon, U. S. Marine-Hospital Service, Report 1873.
Georgia.....	Augusta, Richmond Co....	On Savannah River	185	1839	.....	.....	.....	B. M. and S. J., 1839, p. 86.
				1854	.....	.....	.....	Ed. Nash, J. M. and S., 1854, p. 345.
	Bainbridge, Decatur Co ...	On Flint River	120	1873	.....	.....	.....	Washington Republican, Oct. 25, 1873, p. 1.
	Saint Mary's, Camden Co .	On Saint Mary's River, nine miles from the sea.	15	1808	Sept. 5	Oct. —	84	J. Seagrove, M. Rep., 1810, p. 135.
	Savannah, Chatham Co...	On Savannah River, eighteen miles from its mouth.	30	1807	.....	.....	.....	Dowler, Tableau of Yellow Fever, p. 14.
				1808	.....	.....	.....	Do.
				1819	.....	.....	.....	A. M. Rec., 1820, p. 212.
				1820	.....	.....	.....	N. A. M. and S. J., 1827, p. 1.
				1827	.....	.....	.....	N. A. Med. & S. J., vol. 10, p. 145.
				1852	.....	.....	19	R. C. Mackall, Ch. M. J. and Rev., 1855, p. 150.
				1853	.....	.....	.....	Do.
				1854	Aug. 5	.....	580	Hume, Charleston M. J., vol. 10, p. 31.
				1858	.....	.....	.....	S. Chaillé, Va., M. J., 1858, p. 491.
Illinois	Cairo	At junction of Ohio and Mississippi Rivers.	322	1873	Sept. 1	Sept. 25	17	H. Wardner, Report Supervising Surgeon U.S. Marine-Hospital Service, 1873.
Louisiana.....	Louisville	On the Ohio River	450	1873	Sept. 22	Oct. 15	5	P. H. Bailhache, *ibid.*
	Alexandria, Rapides Parish	On Red River.....	75	1819	.....	.....	.....	G. S. D. Anderson, N. O. M. J., 1859, p. 508.
				1822	.....	.....	.....	Do.
				1827	.....	.....	.....	Do.
				1831	.....	.....	.....	Do.
				1837	.....	.....	.....	Do.
				1839	.....	.....	.....	Do.
				1847	.....	.....	.....	Do.
				1853	.....	.....	.....	Do.
				1854	.....	.....	.....	Do.
				1855	Sept. 13	.....	.....	Do.
	Algiers	On Mississippi River, opposite New Orleans.	10	1847	.....	.....	.....	E. D. Fenner, N. O. M. and S. J., 1848, p. 192.
				1853	.....	.....	.....	P. C. Gaillard, Ch. M. J. and Rev., 1859, p. 481.
				1858	.....	.....	.....	N. O. M. J., 1859, p. 506.
	Ascension	On Mississippi River	25	1823	.....	.....	.....	
	Baton Rouge.....	On Mississippi River	50	1817	.....	.....	.....	Drake, Dis. Int. Valley of N. A., p. 250.
				1819	.....	.....	.....	Do.
				1822	.....	.....	60	Do.
				1827	.....	.....	.....	Drake, Dis. Int. Valley of N. A., p. 191.
				1829	.....	.....	.....	Do.
				1843	Oct. —	.....	.....	Drake, Dis. Int. Valley of N. A., p. 251.
				1837	.....	.....	.....	Brown, Quarantine, p. 48.
				1847	.....	.....	.....	N. O. M. and S. J., 1848, p. 536.
				1858	.....	.....	.....	S. Chaillé, Va., M. J., 1858., p. 491.

Table of Localities in the United States where Yellow Fever has appeared since A. D. 1668, &c.—Continued.

Name.	Locality.	Situation.	Elevation, in feet, above sea-level.	DATE OF COMMENCEMENT.		DATE OF SUSPENSION.		Mortality.	Authority.
				Year.	Month.	Year.	Month.		
Louisiana.....	Bay of Saint Louis.....	Mouth of the Mississippi River.	10	1820	Aug. —	.....	.....	.....	A. P. Merrill, N. O. M. and S. J., 1851, p. 1.
				1830	.....	.....	.....	.....	N. O. M. and S. J., 1850, p. 79.
				1853	.....	.....	.....	.....	
	Bayou Sara, West Feliciana Parish.	On Mississippi River.....	75	1847	.....	.....	.....	.....	E. D. Fenner, N. O. M. and S. J., 1848, p. 19.
				1853	.....	.....	.....	.....	P. C. Gaillard, Ch. M. J. and Rev., 1859, p. 481.
	Burat Settlement, (coast below New Orleans.)	On Mississippi River	10	1854	Sept. 22	.....	.....	.....	Brown, Quarantine.
	Carrollton, Jefferson Parish.	On Mississippi River	15	1847	.....	.....	.....	.....	E. D. Fenner, N. O. M. and S. J., 1848, p. 192.
				1855	May 18	.....	.....	1	D. Warren Brickell, N. O. M. N., 1855, p. 167.
	Centreville, Saint Mary's Parish.	On Teche River 60 miles from the Gulf of Mexico.	20	1853	Sept. 18	.....	Nov. 18	.....	W. B. Wood, N. O. M. N., 1856, p. 483.
				1855	Sept. —	.....	Oct. —	1	Do.
	Clinton, East Feliciana Parish.	32 miles N. of Baton Rouge..	85	1853	Sept. 1	.....	Dec. —	75	B. Dowler, Tableau of Yellow Fever, 1853, p. 28.
	Cloutierville, Natchitoches Parish.	On Old River, branch of Red River.	175	1853	Aug. 14	.....	Dec. 14	.....	Brown, Quarantine.
				1854	.....	.....	.....	.....	Do.
	Covington, Saint Tammany Parish.	45 miles north of New Orleans.	25	1847	.....	.....	.....	.....	E. D. Fenner, N. O. M. and S. J., 1848, p. 192.
	Donaldsonville, Ascension Parish.	On Mississippi River	30	1827	.....	.....	.....	.....	
				1839	.....	.....	.....	30	Drake, Dis. Int. Valley of N. A., p. 247.
	Franklin, Saint Mary's Parish.	On Teche River, 65 miles from the Gulf of Mexico.	15	1853	Oct. 19	.....	Nov. 24	2	J. W. Lyman, N. O. M. and S. J., 1854, p. 670.
				1854	.....	.....	.....	.....	W. B. Wood, N. O. M. N., 1856, p. 483.
	Gretna.....	.....	.....	1858	.....	.....	.....	.....	N. O. M. J., 1859, p. 506.
	Iberville, Iberville Parish.	On Mississippi River.....	18	.....	.....	.....	.....	.....	
	Jeannerett's, Parish of Saint Mary.	.....	15	1854	Oct. 7	.....	.....	.....	Brown, Quarantine.
	Jesuit's Bend	Settlement on coast below New Orleans.	10	1854	Sept. 12	.....	.....	.....	Brown, Quarantine.
	La Fayette.....	Near New Orleans	12	1847	June 22	.....	.....	.....	N. O. M. and S. J., 1848, p. 536.
	Lake Providence, Carroll Parish.	On Mississippi River.....	100	1853	.....	.....	.....	.....	J. L. Ridell, N. O. M. and S. J., 1854, p 813.
	Mandeville, Saint Tammany Parish.	On Lake Pontchartrain	15	1847	.....	.....	.....	.....	E. D. Fenner, N. O. M. and S. J., p. 192.
	McDonoughville	.....	.....	1858	.....	.....	.....	.....	N. O. M. J., 1859, p. 506.
	Natchitoches.....	On Red River	180	1839	.....	.....	.....	.....	Drake, Dis. Int. Valley of N. A., p. 191.
	New Iberia, Saint Martin's Parish.	Southern part of Louisiana..	20	1839	.....	.....	.....	.....	Drake, Dis. Int. Valley of N. A., p. 241.
				1867	.....	.....	.....	.....	Report New Orleans Board of Health, 1872, p. 68.
				1870	.....	.....	.....	.....	Brown, Quarantine, p. 58.

New Orleans	On Mississippi River	10	1769	.....	.....	.....	.....	S. Chaillé, Va. M. J., 1858, p. 498.
			1791	.....	.....	.....	.....	Do.
			1793	.....	.....	.....	.....	Trans. A. M. A., vol. 2, p. 684.
			1794	.....	.....	.....	.....	Stethoscope, vol. 3, No. 11, 1853, p. 665.
			1795	.....	.....	.....	.....	Do.
			1796	.....	.....	.....	.....	Do.
			1797	.....	.....	.....	.....	Do.
			1799	.....	.....	.....	.....	S. Chaillé, Va. M. J., 1858, p. 498.
			1800	.....	.....	.....	.....	Do.
			1801	.....	.....	.....	.....	Do.
			1802	.....	.....	.....	.....	Dowler, Tableau of Yellow Fever, 1853, p. 12.
			1804	.....	.....	.....	.....	Chaillé, Va. M. J , 1858, p. 498.
			1809	.....	.....	.....	.....	Do.
			1811	.....	.....	.....	.....	Do.
			1812	.....	.....	.....	.....	Do.
			1817	June 18	.....	Dec. —	800	S. Chaillé, Va. Med. J., 1858, p. 498.
			1818	.....	.....	.....	115	M. M. Dowler, N. O. M. N., 1859, p. 308.
			1819	July 1	.....	.....	2, 190	S. Chaillé, Va. Med. J., 1858, p. 498.
			1820	July —	.....	.....	.....	Do.
			1822	Sept. 1	.....	.....	239	Trans. A. M. A., 1851, p. 207, and Drake, p. 197.
			1823	Aug. 23	.....	.....	1	Do.
			1824	Aug. 4	.....	.....	108	Do.
			1825	June 23	.....	.....	49	Do.
			1826	May 18	.....	.....	5	Do.
			1827	July 19	.....	.....	109	Do.
			1828	June 18	.....	.....	130	Do.
			1829	May 23	.....	.....	215	Do.
			1830	July 15	.....	.....	117	Do.
			1831	June 9	.....	.....	2	Do.
			1832	Aug. 15	.....	.....	18	Do.
			1833	July 12	.....	.....	210	Do.
			1834	Aug. 28	.....	.....	95	Do.
			1835	Aug. 23	.....	.....	284	Do.
			1836	Aug. 24	.....	.....	5	Do.
			1837	July 24	.....	.....	442	Do.
			1838	Aug. 25	.....	.....	17	Do.
			1839	July 23	.....	.....	452	Do.
			1840	July 25	.....	.....	3	Do.
			1841	July 27	.....	.....	594	Do.
			1842	July 30	.....	.....	211	Do.
			1843	July 5	.....	.....	487	Do.
			1844	July —	.....	Sept. —	148	Do.
			1845	.....	.....	.....	2	Chaillé Va. Med. J., 1856, p. 499.
			1846	Aug. —	.....	Oct. —	160	Do.
			1847	Aug. —	.....	Dec. —	2, 259	Do.
			1848	June —	.....	Nov. —	850	Do.
			1849	Aug. —	.....	Dec. —	737	Do.
			1850	July —	.....	Oct. —	102	Do.
			1851	.....	.....	.....	16	Do.
			1852	July —	.....	Dec. —	415	Do.
			1853	May —	.....	Dec. —	7, 970	Do.
			1854	July —	.....	Dec. —	2, 423	Do.

Table of Localities in the United States where Yellow Fever has appeared since A. D. 1668, &c.—Continued.

e.	Locality.	Situation.	Elevation, in feet, above sea-level.	DATE OF COMMENCEMENT. Year.	DATE OF COMMENCEMENT. Month.	DATE OF SUSPENSION. Year.	DATE OF SUSPENSION. Month.	Mortality.	Authority.
Louisiana	New Orleans	On Mississippi River	10	1855	June —	.....	Dec. —	2, 670	Chaillé, Va. Med. J., 1856, p. 499.
				1856	Aug. —	.....	Nov. —	74	S. Chaillé, Va., M. J., 1856, p. 499.
				1857	June —	.....	Dec. —	199	Do.
				1858	June —	.....	Oct. 10	3, 889	Ed. Med. Rep., 1858, vol. 1, No. 4, p. 72.
				1862	.....	.....	.....	.....	Fenner, S. J. of M. S., May, 1866.
				1863	.....	.....	.....	.....	Chaillé, p. 8.
				1864	.....	.....	.....	.....	Harris, Sanitary Commission, p. 264.
				1867	June 10	.....	Dec. 22	3, 093	Ed. N. O. M. J., 1868, p. 194.
				1870	May 16	.....	Dec. —	587	J. C. Fuget, N. O. Med. & S. J., vol 1, No. 2, 1873.
				1871	Aug. 4	.....	Oct. —	55	Report N. O. Board of Health, 1871.
				1872	Aug. 28	.....	Nov. 30	40	Report N. O. Board of Health, 1872, p. 17.
				1873	July 4	.....	Nov. 18	225	Orsamus Smith, Report Supervising Surgeon, U. S. Marine Hospital Service, 1873.
	New Orleans, (small settlement on coast below.)	On Mississippi River	10	1854	.....	.....	.....	.....	D. R. Fox, N. O. M. N., 1855, p. 409.
				1855	.....	.....	.....	.....	Do.
	Opelousas, Saint Landry Parish.	Seven miles from the head of navigation on the Courtableau Bayou.	60	1829	.....	.....	.....	.....	Carpenter, Sketches, p. 26.
				1837	Oct. 20	.....	Nov. —	.....	T. A. Cooke, N. O. M. J., 1846, p. 27; Drake, p. 243.
				1839	Aug. —	.....	Nov. —	.....	Do.
				1842	.....	.....	.....	.....	Do.
				1853	.....	.....	.....	.....	T. A. Cooke, South Med. Rec., vol. 34, 1873, No. 4, p. 199.
				1867	.....	.....	.....	.....	Do.
	Pattersonville, Saint Mary's Parish.	On Teche River	20	1853	Aug. 8	.....	Dec. —	45	J. S. Grant, M. D., Report San. Com., 1853, p. 43.
				1854	Sept. —	.....	.....	.....	W. B. Wood, N. O. M. N., 1856, p. 483.
				1855	Sept. —	.....	.....	.....	Do.
	Plaquemine	On Mississippi River	6	1837	.....	.....	.....	.....	Drake, Dis. Int. Valley, N. A., p. 191.
				1839	.....	.....	.....	.....	Do.
				1847	.....	.....	.....	.....	N. O. M. and S. J., 1848, p. 536.
				1853	Sept. —	.....	Oct. —	.....	J. B. Hacker, N. O. M. and S. J., 1854, p. 668.
				1858	.....	.....	.....	.....	S. Chaillé, Va. M. J., 1858, p. 491.
	Point a la Hache, coast below New Orleans.	On Mississippi River	8	1854	Oct. —	.....	.....	.....	Brown, Quarantine.
	Port Barre	.....	.....	1870	.....	.....	.....	.....	T. A. Cooke, South Med. Rec., vol. 3, 1873, No. 4, p. 193.
	Port Hudson, East Feliciana Parish.	On Mississippi River	75	1841	Oct. 13	.....	.....	.....	Drake Dis. Int. Valley, N. A., p. 252.
				1843	.....	.....	.....	.....	Do.
				1839	.....	.....	.....	.....	Drake, Dis. Int. Valley, N. A., p. 191.
	Saint Francisville	On Mississippi River	80	1811	.....	.....	.....	.....	Drake Dis. Int. Valley N. A., p. 253.
	West Feliciana Parish	.....	.....	1817	.....	.....	.....	.....	Do.

				1819	.....	.....	.....	Do.
				1823	.....	.....	.....	Do.
				1827	.....	.....	.....	Do.
				1829	Sept. 22	.....	.....	Do.
				1839	Aug. 28	.....	.....	Do.
				1843	Aug. 28	.....	.....	Do.
				1839	.....	.....	1	P. B. McKelvey, N. O. M. and S. J., 1849, p. 64.
				1843	.....	.....	.....	Do.
				1846	.....	.....	1	Do.
				1848	.....	.....	1	Do.
				1853	.....	.....	.....	B. Dowler, Tableau of Yellow Fever, 1853, p. 26.
	Saint John Baptiste	On Mississippi River	20	1853	.....	.....	.....	C. Delery, N. O. M. and S. J., 1853, p. 405.
	Saint Martinsville, Saint Martin's Parish.	On Teche River	22	1839	.....	.....	.....	Drake, Dis. Int. Valley, N. A., p. 191.
	Saint Mary's Parish, (Judge Baker's plantation.)	On the Gulf of Mexico	15	1854	Sept. —	.....	Oct. —	.....
	Shreveport, Caddo Parish	On Red River	220	1853	Sept. —	.....	Dec. —	..... B. Dowler, Tableau of Yellow Fever, 1853, p. 26.
				1873	Aug. 12	.....	Nov. 10	759 John M. Woodworth, Supervising Surgeon U. S. M. H. S., Report 1873.
	Thibodeaux, La Fourche, interior parish.	On Bayou la Fourche	15	1853	.....	.....	.....	160 B. Dowler, Tableau of Yellow Fever, 1853, p. 26.
				1854	Sept. 12	.....	Oct. —	..... M. A. McLeod, N. O. M. N., 1855, p. 454.
				1846	Sept. 20	.....	Oct. —	..... W. A. Booth, N. O. M. and S. J., 1849, p. 65.
	Trenton, Washita Parish	On Washita River	80	1853	.....	.....	.....	..... T. P. Richardson, Report San. Com., p. 42.
	Vidalia, Concordia Parish	On Mississippi River	175	1853	Aug. —	.....	.....	..... H. B. Shaw, Report San. Com., p. 57.
	Ville Platte, Saint Landry Parish.	On Teche Bayou	50	1870	.....	.....	.....	..... T. A. Cooke, South Med. Rec., vol. 3, No. 4, p. 197.
	Washington, Saint Landry Parish.	Head of navigation on the Courtableau Bayou.	65	1837	.....	.....	.....	..... T. A. Cooke, South Med. Rec., vol. 3, No. 4, p. 199.
				1839	.....	.....	.....	Do.
				1852	.....	.....	.....	Do.
				1853	Aug. 15	.....	.....	..... T. A. Cooke, N. O. M. and S. J., 1854, p. 602.
				1854	.....	.....	.....	..... T. A. Cooke, South Med. Rec., vol. 3, No. 4, p. 196.
				1867	.....	.....	.....	Do.
Maryland	Baltimore, Baltimore Co	On Patapsco River	60	1794	.....	.....	.....	..... W. Hume, Ch. M. J. and Rev. 1860, p. 24.
				1795	.....	.....	.....	.....
				1797	Aug. —	.....	Nov. —	..... J. H. Griscom, Visitations of Yellow Fever, p. 8.
				1798	.....	.....	.....	..... W. Hume, Ch. M. J. and Rev. 1860, p. 24.
				1799	.....	.....	.....	Do.
				1800	.....	.....	.....	Do.
				1801	.....	.....	.....	Do.
				1802	.....	.....	.....	..... M. Reps., 1803, p. 100.
				1805	.....	.....	.....	..... J. H. Griscom, Visitations of Yellow Fever, p. 13.
				1819	July 21	.....	Oct. 30	..... D. M. Reese, Yellow Fever, 1819, p. 27.
				1820	.....	.....	.....	..... H. G. Jameson, A. J. M. C., 1856, p. 372.
				1821	.....	.....	.....	Do.
				1822	.....	.....	.....	Do.
				1868	.....	.....	.....	..... Brown, Quarantine, p. 14.
	West River, (near Annapolis,) Anne Arundel Co.	Near Chesapeake Bay	15	.....	.....	.....	.....	..... Stewart, Med. Mus., 1805, p. 362.
Massachusetts	Boston, Suffolk Co	Head of Massachusetts Bay	45	1691	.....	.....	.....	..... B. Dowler, Tableau of Yellow Fever, 1853, p. 7.
				1693	.....	.....	.....	..... Ed. N. Y. J. M., 1856, p. 278.
				1795	.....	.....	.....	..... B. Dowler, Tableau of Yellow Fever, 1853, p. 7.
				1796	Aug. —	.....	.....	..... J. H. Griscom, N. Y. J. M., 1856, p. 369.

Table of Localities in the United States where Yellow Fever has appeared since A. D. 1668, &c.—Continued.

State.	Locality.	Situation.	Elevation, in feet, above sea-level.	Date of commencement. Year.	Date of commencement. Month.	Date of suspension. Year.	Date of suspension. Month.	Mortality.	Authority.
Massachusetts...	Boston, Suffolk Co	Head of Massachusetts Bay.	45	1798	.....	.....	.....	200	J. H. Griscom, N. Y. J. M., 1856, p. 369.
				1800	.....	.....	.....	.....	S. Emlen, N. A. M. and S. J., 1828, p. 321.
				1802	.....	.....	.....	60	J. Gotham, Med. Rep., 1856, p. 563.
				1805	.....	.....	.....	.....	J. H. Griscom, Visitations of Yellow Fever, p. 13.
				1819	.....	.....	.....	.....	S. Emlen, N. A. M. and S. J., 1828, p. 321.
				1858	.....	.....	.....	.....	F. E. Oliver, B. M. and S. J., 1858, p. 140.
	Holliston, Middlesex Co ..	Inland, 25 miles from Boston.	75	1741	.....	.....	.....	15	
	Nantucket, Nantucket Co.	On an island in the ocean ..	20	1763	.....	.....	.....	259	Med. Rep., 1853, p. 107.
	New Bedford, Bristol Co..	On Buzzard's Bay.....	25	1800	.....	.....	.....	.....	Brown, Quarantine, p. 9.
				1801	.....	.....	.....	.....	B. Dowler, Tableau of Yellow Fever, 1853, p. 11.
	Newburyport, Essex Co...	On Merrimac River.....	20	1796	.....	.....	.....	.....	J. H. Griscom, N. Y. J. M., 1856, p. 369.
	Salem, Essex Co	On an inlet of the sea.....	20	1798	.....	.....	.....	.....	J. Gotham, jr., Med. Rep., 1856, p. 563.
Mississippi	Biloxi, Harrison Co.....	On Biloxi Bay.....	10	1702	.....	.....	.....	.....	Drake Dis. Int. Valley, N. A., 191.
				1839	.....	.....	.....	.....	Do.
				1847	.....	.....	.....	.....	E. D. Fenner, N. O. M. and S. J., 1848, p. 192.
				1853	.....	.....	.....	.....	J. C. Nott, N. O. M. and S. J., 1854, p. 571.
				1858	.....	.....	.....	.....	S. Chaillé, Va. M. J., 1858, p. 491.
	Brandon, Rankin Co.....	Inland, 12 miles from Jackson, on branch of Pearl River.	300	1853	Sept. 15	.....	.....	.....	Report Sanitary Commission, 1853, p. 77.
				1854	Sept. 23	.....	Nov. 18	.....	
	Canton, Madison Co.....	Inland, 25 miles from Jackson, near branch of Pearl River.	320	1855	.....	.....	.....	.....	Trans. A. M. A., 22, p. 201.
	Clifton, Jefferson Co	.....	175	1853	Aug. 28	.....	Oct. —	.....	A. P. Jones, N. O. M. N., 1856, p. 182.
	Cooper's Wells, Hinds Co	10 miles from Pearl River ...	275	1855	Aug. 23	.....	.....	13	J. S. Beazley, N. O. M. N., 1856, p. 151.
	Grand Gulf, Claiborne Co	On Mississippi River.....	200	1853	.....	.....	.....	.....	E. McAllister, N. O. M. and S. J., 1854, p. 675.
	Greenwood, Carroll Co....	On Yazoo River.....	140	1853	.....	.....	.....	9	Trans. A. M. A., 1854, p. 525.
	Jackson, Hinds Co.....	On Pearl River.....	275	1853	.....	.....	.....	.....	S. C. Farras, Stethoscope, 1855, p. 584.
				1854	.....	.....	.....	.....	Do.
	Natchez, Adams Co.....	On Mississippi River.....	150	1817	Sept. —	.....	Nov. 9	9	Drake, Dis. Int. Valley, N. A., p. 263.
				1819	Sept. —	.....	Dec. —	180	Brown, Quarantine, p. 59.
				1823	Aug. 10	.....	Oct. 18	312	H. Tooley, History Yellow Fever, 1823, p. 25.
				1825	Aug. 20	.....	Nov. 1	150	Drake, Dis. Int. Valley, N. A., p. 269.
				1827	.....	.....	.....	.....	A. P. Merrill, Galv. M. J., 1867, p. 861.
				1829	Sept. 1	.....	Nov. —	90	Drake, Dis. Int. Valley, N. A., p. 191.
				1837	Sept. 8	.....	Nov. 25	280	Do.
				1839	Sept. —	.....	Nov. —	235	Do.
				1844	.....	.....	.....	.....	Cartwright, N. O. M. and S. J., 1848, p. 225.
				1848	June —	.....	Nov. —	.....	C. H. Stine, N. O. M. and S. J., 1849, p. 549.
				1853	July 17	.....	.....	.....	B. Dowler, Tableau of Yellow Fever, 1853, p. 26.

				1855	.....	.....	.....	.....	B. M. and S. J., 1855, p. 275.
				1858	.....	.....	.....	.....	S. Chaillé, Va. M. J., 1858, p. 491.
	Pascagoula, Jackson Co...	On Pascagoula Bay	10	1847	.....	.....	.....	.....	E. D. Fenner, N. O. M. and S. J., 1868, p. 192.
				1853	.....	.....	.....	.....	J. C. Nott, N. O. M. and S. J., 1854, p. 571.
	Pass Christian, Harrison Co.	Near Saint Louis Bay.....	15	1847	.....	.....	.....	.....	E. D. Fenner, N. O. M. and S. J., 1868, p. 192.
				1853	.....	.....	.....	.....	J. C. Nott, N. O. M. and S. J., 1854, p. 571.
				1855	.....	.....	.....	.....	W. H. Calvert, N. O. M. and S. J., 1856, p. 80.
				1858	.....	.....	.....	.....	S. Chaillé, Va. M. J., 1858, p. 491.
	Petit Gulf Hills, Jefferson Co.	On Mississippi River.....	200	1853	.....	.....	.....	.....	A. P. Jones, N. O. M. N., 1854, p. 180.
	Port Gibson, Claiborne Co.	On Bayou Pierre.....	200	1853	.....	.....	.....	.....	E. McAllister, N. O. M. and S. J., 1854, p. 676.
	Rodney, Jefferson Co.....	On Mississippi River.....	175	1829	.....	.....	.....	.....	A. P. Jones, N. O. M. N., 1854, p. 180.
				1843	Sept. 6	.....	.....	.....	C. B. New, West Lane, 1844, p. 301.
				1847	.....	.....	.....	.....	A. P. Jones, N. O. M. N., 1854, p. 180.
				1853	.....	.....	.....	.....	Do.
	Shieldsborough, Hancock Co.	On Saint Louis Bay.....	10	1820	Aug. 20	.....	.....	.....	Drake, Dis. Int. Valley N. A., p. 214.
				1829	Aug. 5	.....	.....	.....	Do.
				1839	.....	.....	.....	.....	Do.
	Vicksburg, Warren Co....	On Mississippi River.....	175	1841	Sept. —	.....	Oct. —	.....	A. L. C. Magruder, N. O. M. J., 1848, p. 689.
				1847	.....	.....	.....	.....	Ed. West Lancet 1853, p. 575.
				1839	.....	.....	.....	.....	Drake, Dis. Int. Valley N. A., p. 191.
				1858	.....	.....	.....	.....	S. Chaillé, Va. M. J., 1858. p. 49.
				1871	.....	.....	.....	.....	Med. and Surg. Rep., vol. 25, No. 16, p. 354.
	Washington, Adams Co ..	Inland, near Natchez.....	175	1825	Aug. —	.....	Nov. —	52	J. W. Monnett, A. J. M. Sc., 1827, p. 243
	Whitzell's Landing.....	Twenty miles below Natchez	135	1817	.....	.....	.....	.....	Drake, Dis. Int. Valley of N. A.., p. 190.
	Woodville, Wilkinson Co.	Fifteen miles east of the Mississippi River.	100	1844	.....	.....	.....	.....	J. W. H. West, Lancet, 1844, p. 347.
				1852	.....	.....	.....	.....	P. C. Gaillard, Ch. M. J. and Rev., 1859, p. 480.
				1853	Aug. 9	.....	.....	.....	A. C. Holt, N. O. M. N., 1856, p. 194.
				1855	Sept. —	.....	.....	.....	Do.
				1858	.....	.....	.....	.....	S. Chaillé, Va. M. J. ., p. 491.
	Yazoo City, Yazoo Co.....	On Yazoo River	140	1853	Sept. 1	.....	.....	.....	Trans. A. M. A., 1854, p. 525.
Missouri.....	Saint Louis, Saint Louis Co.	On Mississippi River.....	475	1854	.....	.....	.....	.....	Ed. Nash., J. M. and S., 1854, p. 345.
				1855	Aug. 14	.....	.....	.....	W. Webb, N. O. M. N. , 1856, p. 52.
	New Design, Saint Louis Co.	Twenty miles below Saint Louis.	420	1797	.....	.....	.....	57	Dr. Watkins, M. Repos., 1801, p. 74.
New Hampshire.	Portsmouth, Rockingham Co.	On Piscataqua River, three miles from the ocean.	40	1798	Aug. —	.....	Oct. —	100	Med. Repos., 1799, p. 211.
New Jersey.....	Bridgeton, Cumberland Co.	On Cohansey Creek, twenty miles from Delaware Bay.	50	1798	.....	.....	.....	.....	J. H. Griscom, Visitations of Yellow Fever, p. 9.
	Gloucester City, Camden Co.	On Delaware River	20	1805	.....	.....	.....	.....	
	Perth Amboy, Middlesex Co.	On Raritan Bay	20	1811	.....	.....	.....	5	J. Gotham, M. Rep., 1856, p. 564.
	Port Elizabeth, Cumberland Co.	On Maurice River	20	1798	Aug. 9	.....	Sept. —	6	G. Lee, M. Repos., 1800, p. 246.
	Woodbury	.....	.....	1798	.....	.....	.....	.....	J. H. Griscom, Visitations of Yellow Fever, p. 9.
New York.....	Albany.....	On Hudson River.....	85	1746	Aug. -	.....	.....	45	J. H. Griscom, Visitations of Yellow Fever, p. 4.
				1798	.....	.....	.....	.....	J. Gotham, jr., M. Rep., 1856, p. 563.
	Bay Ridge, Long Island...	.....	20	1856	.....	.....	.....	.....	C. D. Griswold, B. M. and S. J., 1858, p. 214.
	Brooklyn, Kings Co.....	A seaport.....	40	1809	July —	.....	Sept. —	40	Gillespie, Amer. Med. and Philo. Reg , vol. 3, p. 101, Ed. N. Y. J. M., 1856, p. 278.

Table of Localities in the United States where Yellow Fever has appeared since A. D. 1668, &c.—Continued.

State.	Locality.	Situation.	Elevation, in feet, above sea-level.	DATE OF COMMENCEMENT.		DATE OF SUSPENSION.		Mortality.	Authority.
				Year	Month.	Year.	Month.		
New York	Brooklyn, Kings Co	A seaport	40	1823					Carpenter, Sketches of Yellow Fever.
				1856	July 14				3d Nat'l Quarantine and Sanitary Convention, p. 41
	Catskill, Greene Co	On Hudson River	50	1743					
				1794					
				1803	Aug. 10		Sept. 28	8	B. W. Dwight, M. Reps.
	Governor's Island	New York Harbor	25	1856	July 29				3d Nat'l Quarantine and Sanitary Convention, p. 41
				1870	Sept. —		Oct. 26	49	Report Board of Health, New York, 1870, p, 29.
	Gowanus, Kings Co	On Gowanus Cove, near New York Harbor.	15	1856					Va. M. J., 1856, p. 328.
	Greenfield, Saratoga Co	Far inland	150	1798					J. G. Scott, M. Repos., 1807, p. 291.
	Huntington, Suffolk Co	Huntington Bay	20	1795					Dr. D. Hosack, M. and Philos Reg., 1813, p. 191.
				1798					Do.
	New York, New York Co	A seaport	35	1668					J. H. Griscom, M. Rep., 1856, p. 561.
				1702			Sept. 30	570	J. H. Griscom, Visitations of Yellow Fever, p. 2.
				1732					J. H. Griscom, Visitations of Yellow Fever, p. 3.
				1741					Ed. N. Y. J. M., 1856, p. 278.
				1742					Do.
				1743				217	J. H. Griscom, Visitations of Yellow Fever, p. 3.
				1745					Do.
				1747					J. H. Griscom, Visitations of Yellow Fever, p. 4.
				1748					Daily Shreveport Times, vol. 2, No. 811, 1873.
				1762					Do.
				1790					W. Hume, Ch. M. J. and Rev., 1860, p. 24.
				1791	Aug. —		Oct. 15		Ed. N. Y. J. M., 1856, p. 278, and Brown, Quarantine, p. 6.
				1792					Ed. N. Y. J. M., 1856, p. 278.
				1793					Do.
				1794					Do.
				1795	July 19			730	Bayley's Account of Epedemic Fever, 1795.
				1796					Ed. N. Y. J. M., 1856, p. 278
				1797					Do.
				1798	Aug. —		Nov. —	2,080	Do.
				1799	July —		Nov. —	76	Do.
				1800	Sept. —		Oct. 14	*21	Do.
				1801	Sept. —		Oct. —	*16	Do.
				1802				*2	W. Hume, Ch M. J. and Rev., 1860, p. 24.
				1803	July 18		Oct. —	6-700	Ed. N. Y. J. M., 1856, p. 278.
				1805	June —		Oct. —	340	J. H. Griscom, M. Rep., 1856, p. 561.
				1806	June -		Nov. —	*0	Ed. N. Y. J. M., p. 278.

				1807	.....	.....	.....	*3	J. H. Griscom, M. Rep., 1856, p. 561
				1808	.....	.....	.....	*1	Ed. N. Y. J. M., 1856, p. 284.
				1809	.....	.....	.....	*2	Do.
				1810	.....	.....	.....	*1	Do.
				1815	.....	.....	.....	*7	Do.
				1816	.....	.....	.....	*0	Do.
				1817	.....	.....	.....	*4	Ed. N. Y. J. M., 1856, p. 281
				1818	.....	.....	.....	*4	Do.
				1819	Aug. —	.....	.....	37	Do.
				1820	.....	.....	.....	*2	Do.
				1821	.....	.....	.....	*16	Do.
				1822	July 10	.....	Nov. 5	230	Do.
				1823	.....	.....	.....	*5	Do.
				1824	.....	.....	.....	*8	Do.
				1825	.....	.....	.....	*1	Do.
				1826	.....	.....	.....	*2	Do.
				1827	.....	.....	.....	*4	Do.
				1828	.....	.....	.....	*0	Do.
				1829	.....	.....	.....	*0	Do.
				1830	.....	.....	.....	*1	Do.
				1832	.....	.....	.....	*1	Do.
				1833	.....	.....	.....	*2	Do.
				1834	.....	.....	.....	*1	Do.
				1835	.....	.....	.....	*2	Do.
				1838	.....	.....	.....	*8	Ed. N. Y. J. M., 1856, p. 284.
				1839	.....	.....	.....	*4	Do.
				1843	.....	.....	.....	*5	Do.
				1844	.....	.....	.....	*2	Do.
				1846	.....	.....	.....	*0	Do.
				1847	.....	.....	.....	*0	Do.
				1848	Aug. 12	.....	.....	*12	Do., and Trans. A. M. A., vol. 7, p. 162.
				1852	.....	.....	.....	*1	Ed. N. Y. J. M., 1856, p. 284.
				1853	.....	.....	.....	*14	Do.
				1854	.....	.....	.....	*20	Do.
				1855	.....	.....	.....	*5	Do.
				1872	.....	.....	.....	.....	B. M. and S. J., vol. 80, No. 23, p. 587.
	Queensborough, Orange Co	.....	.....	1873	May 23	.....	Oct. 30	18	Heber Smith, Report Sup. Surg. U. S. M. H. S., 1873.
				1801	.....	.....	.....	.....	J. G. Scott, M. Repos., 1807, p. 202.
	Red Hook, Dutchess Co...	On Hudson River.....	30	1856	.....	.....	.....	.....	Va. M. J., 1856, p. 328.
	Stapleton, Staten Island, Richmond Co.	New York Bay	20	1848	Aug. 23	.....	.....	.....	A. B. Whiting, Ch. M. J. and Rev., 1848, p. 613.
	Tompkinsville, Staten Island, Richmond Co.	.....do	20	1848	Aug. 23	.....	.....	.....	Do.
	West Neck, Suffolk Co	.....	18	1795	.....	.....	.....	.....	Dr. D. Hosack, M. and Philos. Reg., 1813, p. 191.
	West Point, Orange Co ...	On Hudson River	25	1804	.....	.....	.....	.....	J. G. Scott, M. Repos., 1807, p. 242.
	Yellow Hook	.....	20	1856	.....	.....	.....	.....	Va. M. J. 1856, p. 328.
North Carolina ..	Beaufort, Carteret Co	Newport River, near the sea.	8	1854	.....	.....	.....	.....	
				1864	Sept. 24	.....	Nov. 17	68	Official Report, U. P. Rice, 1864.
				1871	.....	.....	.....	.....	

* Star indicates the reports of deaths at the Marine Hospital, N. Y. for the respective years: Ed. N. Y. J. M., 1856, p. 284.

Table of Localities in the United States where Yellow Fever has appeared since A. D. 1668, &c.—Continued.

State.	Location.	Situation.	Elevation, in feet, above sea-level.	DATE OF COMMENCEMENT.		DATE OF SUSPENSION.		Mortality.	Authority.
				Year.	Month.	Year.	Month.		
North Carolina	New Berne, Craven Co	On Neuse River	20	1799					M Repos., 1800, p. 197.
				1864	Sept. —		Nov. —	700	Report Medical Inspector U. S. A., Dec. 31, 1864.
	Smithville, Brunswick Co	On Cape Fear River, near the ocean.	15	1862					W. T. Wragg, N. Y. M. J., vol. ix, No. 5, 1859, p. 49.
	Washington, Beaufort Co	On Tar River, 40 miles from Pamlico Sound.	35	1800					M. Repos., 1800, p. 197.
	Wilmington, New Hanover Co.	On Cape Fear River, 34 miles from the sea.	25	1796					J. H. Griscom, N. Y. J. M., p. 369.
				1800					M. Repos., 1800. p. 197.
				1821	Aug. 9				J. Hill, A. M. Rec., 1822, p. 86, and Brown, Quarantine, p. 18.
				1862	Aug. 6		Nov. 17	446	W. T. Wragg, N. Y. J. M., 1869. p. 478, and 1869, p. 225.
Ohio	Cincinnati, Hamilton Co	On Ohio River	550	1871					Med. and Surg. Rep. vol. 25, No. 16, p. 354.
				1873					Health Office Report.
	Gallipolis, Gallia Co	do	520	1796					A. Ellicott, M. Repos., 1801, p. 74.
Pennsylvania	Bald Eagle Valley, Clinton Co.	Center of Pennsylvania, on West Branch of Susquehanna River.	550	1799					W. Harris, M. Repos., 1801, p. 75.
	Chester, Delaware Co	On Delaware River	25	1798				50	J. H. Griscom, Visitations of Yellow Fever, p. 9.
	Chester County	do		1805					Dowler Tables of Fev., p. 13.
	Kensington, Philadelphia Co.	do	15	1793					La Roche, Yellow Fever, p. 68.
	Lisburn, Cumberland Co	On Yellow Breeches Creek, 9 miles from Harrisburgh.	250	1803	Aug. —				W. Baldwin, Med. Mus., 1805, p. 601.
	Marcus Hook, Delaware Co.	On Delaware River	15	1798					J. Rush, Med. Mus., 1805, p. 62.
	Nittany, Centre Co	Far inland	550	1799					W. Harris, M. Repos., 1860, p. 75.
	Philadelphia, Philadelphia Co.	On Delaware River	35	1695					J. N. Schoolfield, Va. M. J., 1857, p. 358.
				1699	Aug. 1			220	R. La Roche, Ch. M. J. and Rev., 1852, p. 58.
				1732					Daily Shreveport Times, vol. 2, No. 311, 1873.
				1741				250	J. H. Griscom, Visitations of Yellow Fever, p. 3.
				1742					B. Dowler, Tableau of Yellow Fever, p. 3.
				1743					Do.
				1744					R. La Roche, Ch. M. J. and Rev., 1852, p. 458.
				1747					Do.
				1762	Aug. —		Nov. —		J. H. Griscom, Visitations of Yellow Fever, p. 5.
				1791					
				1793	Aug. 15		Dec. —	4,041	Carey, Account of the Malignant Fever, p. 116.

				1794	.....	.....	.....	La Roche, Board of Health Rep., Phila., 1870, p. 55.
				1796	.....	.....	.....	J. H. Griscom, N. Y. J. M., 1856, p. 369, and 1856, p. 368.
				1797	Aug. 1	Oct. 15	1,300	Rush, Epidemic of 1797.
				1798	Aug. 1	Nov. 1	3,500	Do.
				1799	Jul —	Nov. —	1,000	R. La Roche, Ch. M. J. and Rev., 1852, p. 458.
				1800	.....	.....	.....	W. Hume, Ch. M. J. and Rev., 1860, p. 24.
				1801	.....	.....	.....	Do.
				1802	.....	.....	307	Do.
				1803	.....	.....	195	Do.
				1805	.....	.....	3–400	Do.
				1807	.....	.....	3	B. Dowler, Tableau of Yellow Fever, 1853, p. 14.
				1809	.....	.....	.....	Do.
				1810	.....	.....	3	Do.
				1811	.....	.....	5	Do.
				1813	.....	.....	6	Do.
				1814	.....	.....	7	Do.
				1815	.....	.....	2	Do.
				1816	.....	.....	2	Do.
				1819	.....	.....	13	S. Emlen, N. A. M. and S. J., 1828, p. 321.
				1820	July 24	.....	83	S. Jackson, A. M. Rec., 1821, p. 689.
				1853	July 19	Oct. —	128	W. Jewell, N. Y. J. M., 1854, pp. 149, 246, and Brown, Quarantine, p. 10.
				1854	.....	.....	.....	Ed. Nash. J. M. and Surg., 1854, p. 345.
	Southwark, Philadelphia Co	On Delaware River	20	1870	June 29	.....	18	La Roche, Yellow Fev., 1870, pp. 20, 26.
Rhode Island	Block Island	In Long Island Sound	20	1793	.....	.....	.....	La Roche, Yellow Fever, p. 68.
	Bristol, Bristol Co	On Narragansett Bay	20	1801	June —	Dec. —	.....	Aaron C. Willey, M. Repos., 1803, p. 123.
				1795	.....	.....	.....	W. Hume, Ch. M. J. and Rev. 1860, p. 24.
				1796	.....	.....	.....	Do.
				1797	.....	.....	.....	Do.
	Newport, Newport Co	A port on Narragansett Bay	20	1806	.....	.....	.....	
	Providence, Providence Co	do	35	1794	.....	.....	.....	B. Dowler, Tableau of Yellow Fever, 1853, p. 7.
				1795	.....	.....	45	W. Hume, Ch. M. J. and Rev., 1860, p. 24.
				1797	Aug. 13	Aug. —	45	W. Hume, Ch. M. J. and Rev., 1860, p. 324.
				1800	.....	.....	.....	W. Hume, Ch. M. J. and Rev., 1860, p. 24.
				1805	July 19	Aug. —	.....	P. Bowen, Yellow Fever in Providence in 1805.
	Westerly, Washington Co.	On Pawcatuck River	25	1798	.....	.....	.....	J. Comstock, M. Repts., 1807, p. 23.
				1805	.....	.....	.....	Do.
South Carolina	Charleston, Charleston district.	A seaport	10	1699	.....	.....	.....	Simons' Trans. S. C. Med. Ass'n, 1851, p. 37.
				1703	.....	.....	.....	Do.
				1728	.....	.....	.....	Do.
				1732	May —	.....	Sep. or Oct	*8–12	Simons' Trans. S. C. Med. Ass'n, 1851, p. 37, and Trans. A. M. A., vol. 23, p. 291.
				1734	.....	.....	.....	T. Harris, Phil. M. and P. J., No. 5, p. 21.
				1739	.....	.....	.....	W. Hume, Ch. M. J. and Rev., 1854, p. 145.
				1745	.....	.....	.....	Do.
				1748	.....	.....	.....	Do.
				1753	.....	.....	.....	Do.
				1755	.....	.....	.....	Do.
				1761	.....	.....	.....	T. Harris, Phil. M. and Ph. J., 1805, p. 21.
				1762	.....	.....	.....	Dawson & De Saussure, Census of Charleston.

* Died daily.

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State.	Locality.	Situation.	Elevation, in feet, above sea-level.	DATE OF COMMENCEMENT.		DATE OF SUSPENSION.		Mortality.	Authority.
				Year.	Month.	Year.	Month.		
South Carolina...	Charleston, Charleston district.	A seaport.....	10	1768	.....	.....	.....	.....	M. M. Dowler, N. O. M. J., 1859, p. 305.
				1770	.....	.....	.....	.....	T. Harris, Phil. M. and Ph. J., 1805, p. 21.
				1792	.....	.....	.....	.....	W. Hume, Ch. M. J. and Rev., 1852, p. 145., and Simons' Trans. Med. Ass'n S. C., 1851, p. 38.
				1794	.....	.....	.....	.....	Do.
				1795	.....	.....	.....	.....	Do.
				1796	.....	.....	.....	.....	Do.
				1797	.....	.....	.....	.....	Do.
				1798	.....	.....	.....	.....	T. Y. Simons, Ch. M. J., and Rev., 1851, p. 779.
				1799	.....	.....	.....	239	W. Hume, Ch. M. J., and Rev , 1854, p. 145, and Simons' Trans. Med. Soc. S. C., 1851, p. 38.
				1800	.....	.....	.....	184	Do.
				1802	.....	.....	.....	96	Do.
				1803	.....	.....	.....	.....	Simons' Trans. S. C. Med. Ass'n, 1851, p. 37.
				1804	.....	.....	.....	148	Do.
				1805	.....	.....	.....	.....	Do.
				1807	.....	.....	.....	162	Simons' Trans. S. C. Med. Ass'n, p. 38.
				1812	.....	.....	.....	.....	W. Hume, Ch. M. J. and Rev., 1854, p. 145.
				1817	July —	.....	Nov. —	272	Dowler, N. O. M. J., 1859, p. 597.
				1819	Aug. —	.....	Oct. —	177	Do.
				1822	June —	.....	Aug. —	2	Do.
				1824	Aug. —	.....	Nov. —	235	Do.
				1825	Aug. —	.....	Sept. —	2	Do.
				1827	Aug. —	.....	Nov. —	64	Do.
				1828	Aug. —	.....	Sept. —	26	Do.
				1830	Sept. —	.....	Nov. —	39	Do.
				1834	Aug. —	.....	Oct. —	49	Do.
				1835	Aug. —	.....	Sept. —	25	Do.
				1838	Aug. —	.....	Nov. —	351	Do.
				1839	June —	.....	Oct. —	134	Do.
				1840	Aug. —	.....	Oct. —	22	Do.
				*1841	.....	.....	.....	.....	Simons' Trans. S. C. Med. Ass'n, p. 59.
				1843	.....	.....	Nov. —	1	Dowler, N. O. M. J., p. 597.
				1849	Aug. —	.....	Nov. —	125	Do.
				1852	Aug. —	.....	Nov. —	310	Do.
				1854	Aug. —	.....	Nov. —	627	Do.
				1856	Aug. —	.....	Nov. —	211	Do.
				1857	Sept —	.....	Nov. —	13	Do.

				1858	July —	.....	Dec. —	717	Do.
				1862	.....	.....	.....	.....	Brown, Quarantine, p. 29.
				1864	July 27	.....	.....	.....	Trans. A. M. A., vol. 23, p. 292.
			10	1871	July 19	.....	Nov. —	213	Simons' Trans. A. M. A., vol. 23, p. 293.
	Beaufort, Beaufort district.	On an arm of the sea	10	1871	Aug. 6	.....	Nov. 21	7	Trans. A. M. A., vol. 23, p. 331.
	Columbia, Richland dist	On Congaree River	175	1854	.....	.....	.....	.....	Ed. Nash. J. M. and S., 1854, p. 345.
	Fort Moultrie	In Charleston Harbor	15	1852	.....	.....	.....	.....	M. M. Dowler, N. O. M. J., 1854, p. 305.
				1858	Aug. 15	.....	.....	.....	Ch. M. J. and Rev., 1858, p. 844.
	Georgetown, Georgetown district.	On Winyaw Bay	10	1854	Aug. 20	.....	Oct. 28	.....	W. C. Miller, Ch. M. J. and Rev., 1856, p. 19.
	Hilton Head		10	1862	Sept. 8	.....	Oct. 25	.....	Brown, Quarantine, p. 30.
	Mount Pleasant, Charleston Co.	On Winyaw Bay	10	1817	.....	.....	.....	.....	R. A. Kinloch, Ch. M. J. and Rev., 1858, p. 793.
				1848	.....	.....	.....	.....	Do.
				1852	.....	.....	.....	.....	Do.
				1854	.....	.....	.....	.....	Do.
				1856	.....	.....	.....	.....	Do.
				1857	.....	.....	.....	.....	Do.
Tennessee	Memphis, Shelby Co	On Mississippi River	260	1853	.....	.....	.....	.....	W. J. Tuck, N. O. M. and S. J., 1854, p. 662.
				1855	.....	.....	.....	.....	A. P. Merrill, Galv. M. J., 1867, p. 861.
				1866	.....	.....	.....	.....	Ed. Amer. Prac., vol. 8, 1873, p. 319.
				1873	Sept. 14	.....	Nov. 9	1244	Memphis Board of Health. See G. B. Thornton, in Report of Supervising Surgeon U. S. Mar. Hos. Service, 1873.
Texas	Alleyton, Colorado Co	On Colorado River	250	1867	Sept. 4	.....	Dec. —	45	Trans. A. M. A., vol. 19, p. 289.
	Anderson, Grimes Co	140 miles east by north of Austin, near Brazos River.	200	1867	.....	.....	.....	.....	Trans. A. M. A., vol. 19, p. 275.
	Austin			1867	.....	.....	.....	.....	Galv. M. J., 1867, vol. 2, No. 10, p. 930.
	Bastrop, Bastrop Co.	On Colorado River	260	1867	.....	.....	.....	.....	Trans. A. M. A., vol. 19, p. 275.
	Beaumont, Jefferson Co	On Neches River	50	1863	.....	.....	.....	.....	Brown, Quarantine, p. 71.
	Belleville, Austin Co	110 miles east-southeast of Austin, near Brazos River.	180	1855	.....	.....	.....	1	J. Stephens, N. O. M. and S. J., 1856, p. 601.
	Brazoria, Brazoria Co	Near the Gulf of Mexico	20	1859	.....	.....	.....	.....	B. Dowler, N. O. M. J., 1860, p. 443.
	Brenham, Washington Co	20 miles from Brazos River	300	1867	Aug. 11	.....	Oct. 31	120	Trans. A. M. A., vol. 19, p. 275.
	Brownsville, Cameron Co	On Rio Grande River	25	1853	Sept. 23	.....	Dec. 23	50	Army Medical Statistics, p. 353.
				1858	Aug. —	.....	Nov. —	41	S. Chaillé, N. O. M. and S. J., 1858, p. 811.
				1862	.....	.....	.....	.....	Galv. M. J., 1866, p. 170.
	Calvert, Robertson Co	Between the Brazos and Navasota River.	325	1867	Oct. 12	1868	Jan. 10	250	
				1873	.....	.....	.....	.....	Newspapers.
	Chapel Hill, Washington Co.	Near Brazos River	200	1867	Aug. 6	.....	Dec. —	123	Trans. A. M. A., vol. 19, p. 275.
	Columbus, Colorado Co	On Colorado River	250	1873	.....	.....	.....	.....	Newspapers.
	Columbia, Brazoria Co	On Brazos River	25	1833	.....	.....	.....	132	Galv. M. J., 1866, p. 163.
	Corsicana, Navarre Co	180 miles north northeast of Austin, near the Pecan River.	395	1873	.....	.....	.....	.....	Newspapers.
	Corpus Christi, Nueces Co.	On Corpus Christi Bay	15	1862	.....	.....	.....	.....	Galv. M. J., 1866, p. 170.
				1867	Aug. —	.....	.....	.....	Brown, Quarantine, p. 70.
				1873	.....	.....	.....	.....	Newspapers.

* Not within the incorporated limits of Charleston, South Carolina.

Table of Localities in the United States where Yellow Fever has appeared since A. D. 1668, &c.—Continued.

State.	Locality.	Situation.	Elevation, in feet, above sea-level.	DATE OF COMMENCEMENT.		DATE OF SUSPENSION.		Mortality.	Authority.
				Year.	Month.	Year.	Month.		
Texas	Cypress City, Harris Co	Near Cypress Bayou, a branch of the San Jacinto River.	60	1853	.....	.....	.....	.....	Galv. M. J., 1866, p. 169.
				1859	.....	.....	.....	.....	B. Dowler, N. O. M. J., 1860, p. 443.
	Danville, Montgomery Co.	On branch of the San Jacinto River.	160	1867	.....	.....	.....	.....	Trans. A. M. A., vol. 19, p. 496.
	Edinburg, Cameron Co	On Rio Grande River	100	1859	July —	.....	.....	13	B. Dowler, N. O. M. J., 1860, p. 443.
	Goliad, Goliad Co	On San Antonio River	50	1867	July 12	.....	.....	23	Trans. A. M. A., vol. 19, p. 284.
	Galveston, Galveston Co	On an island in Galveston Bay.	5	1839	Sept. 30	.....	Oct. 11	250	Galv. M. J., 1867, p. 856.
				1844	July 5	.....	.....	400	Galv. M. J., 1867, p. 838.
				1847	Oct. 1	.....	Nov. 25	200	Do.
				1853	Aug. 16	.....	Nov. 28	536	Ed. Med. and Surg. Rep., vol. 17, 1867, No. 14, p. 297.
				1854	Aug. 9	.....	Nov. 5	404	Do.
				1858	Aug. 27	.....	Nov. 14	344	Do.
				1859	Sept. 17	.....	Nov. 30	182	Do.
				1864	Sept. 1	.....	Nov. 20	259	Do.
				1866	.....	.....	.....	.....	Galv. M. J., 1866, p. 338.
				1867	June 26	.....	Nov. —	1,150	S. M. Welch, Galv. M. J., vol. 1, No. 2, p. 83.
	isburg, Harris Co	On Buffalo Bayou	55	1867	.....	.....	.....	.....	Trans. A. M. A., vol. 19, p. 289.
	Hempstead, Austin Co	50 miles from Houston, and near Brazos River.	200	1867	Aug. 9	.....	Nov. 26	151	Trans. A. M. A., vol. 19, p. 275.
	Hockley, Harris Co	Near Buffalo Bayou	50	1853	.....	.....	.....	.....	Galv. M. J., 1866, p. 169.
	Houston, Harris Co	On Buffalo Bayou	50	1839	.....	.....	.....	.....	W. McCraven, N. O. M. N., 1860, p. 105.
				1844	.....	.....	.....	.....	Do.
				1847	.....	.....	.....	.....	Do.
				1848	.....	.....	.....	.....	Do.
				1853	.....	.....	.....	.....	Do.
				1854	.....	.....	.....	.....	Do.
				1858	.....	.....	.....	.....	Do.
				1859	.....	.....	.....	.....	Do.
				1864	.....	.....	.....	.....	Galv. M. J., 1866, p. 163.
				1870	.....	.....	Oct. —	1	Galv. M. J., 1870, p. 296.
	Huntsville, Walker Co	200 miles east by north of Austin.	200	1867	Aug. 9	.....	Oct. 19	130	Trans. A. M. A., vol. 19, p. 275.
	Independence, Washington Co.	80 miles east of Austin, near Brazos River.	250	1867	.....	.....	.....	.....	Trans. A. M. A., vol. 19, p. 289.

	Indianola, Calhoun Co	On Matagorda Bay	10	1852	Sept. —				Indianola Bulletin, Dec. 16, 1870.
				1853					Brown, Quarantine, p. 68.
				1858					Heard, Rep. Epid. of Texas, p. 15.
				1859					B. Dowler, N. O. M. J., 1860, p. 443.
				1862					Brown, Quarantine, p 68.
				1867	June 20			80	Trans. A. M. A., vol. 19, p. 268.
	La Grange, Fayette Co	On Colorado River	450	1867	Aug. —		Nov. —	200	Trans. A. M. A., vol. 19, p. 275.
	Liberty, Liberty Co	On Trinity River	40	1867					Trans A. M. A., vol. 19, p. 289.
	Liverpool, Brazoria Co	36 miles west of Galveston, near Chocolate River.	25	1853	Aug. —			4	Galv. M. J., 1866, p. 169.
	Matagorda, Matagorda Co	On Matagorda Bay	15	1862				120	Galv. M. J., 1866, p. 170.
				1863					Trans. A. M. A., vol. 19, p. 266.
	Millican, Brazos Co	Near Brazos River	300	1864					Galv. M. J , 1866, p. 175.
				1867	Oct. 15		Nov. 12	4	Trans. A. M. A., vol. 19, p. 275.
	Navasota, Grimes Co	On the Navasota River	200	1867	Aug. 12		Dec. —	154	A. R. Kilpatrick, Galv. M. J., 1868, vol. 1, No.3, p.182.
	Oldtown, near Indianola		20	1867	Oct. 13				Trans. A. M. A., vol. 19, p. 268.
	Port Lavacca, Calhoun Co	On Lavacca Bay	15	1867	July 3		Oct. 29		Trans. A. M. A., vol. 19, p. 283.
	Richmond, Fort Bend Co	On Brazos River	125	1853					Galv. M. J., 1866, p. 163
				1859					B. Dowler, N. O. M. J., 1860. p. 443.
	Rio Grande City, Starr Co	On Rio Grande River	200	1867				150	Heard, Epidemic diseases of Texas
	Sabine City, Jefferson Co	On Sabine Lake	10	1863	July —		Oct. 1	14	Galv. M. J., 1866, p. 170.
	Saluria, Calhoun Co	On Matagorda Island	10	1853					
	Sugarland, Fort Bend Co	On Brazos River	100	1859					B. Dowler, N. O. M. J., 1860, p. 443.
	Victoria, Victoria Co	On Guadaloupe River	50	1867	Aug. 1		Dec. 25	200	Trans. A. M. A., vol. 19, p. 284.
Virginia	Alexandria, Alexandria Co	On Potomac River	25	1803	Aug. 1			200	Dr. Dick, Med. Repos., 1804, p. 190.
	City Point, Prince George Co.	On James River	15	1798					Currie, Memoirs of Yellow Fever, p. 109.
	Gosport, Norfolk Co	On Elizabeth River	20	1855					J. A. Manning, Va. M. J., 1857, p. 288.
	Hampton Roads	Harbor		1869					Brown, Quarantine, p. 18.
	Norfolk, Norfolk Co	On Elizabeth River	20	1747					Daily Shreveport Times, vol. 2, No. 311, 1873.
				1794					J. H. Griscom, N. Y. J. M., 1856, p. 369.
				1795					Do.
				1796					Va., M. J., 1857, p. 95.
				1797					J. H. Griscom, N. Y. J. M., 1866, p. 369.
				1798					Va. M. J., 1857, p. 95.
				1799					Do.
				1800	July 26		Oct. 30	250	Med. Repos., vol. 4, p. 329.
				1801					Va. M. J., 1857, p. 95.
				1802					Do.
				1803					Do.
				1804					Do.
				1805					Do.
				1821	Aug. 1				Va. M. J., 1857, p. 95.
				1826	Sept. 1				Committee's Report, p. 14.
				1852	Aug. 7				Va. M. J., 1857, p. 95.
				1854	Oct. —		Nov. 2	3	Do.
				1855	June 30		Oct. —	1,807	Portsmouth Relief Association Report.
	Petersburg, Dinwiddie Co	On Appomattox River	20	1798					Currie, Memoirs Yellow Fever, p. 109.
	Portsmouth, Norfolk Co	On Elizabeth River	20	1852					Portsmouth Relief Association Report, p. 91.
				1854					Do.
				1855	Aug. 1		Oct. —	1,000	Portsmouth Relief Association Report, p. 77.

Table of Localities in the United States where Yellow Fever has appeared since A. D. 1668, &c.—Continued.

State.	Locality.	Situation.	Elevation in feet, above sea-level.	DATE OF COMMENCEMENT.		DATE OF SUSPENSION.		Mortality.	Authority.
				Year.	Month.	Year.	Month.		
Virginia	Richmond, Henrico Co	On James River	50	1806					M. Repos., 1807, p. 215.
	Scott's Creek, near Portsmouth.		15	1855	June 29				J. A. Manning, Va. M. J., 1857, p. 29.
	Winchester, Frederick Co.	20 miles from the Blue Ridge Mountains.	700	1804	July —				R. Dunbar, Med. Repos., 1805, p. 252.

CHART
OF
YELLOW FEVER
IN THE
United States

Giving Elevations above Sea-Level of Localities where Yellow Fever has appeared since A.D. 1668.

Prepared by
DR. J. M. TONER
to accompany his paper on
The Distribution and Natural History of Yellow Fever in the United States
in the Report of the
Supervising Surgeon
-John M. Woodworth-
United States Marine-Hospital Service

(Figures accompanying Names of Localities indicate Elevation above Sea-Level in Feet.)

BRITISH POSSESSIONS
L. SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ONTARIO
LAKE ERIE
MAINE
N. HAMPSHIRE
VERMONT
MASS.
R. I.
CONN.
NEW YORK
PENNSYLVANIA
OHIO
INDIANA
ILLINOIS
MISSOURI
KENTUCKY
WEST VIRGINIA
VIRGINIA
MARYLAND
DELAWARE
N. CAROLINA
TENNESSEE
ARKANSAS
MISSISSIPPI
ALABAMA
GEORGIA
S. CAROLINA
FLORIDA
INDIAN TERY.
TEXAS
KANSAS
ATLANTIC OCEAN
GULF OF MEXICO

Quebec
Portsmouth 40
Newburyport 20
Salem 20
Boston 45
Queensbury
Greenfield 250
Albany 85
Catskill 50
Hartford 60
New Bedford 25
Nantucket 20
Block I. 20
Westerly 25
Red Hook
West Point 25
Norwalk 25
Stamford 20
Huntington 20
Brooklyn 40
Ft. Hamilton 25
Newyork
Staten Island 20
Perth Amboy 20
Nittany 550
Bald Eagle Valley 550
Philadelphia 35
Southwark
Chester 25
Marcus Hook 15
Bridgeton 16
Lisburn 250
Wilmington
Newcastle
Chesapeake
Elizabeth 20
Duck River 20
Baltimore 60
Winchester 700
Alexandria 25
West River 15
Richmond 20
City Point
Petersburg 20
Hampton Roads
Portsmouth 20
Norfolk 20
Gosport 20
Washington 35
Newbern 20
Beaufort 8
Wilmington 25
Smithville 25
Columbia 775
Georgetown 10
Augusta 345
Charleston 10
New Pleasant 70
St. Moultrie 75
Beaufort 10
Savannah 30
Cincinnati 550
Gallipolis 520
Louisville 450
St. Louis 475
New Design 220
Cairo 322
Memphis 260
Ft. Smith 460
Little Rock 350
Napoleon 192
Columbia 155
Grand Lake 110
Greenwood 340
Yazoo C. 190
Canton 320
L. Providence 300
Trenton 80
Vicksburg 276
Jackson 279
Brandon 300
Grand Gulf 200
Port Gibson 200
Natchez 350
Washington 175
Whitby's Landing 245
Woodville 190
Clinton 25
St. Francisville 80
Bayou Sara 75
Port Hudson 70
Fille Platte 50
Baton Rouge 50
Iberville 75
New Iberville
Franklin 75
Centreville 80
Pattersonville 20
New Orleans 20
Milneburg 30
Bay of St. Louis 30
Shreveport 250
Wachitoches 280
Alexandria 75
Montrville 376
Corsicana 325
Calvert 350
Huntsville
Anderson 200
Hanneville 200
Liberty 80
Sabine 10
Galveston 6
Brazoria 50
Matagorda 25
Victoria 80
Goliad
Saluria 20
Corpus Christi 25
Rio Grande City 200
Edinburgh 100
Brownsville 25
Selma 57
Montgomery 350
Cahawba 775
Demopolis 125
Claiborne 75
Gonelle 65
Blakeley 25
Mobile 20
Spring Hill
Pt. Moryan 20
Pollard 60
Pensacola 35
Bainbridge 120
St. Mary's 75
Fernandina 34
Suwanee 50
St. Augustine 30
Gainesville 160
St. Joseph 36
Apalachicola 15
Cedar Keys 35
Tampa 20
Tortugas 32
Key West 36

N. PETERS, PHOTO LITHOGRAPHER, WASHINGTON, D. C.

THE YELLOW-FEVER EPIDEMIC OF 1873.

C.—THE YELLOW-FEVER EPIDEMIC OF 1873.

[THE intimate connection of the sea-faring community with every epidemic of yellow fever in the United States of which we have any trustworthy account, seemed to render it desirable to secure as full reports as possible of the epidemic of 1873, from the stand-point of the surgeons of the Marine-Hospital Service, or from those in charge of marine-hospital patients at ports where the disease appeared. With this object the Supervising Surgeon, about the middle of October, addressed a letter to these gentlemen, requesting them to furnish such facts as came under their observation relating to yellow fever at their ports; the dates of its first appearance thereat; the places from which it was imported, and the modes of introduction; the number of cases and of deaths which occurred; the hygienic conditions of their respective communities; the influence of quarantine or other precautionary measures upon the introduction or arrest of the disease; and such other local observations as might be deemed pertinent, or as they were able to make. In response to this request, reports, more or less detailed, have been received from New York City, Mobile, New Orleans, Memphis, Cairo, and Louisville; and a report from Pensacola is promised, as also one from Shreveport, delayed through the illness of the surgeon.

The epidemic is probably too recent to secure accounts satisfactory in every particular; the interruption of usual methods and routine, the relaxation following the terrible mental and physical strain, the slow convalescence from the disease itself in some cases—all these causes have combined to render the received reports imperfect. But they are, nevertheless, fuller than any that have at this date appeared, and form a not unimportant contribution to the history of a disease which has cost the Southern and Gulf States untold millions of dollars, and, it is safe to say, more lives than they have lost in warfare.

Extended comment upon these reports is advisedly deferred for the present, in the expectation of obtaining fuller information on certain points, and of correcting some discrepancies in those already furnished. It will be noted, for example, in the table on page 111, compiled from the reports mentioned, and from the *Monthly Returns of sick and disabled*, that while the disease is not reported as having made its appearance at Shreveport until the 12th of August, it is alleged to have been brought to Memphis as early as the 10th of that month, by a traveler, from the former place. It will probably be found that this traveler contracted his disease on board the tow-boat which brought him from the mouth of Red River to Memphis, (see Dr. Thornton's report page 104,) and which left New Orleans August 2, yellow fever having prevailed there from the

latter part of June, or early part of July. This inference is further strengthened by the fact that on the arrival of this boat at Memphis her captain and several of the crew were sick, and, though of what disease is not stated, the body of the captain, who died a few hours after leaving Memphis, presented every appearance of having died of yellow fever. If it can be obtained, the history of this tow-boat, which is presumably the same as the one mentioned in the Cairo report, will probably determine this point.

It will be interesting, also, to collate the experience of southern physicians and their views of the relation of dengue to yellow fever, and of the influence of the latter upon the endemic fevers. The reports of the surgeons of the Marine-Hospital Service, immediately preceding and during the yellow-fever epidemic of 1873, show a marked increase in the number of cases, and in the virulence and fatality of this class of the so-called zymotic diseases due to paludal malaria. It was especially noticed that the intermittent fevers were prone to take on the congestive form; and the terms "pernicious," "congestive," and "malignant" occur quite frequently in the reports made during the months of, and immediately preceding, the epidemic. In New Orleans the yellow fever seems to have been overshadowed by an epidemic of dengue or "break-bone fever," from which it is estimated that fully 50,000 of the inhabitants suffered. Dr. Reilly (U. S. M-H. S.) states that the same condition obtained during the yellow-fever epidemic of 1854 in Charleston, S. C., when so many natives were attacked, with such a light mortality; and observes that physicians then differed widely in their diagnoses, many reporting cases as yellow fever which others called "break-bone fever." This may serve to explain the anomaly of natives apparently suffering from yellow fever, as well as of cases reported among those who had suffered in previous epidemics. Dr. Reilly himself, for instance, after having had a severe attack of unmistakable yellow fever, with black vomit, in 1852, was again treated for the same disease during the epidemic of 1854, but from the brief duration of the attack, the severity and character of the accompanying pain, and other symptoms, it seems probable that this second disease was the so-called "break-bone fever."

Of more direct practical utility, however, is the study of measures of prevention—the answer to the question how far the use of carbolic acid is to be credited with the jugulation of the threatened epidemic at New Orleans and Mobile; to what extent efficient or defective sanitary measures affect the progress of yellow fever, in the light of the recent experience in the two former cities as compared with Memphis and Shreveport; what is proper quarantine for this disease at various ports, and what is the true scope, function and value of quarantine; can a quarantine be effective which does not embrace "commerce with foreign nations and among the several States" by land, as well as by water? Inquiries concerning these and kindred matters are still being prosecuted

by the medical officers of the Service; and from the results of their studies it is hoped to be able to frame a plan of prophylactic action to be observed by marine-hospital surgeons throughout the yellow-fever season, the results of which should form an interesting feature of the subsequent annual reports of the Supervising Surgeon.

Meantime, it may be remarked that the substantial immunity of New Orleans and Mobile from yellow fever this year, under similar conditions of repeated exposures on the one hand, and of well-organized municipal sanitation, coupled with free carbolic disinfection, on the other, would seem to indicate that one or both of these latter are sufficient to arrest yellow fever, or at least to prevent its becoming epidemic. To what extent the use of carbolic acid is an efficient agent is yet to be determined; but of the value of general disinfection, thorough cleanliness, good sewerage, pure air, unpolluted water, wholesome food, individual hygiene—in short, of what goes to make up a good sanitary condition, there can be no question. When such a condition obtains generally throughout the land it will probably only remain to prevent the introduction of fomites, by an intelligent quarantine, in order to be justified in writing *dele* opposite *febris flava* in the American nosology.—W.]

REPORTS ON YELLOW FEVER IN 1873.

From the Medical Officers of the United States Marine-Hospital Service.

NEW YORK, *December* 1, 1873.

SIR: In answer to your communication of the 15th ultimo, concerning yellow fever, I have the honor to submit the following report of cases treated in United States Marine Hospital, (Class II,) port of New York, year 1873:

1. Jorgen Andersen; æt. 23; nationality, Swedish; occupation, seaman; admitted from schooner *Jennie Stout;* taken sick on passage from New Orleans; entered hospital July 30; died August 1.

The two following cases from same vessel, admitted at same time, recovered: 2. Gulick Gulbrozen; æt. 23; discharged August 21. 3. Bernard Nicholson; æt. 37; discharged November 3.

4. George Otto; æt. 19; nationality, German; occupation, waiter; admitted from steamer *Morro Castle;* taken sick on passage from Havana; entered hospital August 30; died September 1.

5. Madison Wismore; æt. 27; nationality, American; occupation, engineer; admitted from steamer *Metropolis;* was sick in New Orleans, though the disease was not positively ascertained to have been yellow fever; entered hospital September 22; died September 27. This was undoubted yellow fever when received, and was probably a relapse.

I have also obtained from the records of the Board of Health of this city the particulars of the only cases there reported, as follows:

Fred. W. Bacon; æt. 22; waiter on steamer *Yazoo;* sailed from New Orleans for Philadelphia latter part of May; touched at Havana; and was quarantined, on account of cholera, in New Orleans. Sickness appeared on the ship May 27; arrived at Philadelphia May 29; was not quarantined. Bacon came on to New York; arrived May 31; sick on arrival; taken to No. 7 Eldridge street, and died June 2.

Patriek Hennessy; æt. 30; eame from Memphis last of October; also sick on arrival; died in ambulance, on way to hospital, October 30.

The eases reported in Brooklyn were newspaper cases, and were pronounced to be malarial fever by competent authority.

I have the honor, also, to transmit the inclosed communication from Dr. Mosher, deputy health-officer of the port of New York:

HEALTH-OFFICER'S DEPARTMENT,
Quarantine, Tompkinsville, S. I., November 3, 1873.

MY DEAR DOCTOR: I am requested by Dr. Van der Poel to furnish, in answer to your inquiry of 30th ultimo, the following:

Cases of yellow fever oeenrring at quarantine during 1873:

(1.) First case, May 23. (2.) Last case, October 1. (3.) Total numberof eases, 62. (4.) Mortality, 13 deaths. (5.) All eases were taken from vessels arriving at this port.

Very truly, yours,

J. S. MOSHER.

Dr. HEBER SMITH.

From the foregoing it will be seen that there were in all sixty-nine cases of yellow fever, and eighteen deaths therefrom, at this port during the past season; and that so long as quarantine is a matter controlled by State caprice or fear, there is nothing to prevent the introduction of this or any other disease into a community, no matter how rigid or perfect the quarantine of such community may be made—and its present administration at New York is both.

That the yellow fever failed to become epidemic in New York the past season—that it is not epidemic in New York every season—is due, probably, first, to the want of favoring conditions in the season itself, and, second, to the efficiency of the Board of Health; but certainly not to the want of a supply of fomites furnished by land from other ports.

I am, sir, very respectfully, your obedient servant,

HEBER SMITH,
Surgeon U. S. M-H. S.

JOHN M. WOODWORTH, M. D.,
Supervising Surgeon U. S. M-H. S.

NEW ORLEANS, LA., *November* 5, 1873.

SIR: Referring to your letter of October 24, asking for "a sketch of the present yellow-fever epidemic, on its subsidence, the local influences that have affected the disease," etc., I have the honor to state that the first ascertained cases of yellow fever reported in the city were from the Spanish bark *Valparaiso*, which arrived here from Havana in ballast with five passengers, June 26, 1873, having been detained at quarantine four or five days. The mate of this vessel is the only one on board who did not recover, but several vessels lying in the immediate vicinity lost a number of their crew. The number of eases and deaths from the disease to the 29th ult. is as follows:

Weekly Statement of Yellow-Fever Cases and Deaths in New Orleans during the Season of 1873.

During the week ending—	Cases.	Deaths.	During the week ending—	Cases.	Deaths.
Six o'clock p. m.			*Six o'clock p. m.*		
July 6, 1873	1	.....	September 14, 1873	60	35
July 13, 1873	2	1	September 21, 1873	37	26
July 20, 1873	.....	1	September 28, 1873	32	21
July 27, 1873	1	1	October 5, 1873	42	14
August 3, 1873	5	.....	October 12, 1873	32	24
August 10, 1873	6	3	October 19, 1873	34	18
August 17, 1873	10	2	October 26, 1873	19	11
August 24, 1873	8	8			
August 31, 1873	16	6	Total	343	187
September 7, 1873	38	16			

For the foregoing table I am indebted to the courtesy of Dr. S. C. Russell, secretary of New Orleans Board of Health.*

* * * * * * * * *

It is certain that our first cases came from Havana. Quarantine did not prevent it; and it is the opinion of the medical gentlemen who went from here at the first call of distress from Shreveport, that yellow fever was carried to the latter place from New Orleans. Drs. Bruns, Choppin, and Davidson, the physicians referred to, are intelligent, experienced, and well-known members of the faculty, and their opinions are entitled to respect.

New Orleans has been terribly exposed this season from all quarters; for though the disease was brought here originally from Havana, there has been constant communication between this port, Shreveport, and Memphis, and thus repeated new importations. Nurses went from here to Shreveport and returned during the height of the epidemic there and died of the disease here; and fugitives from the pestilence in Shreveport came here to die. To what influence we owe our immunity from the disease, for it has not shown a disposition to spread, I am not prepared to express an opinion, particularly when old physicians of this city, who have devoted a lifetime, one may say, to the study of yellow fever, seeing it in all its phases, have openly confessed their inability to interpret its true nature, and, to use their own words, "the more they saw of it the less they knew about it."

Are we indebted to quarantine regulations for the small number of victims of this scourge? This is hardly probable, for it is proved that the disease was imported from Havana as early as July 6, and it did not appear in Shreveport until the middle of August. Vessels have been arriving weekly from Havana, where the mortality was from four to five hundred daily [weekly?] in July and August, sparing neither native nor foreigner;† and in Memphis, Shreveport, and elsewhere the disease has been fatal almost without parallel. And yet I may safely assert that New Orleans, during the last season, has been one of the few cities of the Union that can boast of a small death-rate in proportion to its population. To what, then, are we to attribute this miraculous escape? In my opinion, thanks are due to good sanitary regulations, to the watchfulness and activity of the board of health, and to the free use of carbolic acid,‡ that yellow fever in this city has been greatly modified, if not completely disarmed of its subtile and terrible power.

I am, sir, very respectfully, your obedient servant,

ORSAMUS SMITH,
Surgeon U. S. M-H. S.

JOHN M. WOODWORTH, M. D.,
Supervising Surgeon U. S. M-H. S.

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* [The total number of cases, as subsequently reported by Dr. Smith in "Disease and Injury Return" for November, 1873, is given at 394, with a total of 225 deaths; the first case (the mate of the *Valparaiso*) appeared on July 4, died July 8; the last case reported, taken sick November 18, died November 24.—W.]

† This statement I have from one who was in Havana during this time.

‡ [It is asserted that nowhere in the world before has disinfection on so extensive a scale been resorted to as in New Orleans during the yellow-fever season of 1873; and, as also in Mobile, it met with considerable opposition from some quarters. Concerning the value of this disinfection, which was begun in New Orleans during the first week in August by the free use of impure carbolic acid, Dr. A. W. Perry, Sanitary Inspector New Orleans Board of Health, in a communication to the *New Orleans Medical and Surgical Journal* for November, says: "To ascertain whether or not the small number of subsequent cases (in infected districts) was because of the small number of persons liable to yellow fever who lived in these squares, a census was taken of the total population of each of the squares, and also of the white persons who had come to the city since 1867, the last epidemic year. In thirty squares, in which most of the yellow-fever cases occurred, the total population was 5,223 an average of 174 per square; of these 1,249 were liable to take yellow fever, being nearly 24 per cent. liable. Of the liable persons 7.3 per cent. took the disease before disinfection, and .9 of one per cent. after disinfection." As an isolated fact this is certainly very striking; but isolated facts are not conclusive, and this question is still open for investigation.—W.]

MEMPHIS, TENN., *November* 18, 1873.

DEAR SIR: Your communication of the 24th ultimo, requesting me to furnish such facts in regard to the late epidemic of yellow fever in Memphis as are at my command, was duly received, and has already been acknowledged. The delay in furnishing the desired information is due partially to the stress of other duties and engagements growing out of the epidemic, and partially to the necessity of sifting facts from rumors and speculations, which are always rife at such a time.

From the best information I can get on the subject, the first case of yellow fever died in Memphis on the 10th of August. This was a man named Davis, who had been in Texas, and on his way home to Alabama passed through Shreveport, La., during the late epidemic there.

At the mouth of Red River he got on the tow-boat *Bee*, which left New Orleans August 2. The man was put off the boat here at the upper landing, near the mouth of Wolf River, in the afternoon of the 10th of August. At the time he was very ill, unable to take care of himself, and was cared for a few hours by a man named Riley and another man, (name not known,) who lived near the landing. That evening he was carried to the Adams-street station-house, where he died during the night. No physician saw him, but, from what I can learn, there was no doubt of his being a case of yellow fever. Riley, the man with him, and several members of his (Riley's) family, contracted the disease and died a few days after. The physician who visited them I have been unable to find, but the presumption is they were attended by Dr. Crone, who died of yellow fever in September. When the tow-boat arrived here, the captain, C. B. Gall, and several of the crew, were sick. The boat remained here but a few hours, and then proceeded on its trip up the river. At Osceola, Ark., the captain died, and his body was shipped back to Memphis for burial. The body was not coffined until after its arrival here, on the 11th of August, and presented all the appearances of having died of yellow fever.

There were a number of deaths during the last two weeks of August in the neighborhood of the place where the *Bee* landed, but they were not reported as yellow fever by the physicians who attended them. The first case that there is any official record of is the case that I reported in the City Hospital. A patient was admitted to this hospital September 2, very ill with yellow fever; had evidently been sick several days, and died on the 3d. The register then shows admissions of yellow fever patients on September 3, 5, 8, &c. I am satisfied there were a number of cases in the city before any were admitted to hospital, but the disease, if recognized by any physician, was not reported as such.

On September 3 I was called to visit a child at the St. Peter's Orphan Asylum, a Catholic institution, located a short distance from the City Hospital. This child was admitted into the Asylum August 28, apparently well; was taken sick on the 2d of September, and died on the 7th. For twenty-four hours previous to death it had unmistakable black-vomit. This child was brought to the Asylum from the foot of Market street, which is in the immediate neighborhood of the point where the boat *Bee* landed, and there had been several deaths in the house whence the child was brought.

The disease prevailed mostly in the northwestern portion of the city, between Washington and Concord streets. But it extended north beyond the bayou to a part of the city known as Chelsea, (the Ninth ward,) mostly occupied by residences, and prevailed here, to a very considerable extent, more than it did in any other suburb. It also extended south and east as far as the city limits, and I knew of several cases beyond the city limits east. It was never as bad in south or central Memphis as in that portion of the city north of where the first case was reported. My opinion is the infection was conveyed by the wind, which in summer and fall, with us, blows from the south to the portion of the city north of the infected district.

The number of deaths from yellow fever will never be definitely known, as proper official record for the city was not kept, and a number of deaths from the disease were reported as from other causes. And, moreover, for at least three weeks after the disease appeared physicians did not recognize it, or at least did not report yellow fever.

The number of deaths from September 14, the date it was first officially published, to November 9, is as follows, taken from the printed reports of the secretary of the Board of Health:

From September 14 to 30, inclusive	259
From October 1 to 31, inclusive	899
From November 1 to 9, inclusive	86
Total	1,244

The largest number of deaths on any one day occurred October 10, when 55 died.

There have been deaths from the disease reported since the 9th of November; and there will, no doubt, be others even after this, November 18.

The report from the City Hospital from September 2 to October 31, inclusive, is as follows:

Number of cases admitted from September 2 to October 31, inclusive	169
Deaths from yellow fever	103

Number of cases in hospital October 31, 18.. Of these, 13 are convalescent and 5 are under treatment.

(The above is taken from report made to the secretary of the Board of Health November 1.)

The deaths in the City Hospital, and also in the Walthall Infirmary, a temporary hospital established during the epidemic, are included in the report of deaths published by the secretary of the Board of Health for the whole city. This is as near as I can give the deaths at this time.

I am unable to give the number of cases that occurred in the city, nor will it ever be known. The misfortune was that there was no well-organized, paid board of health at that time; our city was defective in its sanitary regulations, and there are no official records of a vital or sanitary character outside of the City Hospital prior to September 2. There is no doubt in my mind that yellow fever was brought here from the South early in August. But I am unable to ascertain when the first case occurred among the residents of the city. I think there is no doubt of its occurring after the 10th of August. Nor do I think there is any doubt of there having been deaths here among the residents of that portion of the city subsequently known as the "infected district" prior to September 1.

* * * * * * *

There were only four deaths of marine patients from yellow fever in the hospital during the epidemic, three white men and one negro. They have been reported in my official reports to your office, and were included in the general mortality report of the city.

* * * * * * *

I am, sir, most respectfully, your obedient servant,

G. B. THORNTON, M. D.

JOHN M. WOODWORTH, M. D.,
Supervising Surgeon U. S. M-H. S.

MOBILE, ALA., *December* 6, 1873.

SIR: In compliance with your letter, dated October 24, relative to yellow fever in Mobile this season, I have the honor to submit the following:

The published report of the health-officer to the Advisory Board of Health—an extemporized organization, created to assist the city physician during the prevalence of the epidemic—is so full and complete for the period prior to November 1, that it will not be necessary to do more than summarize my own observations and experience of the epidemic, and to complete the table of cases by adding those which occurred subsequent to October 25.

The following table gives the dates of occurrence, and number of cases on each day, with the result of the cases:

Date of occurrence.	No. of cases.	Result.		Date of occurrence.	No. of cases.	Result.	
		Died.	Recovered.			Died.	Recovered.
August 21	1	1	.....	October 13	2	.....	2
September 11	2	1	1	14	1	1	.....
15	2	1	1	15	1	.....	1
17	2	2	.....	16	1	1	.....
18	1	.....	1	21	5	2	3
20	1	1	.....	23	1	1	.....
22	3	1	2	25	1	1	.....
23	1	.....	1	November 2	1	1	.....
25	1	1	.....	3	1	1	.....
26	5	1	4	8	2	1	1
30	1	1	.....	17	1	1	.....
October 1	2	1	1	23	1	1	.....
4	1	.....	1	27	1	.....	1
5	3	2	1	29	1	1	.....
6	1	1	.....				
8	2	.....	2	Total	50	27	23
9	1	1	.....				

The first case of yellow fever that appeared in Mobile was that of Owen McKenna. The facts in this case, as reported by Dr. Hicklin, the health-officer, are as follows: "A resident of Mobile the past three years, unacclimated; went to New Orleans on the 16th of August and returned the following day, 17th. He was taken sick on the 21st, and died on the 26th day of the same month. His attending physician pronounced it yellow fever. He resided on Hamilton street, southeastern portion of the city, and was the only case known to me, save Dr. F. M. Stone, who sickened and died of the disease in the month of October, that occurred in that section of the city during the entire prevalence of the disease." Dr. H. states that McKenna's death was before the date of his appointment to office, and he was not apprised whether any disinfection of the premises was made. It may here be stated that the chief duty of the health-officer to the Advisory Board was to superintend the disinfecting of all sections and premises where the disease appeared, the physicians being requested to report every case which occurred under their charge at the earliest moment possible.

The next case came directly from Shreveport via New Orleans. He resided above Shreveport, and in passing that city remained all night. On the morning of September 11 he was found on the wharf, under an old shed, by a policeman, who conveyed him to the hospital, by order of the city physician, who had seen and examined the case, and pronounced it to be yellow fever; died on the 13th. On the way to the hospital he was supported in the conveyance by the said policeman, who together with his son were both taken sick the 15th and 18th, respectively, on Spring Hill road, in the northwestern portion of the city, immediately in the district which afterward became the "infected quarter," and from which the disease spread in that portion of the city.

In the hospital where this second case was carried and died there have been eight cases treated, including his, all of which originated therein, none being admitted from outside save that. Of this number five died and three recovered.

The disease was introduced into the marine hospital in the following manner: On the 11th of September Robert Smith, an Englishman, long a resident of Mobile, was admitted with what was recorded as intermittent fever, a diagnosis based upon the periodicity in the occurrence of two successive chills followed by fever. The first chill took place on the 10th of September, the day prior to his admission. These chills recurred on the 12th, 13th, and 14th, after which his fever became continuous and the

complication of another disease, yellow fever, was recognized. This patient had been under treatment a few months before for malarial fever. Investigation of his case furnished the following facts: He was employed as a watchman on the steamer *Emma No.* 2, that had been lying for a considerable time at the end of the wharf from which Dixon, the Shreveport case, was taken. From idle curiosity Smith visited Dixon under the shed, a short distance from the steamer, and assisted in placing him in the conveyance for the city hospital. This was on the morning of the evening Smith took sick, and doubtless was the source and time of his infection. This was a typical case of the existence of two distinct morbid poisons operating at the same time in the system. After a severe illness of seventeen days, and the occurrence of black-vomit on the third day of the fever, reckoning from the date of its recognition, this patient made a fair recovery.

At this time thorough disinfection was instituted and maintained in and around the hospital-buildings for a period of six weeks, under the supervision of the health-officer, acting under the directions of the Board of Health, and to whose opinion as to its efficacy in its employment generally throughout infected localities I shall have occasion to refer further on.

Case 29.—On the 8th of October O. L. Crampton* was taken ill of yellow fever at this hospital, where he was quartered, and after an illness of nine days recovered. The infection, doubtless, was in this instance from the Englishman, Smith, as the prevailing winds were, up to this time, from the north and east, carrying the germs of the disease from the already infected buildings, the city hospital and infirmary, to the south and west. It is not known that exposure from any other source could have happened, as every precaution had been observed in protecting against it by confinement to the building after certain hours in the evening and before certain hours in the morning, thereby escaping the moist, and consequently dangerous, night air that existed almost constantly through the months of October and November. It may be well to state, in explanation of the situation of the hospital buildings mentioned, that the marine hospital is situated on Saint Anthony street, north side, between Bayou street on the east, and Jefferson street on the west, occupying, with its grounds, an entire block. The city hospital covers the greater portion of the adjoining block to the west, facing on Saint Anthony street; and the infirmary, the block directly opposite the city hospital, facing likewise on Saint Anthony street. These squares, together with the one opposite the marine hospital, comprise about eight square acres and cover what was designated the first and essential "infected section," upon which the Board of Health directed all its energies in a rigid quarantine and thorough disinfection.

Case 35.—Mr. C. C. Colton, employed in the custom-house of this city as hospital and enrolling clerk, was attacked with yellow fever October 16, and died in this hospital October 20, a victim of the most malignant type of the disease. Mr. Colton was from the northern part of this State, where he had engaged in "planting" for the past six years; had been a resident of this city five months, and consequently unacclimated; knowing the danger he would incur in remaining in the city constantly, he had determined upon the risk, and to remain until such a time as it should be pronounced an epidemic. By invitation he made this hospital his residence, as a guest of the surgeon in charge; and though the true character of the disease was made known to him by the attending physician to case 29, he chose to remain and nurse said case, from which he took the disease, with the result as above mentioned.

From case 29, three seamen, 31, 32, and 34; a colored servant, gardener to the hospital, (case 37,) and the steward of the hospital, (case 36,) took yellow fever and recovered. Two of the seamen had just arrived from New York City; discharged from their ship sick; applied to the hospital for treatment, and accidentally entered the room in which case 29 was sick. The third seaman had been an inmate of the hospital for some time with a chronic disease, and was exposed in like manner; and the steward and servant assisted in case 29.

* The surgeon in charge.—W.

It is a noticeable fact that only those persons directly exposed to case 29 were attacked, and that others throughout the building escaped, having no access to the rooms of those sick of the fever. Every precaution was taken to isolate all those immediately exposed, and to prevent a spread by saturating the atmosphere of the wards, and throughout the building, with carbolic acid and chloride of lime.

The cases occurring in November were mostly those who, as refugees, had remained absent from the city during the existence of quarantine, and returned too early, though advised so to do by their physicians, basing their opinions on the action of the Board of Health in recommending the raising of quarantine, and the return of citizens to the city. Doubtless the greater rate of mortality among this class over those that remained in the city was due to facts well known to the profession. Two of these returned refugees died in houses that had remained unoccupied and unopened during the season.

The means employed to arrest the course of the yellow fever were the energetic, thorough, and liberal use of carbolic acid throughout the vicinity of the infected district and premises having fever cases. The winds, with an average mean temperature of 78°.5, continuing to prevail from the north and east during most of the season, carried the disease to the south and west, leaving the "primary infected section," a small corner in the northeastern portion of the greater area, that finally became known as the "*infected district.*" The efforts to prevent the yellow fever from extending beyond this district met with deserved success; and the course pursued by the Board of Health of New Orleans, in the epidemic of yellow fever of 1871, in "stamping out" the disease, was strictly pursued here. The health-officer of Mobile states in his report that, during a period commencing September 18 and ending October 20, he "had used over a thousand gallons of crude carbolic acid and nearly three thousand pounds of sulphate of iron. Chlorine gas, used for the purpose of fumigation in the houses, was generated by the action of sulphuric acid upon the black oxide of manganese and chloride of sodium." In concluding his report Dr. Hicklin remarks, "that the result of their labors," speaking of the Board of Health of Mobile, "is too apparent to the world, when the mortuary record of the past two months is consulted, to permit a doubt to remain in the mind of any honest individual as to the good they have done." And further, "New Orleans and Mobile were at the beginning of the season in close, almost daily, communication with Shreveport, Memphis, Pensacola, and Montgomery. The two first, New Orleans and Mobile, began an early and systematic use of disinfectants and fumigations. They escaped, or hedged in the disease, and no *epidemic* resulted, notwithstanding cases were brought into the midst of each of them from the hot-bed of the disease, Shreveport."

In summing up the facts in the history of the disease in Mobile this year, it would appear that the theories advanced as to the nature, cause, and prophylaxis of yellow fever, by Dr. C. B. White, of New Orleans, in his annual report for 1871, based, I presume, chiefly upon his experience in that epidemic, have received another valuable support in like results effected in Mobile this season.

I am, sir, very respectfully, your obedient servant,

O. L. CRAMPTON,
Surgeon-in-charge U. S. Marine Hospital, Mobile.

JOHN M. WOODWORTH, M. D.
Supervising Surgeon U. S. M-H. S.

CAIRO, ILL., *November* 8, 1873.

SIR: In response to your request of the 25th October for the facts concerning the cases of yellow fever at this place, I have the honor to state that, during the summer and even after the disease was raging as an epidemic at Shreveport, the Illinois Central Railroad Company continued to receive cotton direct from that place and from Memphis. This cotton and other freight was received on board the transfer wharf-

boat, conveyed up the bank to the depot and shipped east. Considerable freight from below, including cotton, was also received at Captain Phillips's wharf-boat. At the same time the work of filling in and constructing a new wharf was being carried on in the immediate vicinity of the transfer wharf-boat, which gave employment to thirty or forty teams hauling in the earth from near the Mississippi River.

On the 1st of September I received two cases of yellow fever at the hospital from the steamer *Mary Alice;* on the 10th, two cases from the tow-boat *B*; and on the 24th, one case from the *Keystone.* Four of these cases were fatal, being in the stage of collapse when brought in. The fatal cases all had black vomit, with more or less general hemorrhage from the mucous membranes, and the *post mortem* appearances answered the descriptions given in the books—orange-colored or golden-yellow liver; mucous membrane of stomach highly inflamed; shrunken and almost empty gall and uriuary bladders, etc.

The first fatal case among the citizens did not occur until September 13, when the cashier of the Illinois Central wharf-boat died. Then followed in rapid succession several other cases among persons employed in the same locality. Next, the clerk of Captain Phillips's wharf-boat sickened, and died on the fourth day. His nurse, a colored woman, who did the washing of his clothing, took the disease and died one week after; and a child in the house where the nurse died also took the disease, but recovered.

There were in all thirteen deaths out of about three times that number of cases of yellow-fever among the citizens, making, with the four deaths among those landed here with the disease, seventeen deaths from yellow fever between September 1 and September 25.

It was especially noted that the disease was confined to persons employed about the river and the localities above described; the four or five exceptions which occurred being in the families of men who were thus employed.

The disease did not make its appearance among the citizens until after the first two cases were received at the hospital from the steamer; and no new fatal cases occurred among citizens after the establishment of quarantine.

Very truly,

H. WARDNER.

JOHN M. WOODWORTH, M. D.,
Supervising Surgeon U. S. M-H. S.

LOUISVILLE, Ky., *December* 2, 1873.

SIR: I send you herewith, as requested, report of cases of yellow fever occurring in this city during September and October, 1873.

As there were no cases of this disease among the patients admitted to the Marine Hospital, this report is compiled from the reports of the attending physicians, who have been good enough to place the same at my disposal. I desire, in this connection, to acknowledge the receipt of such information from Drs. Fenner, Hewitt, Given, Leber, and Blackburn of this city.

1. The dates of the first and last cases of yellow fever in Louisville, during the year 1873, were September 22 and October 15, respectively.

2. The total number of cases in the city, 10.

3. The mortality, 5.

4. The mode of introduction was by rail in all cases, except one by boat, and all were from Memphis, Tenn.

5. The local influences here were all favorable to recovery, being among the better class of people, and no spread of the disease was manifested.

I am, sir, very respectfully,

P. H. BAILHACHE,
Surgeon U. S. M-H. S.

JOHN M. WOODWORTH, M. D.,
Supervising Surgeon U. S. M-H. S.

[Dr. D. P. Fenner, in charge of marine-hospital patients at Shreveport, La., has undertaken the preparation of a detailed report of the epidemic at that place, which it was hoped to have received in time for publication with the foregoing; but sickness and other causes have delayed its completion. The following statement, in the absence of that report, is compiled partly from Dr. Fenner's letters and partly from medical journals and other sources deemed trustworthy.

The insanitary condition of Shreveport had attracted attention for some time previous to the outbreak of the epidemic, and was made a subject of much complaint by physicians and others. There was the usual absence of hygienic precaution and police; the accumulated filth of the city lay untouched for months; the streets were neglected and uncleaned; the sewerage was so defective that the refuse of hotels and boarding-houses was poured out upon the surface of the ground, and the whole city was enveloped in a disgusting odor day and night.

Prof. Joseph Jones, M. D., of New Orleans, in commenting on this subject, says: "Such is said to have been the sanitary condition of Shreveport, at the time of the breaking out of the epidemic; and if it be possible to generate in this latitude yellow fever by the combination of filth, heat, and moisture, the conditions were certainly present for the origin of the pestilence *de novo*." The spring and early summer seemed to have been as healthy as usual. The malarial fevers of the region did not attract special attention, either by their numbers or severity; but as the summer advanced, the continued heat of June and July, and the insanitary condition above noticed, aggravated their severity and they began to assume a more and more malignant character.

During the latter part of July, what has been characterized as a "stampede" took place among the sailors and river-boatmen at New Orleans, and numbers of them shipped on Red River packets, which were plying continually from that port to Shreveport, the navigation at that time being very good. On the 12th of August, according to Dr. Fenner, occurred the first case of yellow fever, of which he gives, substantially, the following details: Newton Walker worked and slept on the levee in a store which was closed, the firm having gone into liquidation; took his meals at a place next door in an eating and lodging-house, a common resort of the lower class of boatmen and of that class alone; was attacked with the fever on the night of August 12, and was first seen by the doctor on the 18th, at his (Walker's) brother's house, two and one-half miles from the city. Two children, who had not been away from the house, subsequently sickened and died, at the end of three and four days respectively, with all the phenomena of yellow fever well marked; the whole family were rapidly attacked and five or six died.

About the 15th of August several suspicious cases of illness among the boatmen were received in hospital; but as none of them died and there were no rumors of yellow fever at the time, they were diagnosed as cases of remittent fever. On the 19th of August it was reported that three men had fallen dead in front of the Mechanics' Exchange, on Texas street. Upon subsequent inquiry it proved that these men had been wandering about, sick; two of them lay down and died, and the other expired before he could be got to the hospital.

Yellow fever began to be now openly talked of. On the 22d a death occurred which was pronounced to be "without doubt" from the dreaded disease, and on the 25th two cases developed in a private family immediately across the street from the hospital referred to, and one case in Dr. Fenner's house, which adjoins the hospital. Cases also developed about the same time in Texas street, in and around boarding-houses used by steamboat-men; and in all places frequented by river-men the fever appeared early and spread thence as from centers of infection. In about ten days after the disease was recognized and correctly diagnosed, say, about the 1st of September, it had become epidemic and was followed by a general exodus, so that, it was estimated, the population was reduced in a brief space at least 50 per cent. On the 15th of September the epidemic reached its climax, the deaths on that day numbering 39; but for many days after the number fluctuated between 15 and 20; whole families were swept away

and commercial firms, partners and clerks, were literally blotted out of existence. About the 17th of September the fever began to attack the suburban population and appeared in the outskirts of the city, at Marshall, Longview, Greenwood, Summer Grove, Bossier, Minden, and throughout Caddo Parish generally.

There was a decided diminution in the average of deaths per day after the 24th of September, and on the 30th the decrease in the number of cases in the city marked the abatement of the epidemic. During the month of October the fever slowly declined, and intermittent fever and dengue made their appearance.

The following statistics of the epidemic are mere approximations, which may be corrected upon the publication of subsequent reports: Population, in July previous to epidemic, 9,000; during epidemic, between 4,000 and 4,500; of these 1,500 were negroes. Number of cases of yellow fever, 3,000; number of deaths, 759; of these about 120 were negroes. Mortality about 25 per cent.—W.]

SUMMARY OF THE YELLOW-FEVER EPIDEMIC OF 1873:

Showing the localities, number of cases, and mortality, as reported by the Surgeons of the United States Marine-Hospital Service.

Locality.	First case appeared—	Last case appeared—	Total cases.	Total deaths.	Mortality, per cent. of cases.	Cases in marine hospital.	Deaths in marine hospital.	Mortality, per cent. of cases.	Remarks.
New York, N. Y ...	May 23	Oct. 30	69	18	26.1	5	3	60.0	See report Dr. Heber Smith, ante, p. 101.
New Orleans, La...	July 4	Nov. 18	394	225	57.1	24	13	54.2	Introduced by Spanish bark *Valparaiso*, from Havana.
Pensacola, Fla	Aug. 3	Oct. 15	600	62	10.3	40	8	20.0	Supposed to be by deserting seamen from ship *Golden Dream*, from Havana.
Memphis, Tenn*...	Aug. 10	Nov. 9	4,204	1,244	29.5	9	5	55.5	Brought by a traveler via Shreveport.
Shreveport, La.....	Aug. 12	Nov. 10	3,000	759	25.3	7	3	42.8	By river-boatmen from New Orleans.
Mobile, Ala.....	Aug. 21	Nov. 29	50	27	54.0	8	1	12.5	Brought from New Orleans.
Cairo, Ill.	Sept. 1	Sept. 25	43	17	39.5	5	4	80.0	By river-boatmen; no cases after establishment of quarantine.
Louisville, Ky	Sept. 22	Oct. 15	10	5	50.0	....	....	.....	All from Memphis, Tenn.; nine by rail, one by boat.
Totals.....	.....	.....	8,370	2,357	.....	98	37	.....	The general hospital mortality of yellow fever is greater than that here shown for marine hospitals, which latter is unusually favorable, considering the class of cases, and the fact that the mortality list is swollen by patients landed and carried into hospital already moribund.
Average mortality, per cent. of cases.	.....	.....	.....	.....	28.16	....	....	37.75	

* Record for Memphis imperfect; the number of cases is not known, even approximately, while the number of deaths above given includes only those reported between September 14 and November 9, notwithstanding it is known that deaths occurred both before and after these dates. The number of cases here given is based on the average proportion of cases to deaths at the other seven places, and is certainly not over, but probably largely under, the actual number. It is believed that the same strictures would apply with equal force to the statistics of Shreveport.