

South Carolina
Charlottesville

SURGEON GENERAL'S OFFICE
LIBRARY

Section

STATISTICAL SECTION

Form 113c. No.
W.D.,S.G.O.

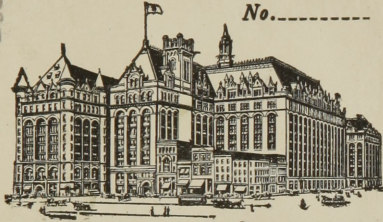
270342

GOVERNMENT PRINTING OFFICE

Presented to the
**Statistical Division, Surgeon-General's
Library, United States Army**
Washington, D. C.
BY
The Prudential Insurance Co. of America
Newark, New Jersey

base

No.



LIBRARY OF THE
PRUDENTIAL INS. CO. OF AMERICA
NEWARK, N. J.

STATISTICIAN'S DEPARTMENT

Section

Subject

Date Recd.

Acknowledged

Indexed

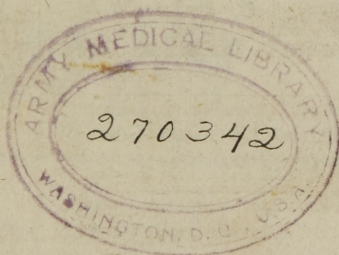
COMB 8005

10-3-19

5c V=4

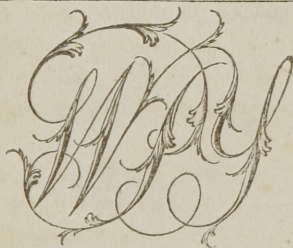
R A M S A Y ' S

SKETCH OF SOUTH-CAROLINA.



Not in cat

A
S K E T C H
OF THE
SOIL, CLIMATE, WEATHER,
AND
DISEASES
OF
SOUTH-CAROLINA,
READ BEFORE THE MEDICAL SOCIETY OF THAT STATE,
BY
DAVID RAMSAY, M. D.
VICE-PRESIDENT OF THE SOCIETY.



CHARLESTON:
PRINTED BY W. P. YOUNG,
FRANKLIN'S HEAD, NO. 43, BROAD-STREET.

MDCCXCVI.

1796

S K E T C H
OF THE
SOIL, CLIMATE, WEATHER, AND DISEASES
OF
SOUTH-CAROLINA.

SOUTH-CAROLINA nearly resembles a triangle—It is bounded on the east by the Atlantic ocean, and extends thereon about two hundred miles; on the south, and partly on the west by the river Savannah; and on the north, and partly on the west by North-Carolina. These two last mentioned boundary lines approximate to each other, about three hundred miles from the sea-coast, and in the vicinity of the Alleghany mountains.

The state of South-Carolina lies between the 32d and 35th degrees of north latitude. Its chief city, Charleston, is in north latitude $32^{\circ} 45'$, and in west longitude from London, 79° , and from Philadelphia, 5° , and stands on a point of land between the junction of Ashley and Cooper rivers, and about ten miles from the ocean.

In treating of South-Carolina, the philosopher, as well as the politician, must consider it as divided into upper and lower country. Nature has marked this distinction in many particulars. Along the sea-coast, and for one hundred miles westward, the country is generally low and flat; from thence, to its western extremity, it is diversified with hills, rising higher and higher, till they terminate in the Alleghany mountains, which are the part age ground of the eastern and western waters. In the vallies, between these hills, a black and deep loam is found. This has been formed by abrasion from the hills, and from rotten trees and other vegetables, which have been collecting for centuries.

The rivers of the upper country originate in the mountains, and are an assemblage of streams. After these have passed into the low country, they move slowly, and in a serpentine course, till they empty into the ocean. The rivers of the low country are, properly, arms of the sea, extending but a few miles till they head in swamps and marshes.

Carolina, lying on the east side of the part-age ground, between the eastern and western waters, is considerably lower than the corresponding parts of the United-States, which are on its west side. Hence it follows, that when the snows melt, or heavy rains fall on the mountains, much more of the water, proceeding

proceeding from these sources, is determined to the Atlantic ocean than to the river Mississippi. In consequence of which, we are often too wet, while our western neighbours are too dry.

The side of South-Carolina, which borders on the sea, is intersected by thirteen rivers, viz. The Waccamaw, Black-river, Santee, Wandow, Cooper, Ashley, Stono, Edisto, Asheppoo, Combahee, Coosaw, Broad, and May rivers. Some of these have two mouths, others have several heads, or branches. The river Santee, in particular, is formed by a junction of the waters of the Enoree, Tyger, Pacolet, and Catawba rivers, which originate in the mountains. All of the first mentioned thirteen rivers have a margin of swamp always on one side, but often on both, extending from half a mile to three miles.

These swamps, in their natural state, abound with useful timber of various kinds, and, when cleared, they reward their cultivators with plentiful crops, especially in seasons that are exempt from freshes. In the intervals between these rivers, there are often inland swamps, fresh-water lakes, and great quantities of low level land, which, after heavy rains, continue for a long time overflowed. The remainder is a dry, and, for the most part, a sandy soil.

The soil of South-Carolina is naturally, and, for the purposes of taxation, politically divided into the following classes. 1, Tide-swamp. 2, Inland swamp. 3, High river swamp, or low grounds, commonly called second low grounds. 4, Salt marsh. 5, Oak and hickory high land. 6, Pine barren. The tide and inland swamps are peculiarly adapted to the culture of rice and hemp. The high river swamps to hemp, corn, and indigo. The salt marsh has hitherto been, for the most part, neglected; but there is reason to believe, that it would amply repay the expence and labour of preparing it for cultivation. The oak and hickory high land is well calculated for corn and provisions, and also for indigo and cotton. The pine barren is the least productive species of our soil, but it is the most healthy. Daily experience proves that, under certain circumstances, it may be cultivated to advantage for provisions, indigo, and cotton. A proportion of it is an indispensably necessary appendage to a swamp plantation. It is remarkable that ground of this last description, though comparatively barren, affords nourishment to pine trees, which maintain their verdure through winter, and administer more to the necessities and comforts of mankind than any other trees whatsoever. This may perhaps, in part, be accounted for by the well-known observation, that much of the pine land of this state is only superficially sandy, for by digging into it a few inches or feet, the
soil,

soil, in many places, changes from sand to clay.

In digging into the swamps, on the margin of the rivers, the operator frequently meets with the trunks of large trees, which appear to have been buried for ages, and is always arrested in his progress by the springing of water. As deep as these swamps have been penetrated, they consist of a rich blue clay, or a black soft mould, of inexhaustable fertility.

From this description of the low country, it is apparent, that there must be a predominance of moisture; and from the co-operation of heat, there is a strong tendency to putrefaction. From the same causes, and the presence of acid gases, floating in the common atmosphere, metals are very subject to rust. This is particularly the case with iron, which, when exposed to the air, loses, in a short time, all its brightness, and much of its solidity.

The climate of South-Carolina is in a medium between that of tropical countries, and of cold temperate latitudes. It resembles the former in the degree and duration of its summer heat, and the latter in its variableness. In tropical countries, the warmest and coolest days, do not, in the course of a twelve month, vary more from each other than sixteen degrees of Fahrenheit's thermometer: there is, consequently,

consequently, but little distinction between their summer and winter: but a variation of 83 degrees between the heat and cold of different days in the same year, and of 46 degrees in the different hours of the same day in South-Carolina, is to be found in its historical records.

In our coolest summers, the mercury in the thermometer* has reached 89, and in the five last years in which observations have been made by this society, it has never risen above 93, nor fell below 28. In the year 1785 it stood for a few hours at 96, which was its greatest height since the year 1752, when it rose to 101. In the year 1794 it was never lower than 34, during the time of observation, which began at eight in the forenoon, and ended at ten in the evening. The difference between our coolest and warmest summers, therefore, ranges between 89 and 96; and the difference between our mildest and severest winters, ranges between 34 and 28. Our greatest heat is sometimes less, and never much more, than what takes place in the same season in Baltimore, Philadelphia, and New-York;

* Fahrenheit's thermometer is what is every where meant in this publication, and the observations on it, therein referred to, were reported to the medical society, as taken by Dr. Robert Wilson, at his house, the west end of Broad-street, at the hours of eight in the morning, between two and three in the afternoon, and at ten in the evening. The instrument was suspended in an open passage, about ten feet from the earth.

York; but their warm weather does not, on an average, continue above six weeks, while ours lasts from three to four months. Our nights are also warmer than theirs. The days in Charleston are moderated by two causes, which do not exist, in an equal degree, to the northward of it. Our situation open and near the sea, almost surrounded by water, and not far distant from the torrid zone, gives us a small proportion of the trade winds, which blowing from the south-east are pleasantly cool. These generally set in about 10 A. M. and continue for the remainder of the day. A second reason may be assigned from the almost daily showers of rain that fall in the hottest of our summer months.

Since we began our meteorological journal (January, 1791) the mercury in the thermometer has never been under 28, though in the year 1752 it was down to 18. Mr. Hemmitt, in his historical account of South-Carolina, asserts, that he had seen the mercury in Fahrenheit's thermometer, down to 16, and that others had observed it as low as 10. On the whole, for five years past, our greatest heat has been eight degrees, and our greatest cold ten degrees less than they were about the middle of this century, as observed by Dr. Chalmers. A similar observation, though not to the same extent, will result from comparing the greatest heat and cold of the five last years, 1791, 1792, 1793, 1794, and 1795,

1795, as recorded by the medical society, with the years 1750, 1751, and 1752, the three first years recorded by Dr. Chalmers. The greatest heat in 1791, was 90, in 1792, 93, in 1793, 89, in 1794, 91, in 1795, 92; but the greatest heat in 1750, was 96, in 1751, 94, in 1752, 101. The greatest cold in 1791, was 28, in 1792, 30, in 1793, 30, in 1794, 34, in 1795, 29; but in the year 1750, it was 25, in 1751, it was 23, and in 1753, it was 18. Whether this change is accidental, or the consequence of an improvement in our climate, time and future observations must determine. The advantages resulting to the temperature of the air, and to the healthiness, as well as to the appearance of any country, from the art of man, inhabiting and cultivating it, are inconceivably great. We may, therefore, indulge the hope, that ours is progressively meliorating from permanent and encreasing causes.

The quantity of low and moist ground in Carolina, is daily diminishing. Cultivation naturally tends to exsiccation. Wherever the tide flows it brings something with it, which being left, helps to fill up cavities. Indeed the surface of the earth naturally, and universally, approximates to a level. The rains wash from the high grounds, and add what is carried away to the low. The bones of an enormously large animal have been lately dug up in Biggin-swamp, by the labourers

bourers at the Santee Canal, eight feet under ground. The trunks of trees have been frequently found at an equal or greater depth. It is possible that these may have been buried below the surface of the ground, as deep as they were lying, but it is much more probable that they originally sunk in the earth, one, two, or three feet, by their own weight, and were afterwards covered by successive alluvions in the lapse of time, to the depth at which they were found.

In proportion as our country has been cleared and cultivated, its rich low grounds, from various causes, have become higher and drier. Much sand and dry clay has been blown on them by high winds. The cutting down of trees has destroyed their perspiration. Many hundred gallons of water are daily issuing from every acre of ground that is fully timbered. The exhalation from the bare surface of the earth exposed to the sun, is much greater than it would be, if the same ground was covered with trees. It is a well known fact, that many old rice fields are now much less productive, than they were thirty years ago. It is probable, that the day is not far distant, when much of the swamp of this state, will be converted into dry arable land, more fit for corn than rice. Though the moisture of the soil has in general decreased, with our increasing cultivation, yet freshes in such of our rivers, as originate in the mountains, have, for some

years past, been higher, and more frequent than usual.

These are serious evils, threatening the destruction of some of our most valuable lands. To investigate the causes thereof, is an object well worthy the attention of every friend to Carolina. One reason assigned for the late increase of freshes is, that the clearing of the upper country opens many springs, and gives circulation to much of what would, in a state of nature, be stagnant water. By means of drains, made with a view of rendering the ground plantable, the water, which would otherwise remain quiescent, till it was either absorbed, or evaporated, is conducted to the nearest stream, all of which, sooner or later, empty into the rivers. It is within the recollection of the old inhabitants of our upper country, that the rivers thereof were, in the days of their youth, much more shallow than they are at present. If the observation already made, "That the tide, wherever it flows, brings something with it, which being left behind, helps to fill up cavities," is well founded, may we not suppose, that the floods, rushing down the rivers from the mountains, meet with obstructions, yearly increasing, which retard their course to the ocean? If this is one cause, among others, of the increase of freshes, the remedy would be to expedite the passage of the water from the rivers to the sea, by multiplying and enlarging their vents, and

and shortening their course. Whether this is practicable to an extent that would save all the land adjacent to the rivers, is very doubtful; but it certainly might be effected so as to save many plantations, provided the owners would systematically co-operate in the execution of a judicious plan, for the more speedy discharge of the superfluous water.

The common tides in Ashley and Cooper rivers rise in Charleston from six to eight feet; the spring tides from eight to ten. A common tide, with an eastwardly wind, is higher than a spring tide, with a westwardly wind. The tides in general ascend our rivers about thirty five miles from the ocean, in a direct line. The highest ground in Charleston, is between nine and ten feet above the highest spring tides. This is to be found in George-street, between Meeting and King streets. The next highest ground is in Charleston, in Wentworth-street. The next in the west end of Broad-street, near the theatre. The next in Meeting-street, nearly opposite the new market.

Earthquakes are so rare, and so slight, as not to have been noticed in our historical records. A momentary one, that did no damage, is recollected by some of our old citizens, as having taken place about the middle of the present century. But whirlwinds are more common. These, for the most part, are confined to narrow

limits, and run in an oblique direction, leveling the loftiest trees that stand in their way.

There are some circumstances which make it probable, that the whole of the low country in Carolina, was once covered by the ocean. In the deepest descent into the ground, neither stones nor rocks obstruct our progress, but every where sand or beds of shells: intermixed with these, at some considerable depth from the surface, petrified fish are sometimes dug up. Oyster shells are found in great quantities, at such a distance from the present limits of the sea-shore, that it is highly improbable they were ever carried there from the places where they are now naturally produced. A remarkable instance of this occurs in a range of oyster-shells extending from Nelson's ferry, on the Santee-river, sixty miles from the ocean, in a south-west direction, passing through the intermediate country, till it crosses the river Savannah, in Burke-county, and continuing on to the Oconee-river, in Georgia. The shells in this range are uncommonly large, and are of a different kind from what are now found near our shores. They are in such abundance, as to afford ample resources for building and agriculture. At the distance of six, eight, or ten feet from the surface, near our sea-coast, water universally springs. A small proportion of sea salt is found in all the well water of this city, and it is probable that the whole of it is obtained by filtration from the ocean, or adjacent rivers. Our

Our country partakes so much of the nature of a West-India climate, as to be liable to hurricanes, but these have been less frequent than formerly. Within the first fifty-two years of the present century, three took place, viz. in 1700, 1728, and 1752, but for the last forty-three years nothing of the kind, worthy of notice, has occurred. Our elder citizens inform us, that thunder storms were, in the days of their youth, much more frequent and more injurious than they have been for the last thirty years. This is remarkably the case in Charleston, and is probably, in part, owing to the multiplication of electrical rods. Mr. Hewitt, who wrote about twenty-five years ago asserts, that he had known in Charleston five houses, two churches, and five ships struck with lightning, during one thunder storm. Nothing comparable to this has occurred for many years past. It is nevertheless true, that during the summer, there are few nights, in which lightning is not visible in some part of the horizon.

The transitions from heat to cold are great, and sometimes very sudden. Dr. Chalmers states, that on the 10th of December, 1751, the mercury in Fahrenheit's thermometer fell forty-six degrees in sixteen hours, that is, from 70 to 24. The greatest variation that has taken place in a day, in the five years that have passed since the institution of this society, was on the 28th of October, 1793, when it fell to

37 from 74, at which it stood on the 27th; that is thirty-seven degrees in the course of twenty-four hours.

The number of extreme warm days in Charleston is seldom above thirty in a year, and it is rare for three of these to follow each other. On the other hand, eight months out of twelve are moderate and pleasant. The number of piercing cold days in winter is more, in proportion to our latitude, than of those which are distressingly hot in summer, but of these more than three rarely come together. There are, on an average, in this city, about twenty nights in a twelvemonth, in which the closeness and fultriness of the air forbid us, in a great measure, the refreshment of sound sleep, but this severe weather is, for the most part, soon terminated by refreshing and cooling showers. April, May, and June are, in common, our healthiest months; August and September the most sickly; April and May the driest; June, July, and August the wettest; November the pleasantest. In some years January, and in others February is the coldest month. It is remarkable, that when orange trees have been destroyed by frost, it has always been in the month of February. December is the best month in the year for strangers to arrive in this city: such should calculate so as not to make their first appearance either in summer, or the two first months of autumn. The hottest day of the year is sometimes

sometimes as early as June, which was the case in the year 1791; sometimes as late as September as in the year 1793; but ofteneft in July or August. The hottest hour of the day in Charleston varies with the weather: it is sometimes as early as ten in the forenoon, but most commonly between two and three in the afternoon.

In the spring when the sun begins to be powerful, a languor and drowsiness is generally felt, respiration is accelerated, and the pulse becomes quicker and softer. Strangers are apt to be alarmed at these feelings, and anticipate an increase of them, with the increasing heat of the season, but they find themselves agreeably disappointed. The human frame so readily accommodates itself to its situation, that the heat of June and July is, to most people, less distressing than the comparatively milder weather of April and May. On the other hand, though September is cooler than the preceding months, it is more sickly, and the heat of it more oppressive. Perspiration is diminished and frequently interrupted; hence the system, debilitated by the severe weather of July and August, feels more sensibly, and more frequently, a sense of languor and lassitude. Besides the coolness of the evenings in September, and the heavy dews that then fall, multiply the chances of getting cold. It is, on the whole, the most disagreeable month in the year.

Frosts

Frosts seldom extend into the ground more than two inches in the coldest seasons. They generally commence about the middle of October, and terminate in the month of March. On their approach they bring with them a cure for the fevers then usually prevalent. The inhabitants of Charleston keep fires in their houses from four to six months in the year, but there are some warm days in every month, in which fires are disagreeable. On the other hand, there are some moist cool days in every month of the year, with the exception of July and August, in which fires are not only healthy but pleasant. Ice is seldom half an inch thick, and rarely gives an opportunity for the wholesome exercise of skating.

The annual medium temperature of the air in Charleston, was $65\frac{2}{17}$ in 1791, 65 in 1792, $65\frac{2}{17}$ in 1793, 65 in 1794, $64\frac{5}{17}$ in 1795. The average medium for these five years, without fractions, is 65. The average medium of the ten years, viz. from 1750 to 1759, which were observed and recorded by Dr. Chalmers, was 66. From these facts it appears probable, that the aggregate heat of different years, in the same place, is nearly equal. A very warm summer is preceeded or followed by a proportionably cold winter, so as to bring different years nearly to the same temperature of the air, on an average of the whole four seasons.

The greatest, least, and mean heat, for every month of the year, for the five last years, will appear from the annexed table.

TABLE OF THE GREATEST, LEAST, AND MEAN DEGREES OF HEAT, IN CHARLESTON, FOR THE YEARS

Month.	1791	1792	1793	1794	1795
January	G. 65 L. 35 M. 50	G. 66 L. 30 M. 48	G. 67 L. 36 M. 51 $\frac{1}{2}$	G. 65 L. 35 M. 50	G. 60 L. 33 M. 46 $\frac{1}{2}$
Febru.	G. 69 L. 35 M. 52	G. 68 L. 30 M. 49	G. 74 L. 35 M. 54 $\frac{1}{2}$	G. 70 L. 34 M. 52	G. 63 L. 29 M. 46
March	G. 78 L. 42 M. 60	G. 74 L. 41 M. 57 $\frac{1}{2}$	G. 72 L. 34 M. 53	G. 76 L. 43 M. 59 $\frac{1}{2}$	G. 73 L. 33 M. 53
April	G. 82 L. 52 M. 67	G. 80 L. 52 M. 66	G. 83 L. 56 M. 69 $\frac{1}{2}$	G. 74 L. 50 M. 62 $\frac{1}{2}$	G. 78 L. 53 M. 65 $\frac{1}{2}$
May	G. 87 L. 61 M. 74	G. 84 L. 64 M. 74	G. 83 L. 62 M. 72 $\frac{1}{2}$	G. 86 L. 63 M. 74 $\frac{1}{2}$	G. 84 L. 70 M. 77
June	G. 87 M. 69 L. 78	G. 89 L. 63 M. 76 $\frac{1}{2}$	G. 86 L. 70 M. 78	G. 91 L. 65 M. 78	G. 86 L. 71 M. 78 $\frac{1}{2}$
July	G. 89 L. 66 M. 77 $\frac{1}{2}$	G. 93 L. 70 M. 81 $\frac{1}{2}$	G. 88 L. 76 M. 82	G. 85 L. 72 M. 78 $\frac{1}{2}$	G. 92 L. 74 M. 83
August	G. 90 L. 74 M. 82	G. 92 L. 69 M. 80 $\frac{1}{2}$	G. 87 L. 70 M. 78 $\frac{1}{2}$	G. 91 L. 75 M. 83	G. 88 L. 72 M. 80
Sept.	G. 87 L. 61 M. 74	G. 85 L. 60 M. 72 $\frac{1}{2}$	G. 89 L. 69 M. 79	G. 88 L. 66 M. 77	G. 83 L. 59 M. 71
Oct.	G. 83 L. 50 M. 66 $\frac{1}{2}$	G. 77 L. 46 M. 61 $\frac{1}{2}$	G. 82 L. 35 M. 58 $\frac{1}{2}$	G. 75 L. 47 M. 61	G. 79 L. 48 M. 63 $\frac{1}{2}$
Novem.	G. 72 L. 40 M. 56	G. 74 L. 45 M. 59 $\frac{1}{2}$	G. 76 L. 39 M. 57 $\frac{1}{2}$	G. 74 L. 37 M. 55 $\frac{1}{2}$	G. 75 L. 42 M. 58 $\frac{1}{2}$
Decem.	G. 63 L. 28 M. 45 $\frac{1}{2}$	G. 70 L. 34 M. 52	G. 66 L. 30 M. 48	G. 68 L. 37 M. 52 $\frac{1}{2}$	G. 71 L. 30 M. 50 $\frac{1}{2}$

To face Page 16.

The evils that every year take place, more or less, in Philadelphia, from drinking cold water, are unknown in this city. Our water lies so near the surface of the earth, that the difference of its temperature from that of the common air, is not so great as to create danger, unless in very particular circumstances. A solitary case occurred in September, 1791, of a negro fellow, who, after taking a draught of cold water, when very warm, suddenly fainted away, and, immediately after, became insane, and continued so for several days, but he afterwards recovered.

Instead of sudden deaths from cold water, we have to lament the same event from the intemperate use of spirituous liquors. The stimulus of ardent spirits, added to the stimulus of excessive heat, drives the blood forcibly on the brain, and produces fatal consequences. These are oftener apoplexies than strokes of the sun. Four fets expired suddenly, in one hot day last summer, in one square of this city.

The east and north-east winds in winter and spring, are very injurious to invalids, especially to those who have weak lungs, or who are troubled with rheumatic complaints. In these seasons they bring with them that languor, for which they are remarkable in other countries; but in summer, by moderating heat, they are rather wholesome than otherwise.

West and north-west winds, which blow over large tracts of marsh, are, in the summer season, unfriendly to health. The north and north-west winds are remarkable for their invigorating effects on the human frame. South winds are healthy in summer, but much less so in winter.

The general direction of the winds in this city, for four successive years, may be learnt from the annexed table.

On December 31, 1790, at four o'clock, A. M. wind N. E. a severe snow storm began in Charleston, which continued for twelve hours, in consequence of which, the streets were covered with snow, from two to four inches deep, and the sea islands, north-eastward, to the depth of six inches. Another took place on the 28th of February, 1792, wind N. W. which continued for several hours, and till it covered the ground five or six inches. These were rare phenomena. Snow is more common, and continues longer in proportion as we recede from the sea-shore. The further we proceed westward, till we reach the mountains, which divide the western from the eastern waters, the weather is colder, and vegetation later. While the inhabitants of Charleston can scarcely bear to be covered, in the hours of sleep, with a sheet, they who live in the town of Columbia, one hundred and twenty miles to the north-west
of

TABLE of the COURSE of the WINDS.

Month.	1791 Wind.	Days	1792 Wind.	Days	1793 Wind.	Days	1794 Wind.	Days
January	N. E. & E. S. W. & W. N. W.	7 3 1	W. & N. W. S. W. N. E.	13 2 15	N. W. & W. S. E. & E. S. W. & S. N. E. & E.	18 4 8 6	N. W. N. E. W. & S. W.	9 10 19
February	S. E. S. W. & W. N. E. & E. N. W.	3 9 12 4	W. & N. W. S. W. N. E. & E.	15 4 11	N. E. & N. N. W. & W. S. E. & E. S. W. & S.	7 12 8 7	N. E. N. W. S. W. & W.	6 11 10
March	N. E. & E. S. W. S. & W. N. W.	12 14 2	W. & S. W. N. W. N. E. & E. S. E.	12 6 5 3	N. E. & E. S. W. & W. N. W. & N. S. E.	9 17 6 7	S. W. & W. S. E. & S. N. W. & N. N. E. & N.	13 11 4 11
April	S. E. & S. S. W. & W. N. E. & E.	5 14 14	S. E. & E. S. W. & W. N. W.	4 21 2	N. E. & E. S. E. & S. S. W. & W. N. W. & N.	14 5 13 4	N. E. & E. S. W. & W. N. W. S. E. & S.	14 3 5 10
May	N. W. & W. S. W. & W. S. E. & E. S. W.	4 12 15 1	W. & S. W. N. N. E. & E. S. E. & E.	13 12 3	S. E. & E. S. W. & W. N. E. N. W.	14 9 10 2	N. E. & N. S. E. & S. S. W. & W. N. W.	10 15 12 7
June	S. E. & E. S. W. & W. N. E.	10 14 2	S. W. & W. S. E. & E. N. E. N. W.	13 10 9 2	S. W. & W. N. S. E. & S.	17 1 4	N. W. & W. S. E. & E. S. W. & S. N. E.	14 7 18 3
July	S. W. & W. N. W. & N. N. E. & E. S. E.	12 3 14 3	S. W. & W. N. E. & E. S. E. N. W.	13 16 7 1	S. W. & W. S. E. & S. N. W. N. E. & E.	21 13 2 5	N. E. & E. S. E. & S. S. W. & W. N. W. & N.	7 5 20 2
August	W. S. W. & S. S. E. & E. N. E. N. W.	19 6 2 3	W. & S. W. N. E. & E. S. E. N. W.	12 15 5 4	S. W. N. E. & E. N. W. S. E. & S.	14 11 2 11	N. E. & E. S. W. & W. N. W. & W. S. E. & S.	16 11 3 10
September	S. W. & W. N. W. S. E. & S. N. E.	12 6 6 8	N. E. & E. S. E. & S. S. W. & W. N. W.	23 1 6 3	S. W. & S. S. E. & E. N. E. N. W.	9 10 19 5	N. E. & E. S. E. & S. S. W. & W. N. W.	14 8 15 2
October	N. N. E. & E. N. W. & W. S. E.	16 14 3	N. W. & N. S. W. & W. N. E. & E.	7 4 18	N. E. & E. N. W. & W. S. E. & S. S. W.	20 7 10 4	N. E. & N. N. W. & W. S. E. & E. S. W.	19 5 10 4
November	N. W. N. N. E. S. & S. E.	12 3 7 2	N. W. & W. S. W. & S. N. E. & E. S. E.	18 7 10 8	S. W. & W. N. E. & E. S. E. & S. N. W. & N.	10 10 6 3	S. W. & W. N. E. & E. S. E. N. W.	9 13 2 8
December	W. N. W. & N. N. E. S. W. S. E.	22 3 3 3	N. E. & E. N. W. & N. S. W. & W. S. E.	10 15 11 1	N. W. N. E. & E. S. W. & W. N.	13 5 9 4	N. W. & N. S. W. & W. N. E. & E. S. E. & S.	10 10 10 3

of it, are not incommoded with a blanket. The difference is greater as we advance to Ninety-six, Pinckney, and Washington districts.

The sum total of rain, on an average of ten years, viz. from 1750 to 1759, as observed by Dr. Chalmers, was 41. 75 inches in the year. The quantity of rain that fell in each month of the year 1795, was as follows:

	INCHES.	10ths.
January,	8	5
February,	1	8
March,	4	6
April,	2	4
May,	8	1
June,	8	1
July,	5	2
August,	9	4
Sept. and October,	8	9
November,	0	9
December,	5	0
	71	8 in the year.

In the four years preceeding 1795, before we began to measure the quantity of rain, the number of days on which it fell in considerable quantities, without noticing flight transient showers, was as follows:

DAYS OF RAIN.

	1791	1792	1793	1794
January,	2	12	12	9
February,	8	7	9	5
March,	9	8	11	12
April,	6	2	9	7
May,	3	6	14	8
June,	15	9	8	13
July,	10	9	10	23
August,	10	10	15	13
September,	10	6	8	9
October,	8	4	3	8
November,	9	5	9	10
December,	6	10	6	11
	96	88	114	118

When the waters are kept in motion by a succession of showers, it is generally healthy; but fevers are usually rife, when a series of warm dry days follows great falls of rain. The cistern water of this city, collected from rain, is a degree and a half warmer than the well water; and the temperature of the well water is $64\frac{1}{2}$, which is twelve degrees warmer than that of Philadelphia.

Our

Our old people are ofteneft carried off in cold weather; the young, the intemperate, and the labouring part of the community, when it is hot.

It is to be regretted, that bilious remitting and intermitting fevers have increafed in the country, with the clearing thereof. The felling of trees, and opening of avenues to the rivers, have given more extenfive circulation to marfh miasmata. The increafe of mill-dams in the upper country has been injurious to the health of its inhabitants. In Charlefton a change has taken place much for the better. Bilious remitting autumnal fevers have, for fome years paft, evidently decreafed. The fmall-pox is now a trifling diforder, compared with what it was in 1760 and 1763. Pleurifies, which were formerly common and dangerous, are now comparatively rare, and fo eafily cured, as often to require no medical aid. The dry belly-ache has, in a great meafure, difappeared: perhaps this may be in part owing to the increafing difufe of punch. April and May ufed to be the terror of parents; but the difeafes, which thirty years ago occafioned great mortality among children in the fpring, have, for fome years paft, been lefs frequent and lefs mortal. It is now found, by happy experience, that they are often cured, or prevented, by country air. The three laft Aprils have paffed over without any notice being taken on our journals, of
the

the diarrhæa of infants, as having occurred in the practice of the members of this society.

A species of sore throat, accompanied with symptoms of the croup, which formerly swept off numbers of children, has, for the four last years, rarely occurred in practice. More rational methods of treating wives and mothers, have been substituted in lieu of the enervating confinement, imposed in the days of our fathers. The good effects of which are visible in the diminished number of women who die in childbirth, and in the increasing number of children who are now raised to maturity.

Dr. Mosely, in his treatise on tropical diseases, observes as follows, " Hot climates are indeed very favorable to gestation and parturition. Difficult labours are not common, and children are generally born healthy and strong, and thrive more than they do in temperate climates, for a few years, and are not subject to the rickets nor the scrophula." As a proof of this general position, applied to our state, I observe, that, in many instances, from seven to ten, and in a few, from ten to fifteen children have been raised to maturity in South-Carolina, from a single pair. There are now eight families in Broad-street, between the state-house and the western extremity of that street, in which sixty-nine children have been born, and of these fifty-six are alive. In that
part

part of Meeting-street, which lies between Tradd-street and Ashley-river, from six marriages, (which, with the exception of one, have taken place since the year 1782) forty-two children have been born, all of which, except three, are now alive, and the eldest of the whole is little more than fourteen. Within the same limits, seven other couple have fifty-two children living, the youngest of whom is twelve years old, and forty-seven are grown to maturity.

Greater instances of fecundity frequently occur in our middle and upper country, chiefly among those who inhabit poor land, at a distance from the rivers. There is a couple in Orangeburgh district, near the road that leads to Columbia from Orangeburgh, who lately had fifteen children alive out of sixteen, and a fair prospect of more. Another couple live in Darlington-county, fifteen miles from Lynch's-creek, who lately had thirteen children, and fifty-one grand children, all alive; and of their thirteen children, twelve were married at the same time.

The yellow fever raged in this city in the years 1700, 1732, 1739, 1745, 1748; but since the last mentioned year, nothing of the kind, of serious consequence,* has taken place,

E

except

* Some persons die almost every year, with the bilious fever, whose skin is yellow before or after death,
and

except the malignant fever of 1792 and 1794; which, though it resembled the yellow-fever in many things, was entirely different in two important particulars. It was not contagious, nor did it affect any person who had, for any considerable time, been used to the air of Charleston.

Sundry persons from the country were infected with it in this city, who died on or immediately after their return; but in no instance was the disease propagated from them, nor among the attendants on those who had the disease in Charleston. It was a fever *fui generis*, but resembled the typhus icterodes of Sauvage. The whole mortality from it, in 1792 and 1794, did not exceed one hundred and fifty in each year.*

Camp

and some of whom discharge black matter by vomiting; but this is very different from what is commonly meant by the West-India yellow-fever.

* It is much to be regretted that regular bills of mortality are not kept in Charleston. To remedy this defect, on a particular occasion, the sextons of the different churches were desired to give information of the number of persons buried in their respective burial grounds, from which it appeared to the medical society, that between the first of August, 1792, and the 26th of October, of the same year, one hundred and sixty-eight white persons were interred in the different burial grounds in Charleston. When it is considered, that the typhus icterodes began about the middle of July, and did not disappear till the middle of October, of this same year,

1792,

A TABLE of the Diseases that occurred in Charleston, from 1791, to 1795, in the practice of the Members of the Medical Society, and entered by them on their Journal.

	1791.	1792.	1793.	1794.	1795.
JANUARY.	Catarrhal fevers. Anginas.	Catarrhal fevers. Measles.	Catarrhal and inter- mittent fevers. Angina ulcerosa.	Catarrhal fevers. Hooping-cough.	Measles. Catarrhal fevers.
FEBRUARY.	Catarrhal fevers. Small-pox. Measles. Anginas.	Catarrhal and rheu- matic fevers. Scarlatina anginosa.	Catarrhal and rheu- matic fevers. Scarlatina anginosa.	Small-pox. Hooping-cough. Catarrhal fevers. Anginas.	Catarrhal and mili- ary fevers. Measles.
MARCH.	Small-pox. Measles.	Catarrhal fevers. Small-pox. Measles. Angina ulcerosa.	Catarrhal fevers. Anginas. Small-pox. Dysentery.	Small-pox. Anginas. Catarrhal fevers. Hooping-cough.	Catarrhal and milia- ry fevers. Measles.
APRIL.	Small-pox. Measles. Diarrhœa of Infants. Scarlatina anginosa.	Small-pox. Measles. Diarrhœa of infants.	Small-pox. Measles. Diarrhœa of infants.	Miliary fevers. Small-pox. Measles. Dysentery.	Measles. Catarrhal fevers. Pleurisies.
MAY.	Small-pox. Measles. Angina ulcerosa. Diarrhœa of Infants.	Small-pox. Measles. Hooping cough. Cholera morbus. Dysentery of infants.	Small-pox. Anginas. Hooping-cough. Catarrhal fevers. Dysentery.	Small-pox. Hooping-cough. Bilious remittent and intermittent fevers.	Measles. Catarrhal fevers. Pleurisies. Diarrhœa.
JUNE.	Small-pox. Measles. Dysentery. Diarrhœa. Intermittent fevers.	Small-pox. Measles. Dysentery. Intermittent fevers.	Small pox. Diarrhœa. Dysentery. Hooping-cough. Intermittent fevers. Anginas.	Intermittent fevers. Diarrhœa. Dysentery. Small-pox. Hooping cough.	Hooping-cough. Diarrhœa. Dysentery. Intermittent fevers.
JULY.	Small-pox. Measles. Dysentery. Diarrhœa. Intermittent fevers. Scarlatina anginosa.	Small-pox. Dysentery. Measles. Intermittent fevers. Scarlatina.	Small-pox. Hooping-cough. Intermittent fevers. Mumps.	Typhus icterodes. Small-pox. Dysentery and diar- rhœa of infants. Hooping-cough.	Small-pox. Hooping-cough. Intermittent fevers. Dysentery. Measles.
AUGUST.	Bilious intermittent & remittent fevers. Small-pox. Catarrhal fevers. Dysentery and Diar- rhœa. Measles.	Typhus icterodes. Catarrhal fevers. Rheumatisms. Small-pox. Measles.	Hooping-cough. Intermittent fevers. Dysentery. Diarrhœa.	Small-pox. Hooping-cough. Diarrhœa and dysen- tery. Typhus icterodes.	Fevers. Dysentery. Hooping-cough.
SEPTEMBER.	Intermittent fevers. Catarrhal fevers. Measles. Angina ulcerosa. Croup.	Typhus icterodes. Catarrhal and rheu- matic fevers. Dysentery. Hooping cough.	Catarrhal fevers.	Typhus icterodes. Intermittent fevers.	Typhus icterodes. Rheumatic fevers.
OCTOBER.	Catarrhal fevers. Spasmodic colics. Intermittent fevers. Measles.	Intermittent fevers. Croup. Small-pox.	Catarrhal fevers. Scarlatina. Intermittent fevers.	Typhus icterodus. Catarrhal and inter- mittent fevers. Hooping-cough.	Typhus icterodes. Catarrhal and inter- mittent fevers.
NOVEMBER.	Croup. Scarlatina anginosa.	Small-pox. Hooping-cough. Intermittent fevers.	Hooping-cough. Catarrhal fevers.	Measles. Catarrhal fevers. Anginas. Intermittent fevers. Quinfy.	Typhus icterodes. Intermittent and ca- tarrhal fevers.
DECEMBER.	Measles. Angina ulcerosa. Pleurisies. Catarrhal fevers.	Intermittent fevers. Angina ulcerosa. Catarrhal fevers. Dysentery. Small-pox.	Hooping-cough. Intermittent and Ca- tarrhal fevers.	Measles. Catarrhal fevers.	Catarrhal fevers.

Camp fevers were, as usual, attendant on the armies in the time of the late war. The scarlatina anginosa was also common in Charleston, in the year 1783, but attended with little mortality. The typhus icterodes of 1792 and 1794 was confined to strangers, and did not extend beyond the limits of this city. These diseases were, in a limited sense, epidemic; but, except the influenza, no serious extensive epidemic has taken place among us for the last twenty years.

The annexed table, extracted from the journals of the medical society, will shew, at one view, the general tenor of the diseases that have occurred in Charleston, for the five last years.

It must be highly agreeable to every benevolent mind, that Charleston is now more healthy than formerly, and likely to be more and more so. With pleasure I anticipate, that in the course of the next century, our buildings will be extended into Ashley and Cooper rivers, as far as low water mark; that the adjacent marshes will be banked in; the streets paved, and well provided with sewers; the bogs drained; the low grounds filled up; and the whole area of the city be firm, solid, high,

E 2

and

1792, and that August and September are the most sickly months of the whole twelve, the death of one hundred and sixty-eight persons, in the course of eighty-seven days, in a city, whose white population was about eight thousand persons, must be deemed very moderate.

and dry land. Those who recollect the time when ducks were shot in a pond, which occupied the ground on which the state-house is erected—when a creek ran up to Church-street, and was crossed on a bridge, near where the French church now stands—when they used to swim over that spot of ground which is now Mr. Allston's garden—when Water-street, which, at present, is high and dry, was almost impassable, will acquit me of being too sanguine, when I indulge the hope, that our grand-children will be less exposed to fevers than we are.

It is a glorious exploit in a country, whose maladies chiefly arise from heat and moisture, to redeem its metropolis from moisture, which, of the two, is the most plentiful source of disease. Whoever builds a house, fills a pond, or drains a bog, deserves well of his country.*

It

* Our fellow-citizen, Captain Toomer, is entitled to praise on this account; he has converted a very miry spot in Meeting-street, into solid ground, and covered it with houses. Much remains to be done in this way, to improve the health of Charleston. The existence of a pond in a city, is a reproach to its police. Efficient measures should be immediately adopted to drain or fill up the low grounds. The streets should be paved, and the sewers constructed on a different plan. They ought to be completely covered over, and extended on each side to the nearest river: while smaller ones, from every house, should enter them near their top, and on a descent. All offensive matter should be transmitted through these lateral sewers to the main one in the middle of the street; and

It is no small advantage to the inhabitants of Charleston, that they can, in the space of two hours, parry the heat of summer, by going to Sullivan's-island, where many invalids, especially children, have found a speedy restoration to health and strength. Our citizens have gained so much by frequenting this island, we may well wonder that it is only three years since it began to be a place of summer resort.

Intermitting fevers are common to those who inhabit on or near to the banks of our rivers. On the other hand, by removing into the high and dry lands, three or four miles from the rivers, ponds, and mill-dams, fevers may, for the most part, be avoided. Of this a remarkable instance has lately occurred in St. Stephens, the inhabitants of which by quitting the swamps in summer, and fixing themselves in a new settlement, called by them Pine-Ville, have, for two years past, in a great measure, escaped the diseases which are common in the most sickly season of the year.

The swamps of South-Carolina terminate about one hundred and ten miles from the sea-coast; from thence westward the country becomes more hilly: the inhabitants are more ruddy, and in general more healthy.

The

and the whole so constructed, that as often as it rained, there would be a general purification of the city.

The tetanus is more common here than in colder countries. Twenty-one cases of it, and most of them fatal ones, have been reported to the medical society, between September, 1791, and August, 1795: seven of these took place in winter. Chronic complaints are comparatively rare in this state. The gravel, the stone, the dropsy, the rheumatism, and the consumption occur much seldomer with us* than with our northern brethren. Fevers are our proper endemick: he who escapes them has little else to fear. And much may be successfully done for the avoidance of them by prudent careful active persons, who study their constitutions, and observe a generous medium between living too high and living too low.

Were it possible exactly to contrast the consumptions of New-England with the fevers of South-Carolina, the inhabitants of both would have nearly equal reason to be satisfied with the place of their nativity. As to long life our eastern brethren have the advantage of us. In proportion to numbers, as far as history

* “ In tropical countries, people are seldom affected with dangerous pulmonic diseases; idiotism and mania are very uncommon: lunacy is almost unknown: scurvy and gravel are diseases seldom to be met with, and the stone scarcely ever. I have known many Europeans subject to the gravel at home who had no symptoms of it during their residence in the West Indies.”

Mosely on the diseases of tropical climates, p. 112.

tory and observation warrant a comparison, there are as many of their inhabitants reach 85 as of ours who attain to 70.

Extreme old age, though not common, is sometimes attained by our citizens, especially by those who, in middle or early life, have migrated from the cold northern countries of Europe. A native of this city now resides in it, at Amen corner, who is supposed by herself and acquaintances, to be an hundred years old. I have been well informed of seven or eight others in different parts of the state, who have reached, and in some cases exceeded that period. A particular census of the aged inhabitants of this city was taken by Captain Jacob Milligan, in the year 1790, at the request of a worthy citizen, since dead, from which it appeared that there were then, in Charleston, 198 white persons who were sixty years of age, and one hundred of these were upwards of 70, and one 108. Our white population, at that period, was about 8000.

This imperfect sketch of the soil, climate, weather, and diseases of South-Carolina, collected from our medical journal, my own observations for 22 years, and the information of others, is respectfully submitted to the society, with a request that each member would freely point out wherein I am deficient, and where

where I am mistaken. He who, in the spirit of candor and philosophy, corrects me in an old error, or furnishes me with a new truth, deserves, and shall receive my most grateful acknowledgements.

David Ramsay.

CHARLESTON, S. C.

May 1, 1796.

Med. Hist.

WZ

270

R179s

1796

(1)

