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BILIOUS FEVER DISTRICTS OF COUNTRY AT THE SOUTH.

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FROM the earliest times, the term *sickly country* has been applied to places subject to the various forms of bilious fever. Dr. Watson, in his summary of the opinions of enlightened travellers of the present day, says that the inhabitants of such countries are represented as being "puny, sallow and sickly; feeble in body and spiritless in mind; having yellow faces, swelled bellies, and wasted limbs; subject to dropsies and fluxes; phlegmatic, melancholy and short lived." This picture is drawn from the most unhealthy regions, but it must be acknowledged we have many places whose inhabitants exhibit too many of the symptoms described. Every one will acknowledge the importance of avoiding evils so appalling.

Sicily was considered by the Greeks an unhealthy country, and one of their writers adds, that the most sickly parts were those in which the wells were shallowest. This remark holds true within the compass of my observation, with but few exceptions. The islands of our coast which are composed of sea sand, and have on them only the water which falls in rain, are healthy, though the wells are very shallow. But there are exceptions to the healthfulness of the islands of our sea coast. Those of South Carolina are considered very unhealthy. The cause of this has not been well ascertained. I have no doubt that a stratum of marl or clay will be found, at a greater or less depth, below the surface of these sickly islands. This is the common cause of the unhealthiness of similar localities.

The formation of peat is hindered in southern latitudes by the extremes of heat and drought. It never occurs in places sometimes overflowed and at other times dry. The presence of peaty earth proves the absence of putrefaction. The great Dismal Swamp, at the South of the Chesapeake Bay, has been often referred to, as the most extensive and healthy region of peat in the South. I know thousands of acres of similar lands located in our sandy pine woods, which have proved equally innocent. But I have witnessed the clearing of some of the lands, around the streams furnishing these *peat mosses*, and the consequent frequent overflow of them by muddy water and sand, and finally a change in the people of the neighborhood from health to sickness.

But we will return to the general fact, that very shallow wells indicate

a very sickly country. To this I know no exceptions, except such as have been mentioned. The sea coasts of the Carolinas and Georgia, give extensive exemplifications. The soil of this whole region is sandy, but is, I believe, universally underlaid by a stratum of alluvial clay, sufficiently compact to hold water. In many places this clay is exposed, furnishing the rice lands of this extensive district.

Leaving the sea coast and penetrating the country thirty or forty miles, the sand hills rise, the wells get deeper, and the people have another and higher grade of health. This region is, in Georgia, fifty miles or more in breadth, and is an exceedingly healthy country. It is, unfortunately, unproductive, and thinly inhabited, and will so remain, till skill in cultivating this interesting section shall develop its capacity to sustain a dense population.

Ascending the streams, we next meet with that remarkable region, called, in Georgia, the *rotten limestone*. From the sea coast of New York, it extends, gradually winding and rising in elevation above the sea, till in Georgia it has become nearly two hundred feet above the tide, increasing in breadth and elevation as it progresses south and west. This whole region is considered unhealthy. Many parts of it have high hills and deep wells, and are healthier than other places in the same region, but there is no warrant for the enjoyment of health and extension of life in such a region.

The composition and structure of this extensive, fertile and sickly region, is such that the streams through it are very level, their valleys subject to overflow, and in many places lime sinks, developing large streams of water under ground, running to some larger neighboring stream. The surface of the country is sandy, and in some places elevated into hills; but a substratum of clay or marl at various depths from the surface, detains the rain water which flows perpetually from the sides or bottoms of the hills. The water of these springs is offensive to the taste, and in some places has the smell of stale animal matter. This putrid smell is probably derived from the beds of marine shells through which this clear water has passed. The whole arrangement and composition of the earth in this region favors dampness, and produces the sickness so generally feared.

Proceeding up the rivers we next come to a range of elevated and well-drained pine woods, free from marl, though abounding in porcelain clay. This clay, in greater or less purity, is seen in the banks of streams, the bottoms of ponds, or on the tops of hills. It seems to be a transition from the granitic to the rotten limestone region; and is as healthy as any part of the country. It extends from Augusta to Milledgeville, and onward as far as I have examined, and is from five to ten miles in width. This region is comparatively poor, but under all circumstances more free from bilious fever than the country above or below it. Mill ponds, or natural ponds, in the elevated plains, are harmless under any degree of damp or drought. This region is thinly inhabited, by a population who live, from generation to generation, without experiencing bilious or intermittent fevers.

We next come to the great primitive formation east of the Alleghanies. It is a granite region, though infinitely diversified in appearance. The country is rolling and well drained, and when cleared and brought into tillage by the planter, very healthy. This country, extending from the tops of the mountains to the last granite falls in the rivers, is the strength and the pride of the South. From Virginia to Georgia it covers about one half of the country east of the mountains, and is probably not excelled, in climate and situation, by any part of the earth. It has no limestone, but clay, and all the elements of granite combined in a thousand ways, ensure a fair amount of fertility. But these elements and their vegetable products, give rise, under certain circumstances, to bilious fever. Mill ponds, badly drained valleys, oozy and damp hill sides, and probably many ill-drained but cultivated fields, prove fruitful sources of disease. In all this region there is great difference in the healthfulness of neighboring places; but it will generally hold good, that places well drained and sufficiently removed from ponds or similar nuisances, will be healthy.

But experience has shown that a residence near our great streams or wide overflowing bottoms, in our primitive region, is unhealthy. In this region mill ponds are fearful nuisances. These causes are worst where the country has been but lately brought into cultivation. They diminish as the country grows older. The overflowing of river lands, and their subsequent drying in hot weather, has been regarded as the most certain cause of bilious fever. I have again and again witnessed fever which I thought arose from this cause. But the rocky bed of a rapid river, being laid bare by extraordinary drought, has been found as capable of producing fever as the muddiest swamp. It is not then in proportion to the quantity of mud. The sliny rocks of dried up rivers have appeared to produce diseases as violent and as fatal, as any produced by swamps of any kind. As a general rule, it may be said that places are unhealthy in proportion to their contiguity to extensive deposits from streams which become dry in the heat of summer.

Admitting that the sloping banks and fertile bottoms of streams, and the margins of ponds, are in summer productive of bilious fever, it becomes an important question, in choosing a residence, to know the safest locality. Three miles has been assumed as the nearest safe distance from a spot producing malaria. My own experience places the line of safety far within this limit, but having seen the range of bilious fever near the same river, vary in different years in proportion to the severity of the disease of the season, I conclude that the danger is more extended, when the product of the cause is greater or more powerful. I have compared it with the emanations of putrid effluvia from decaying animal substances—they become weaker in proportion to distance. I have never seen bilious fever as much as two miles from the place which I considered as originating its cause. And I believe there are few places which ever produce it at so great a distance as a mile and a half. It has been said that the cause of this disease moves with the wind, and continues near the surface of the earth—that an upper story is safer

than a lower story of the same house. This does not correspond with my observations. The room or building nearest the nuisance will probably be first attacked; but I have never seen the residents of an upper story less affected than those who resided or slept below. Nor can I confirm the opinion of some men of high standing, that this miasm cannot cross a pond or river. The Oconee river, in the alluvial country below Milledgeville, runs in several places at the base of high bluffs, extending back to a great distance in a well drained and healthy country. These bluffs are considered a more dangerous residence, than the rich bottoms on the opposite side, where the only apparent cause of the miasm is to be found.

To what elevation the cause of fever may rise, is a question yet unsettled; and I have witnessed no facts directly bearing on this point. Between creeks or rivers, there must be a point of greatest elevation; and this point is apt to be at a medium distance between them. This elevation above the river, within a few miles of this place, is from one to four hundred feet. On each side of Fishing Creek, which empties into the Oconee immediately below Milledgeville, there arise hills of this height, overlooking its valley from each side. I have many times, in a tour of professional labor, made a circuit of twenty miles upon one side, and down upon the other, of this stream. It was at several points easy to behold the valley, from one to three miles from hill to hill, spread out like a map for several miles. On the top of the hills, on which there run public high ways, there was not, nor ever has originated a bilious or intermittent fever. No wind from the valley, although so near, has ever spread the pestilence so far. It has been interesting to notice the exactness of the limit which seemed to be assigned the disease. I have several times noticed two settlements, one hundred yards apart—the most distant would escape altogether, while that which was only one hundred yards nearer, suffered the disease in almost every member of the family.

It has been said that villages are more subject to the visits of agues, than cities—I will add that a single residence in the country is more subject than either. If the decomposition of vegetable matter, by warmth and moisture, especially in combination with a clay soil, is the cause, these facts will appear as matter of course. The suburbs only of a great city can be much exposed, and a village can have but little protection—every house is near the suburbs on one side or the other.

I have said that intervening water affords no protection against malaria; and I think that intervening houses are equally insufficient to arrest its progress. Intervening hills are entitled to more confidence. It has long been observed in the United States, that the summit of the nearest hill to a river valley, is the most sickly residence which can be chosen. Any part of the valley has been justly thought more healthy. In 1813-14, I attended a family located on one of these picturesque hill tops, elevated, perhaps, one hundred feet above, and distant about half a mile from the river. The family, with scarcely an exception, had every year a violent attack of bilious fever, and two or three died from it. I

advised a removal over the hill; but the gentleman, whose possessions did not extend far, could only accomplish it by moving lower down where the hill was narrower. He in this way secured a hill between him and the river valley, but gained little in distance, and was on a place at least fifty feet lower than that he had left. His new residence proved entirely exempt from bilious fever, and is still inhabited and healthy.—*South. Med. and Surg. Jour.*

EXTRACTS FROM A MEMOIR OF BOWMAN HENDRY, M.D.

[Concluded from page 301.]

THE number of severe cases of surgical injury occurring under the observation of the country practitioner, is rarely very great, and this very infrequency seriously interferes with the preservation of that habitual skill which cases of this character require: but Dr. Hendry was equally distinguished in all branches of the art. It is much to be regretted that there exists no detailed record of the very numerous operations which he performed, from time to time, during his long course of practice; yet, evidence enough remains in the memory of his surviving neighbors, to show that many of them were difficult and dangerous—such as are sufficient, when performed in the great medical institutions of capitals, and made public through the press, to establish an enviable reputation for the operator. But the subject of our memoir lived before the age in which a multiplicity of medical journals afforded the facilities for favor which are now extended alike to the practitioners of cities and the rural districts. Several successful applications of the trephine, in severe injuries of the brain, in which the skilfulness of the after treatment secured the lives of the patients, under highly unfavorable circumstances, are vividly recollected by many.

In the theory of medicine his conceptions were clear, correct and decided, his tact in diagnosis remarkable, and his manners at the bed-side firm, but in the highest degree kind, polished and condescending. He never refused to listen and reply with gentleness to the suggestions of ignorant attendants or over-anxious friends, but never receded from a principle, or modified a direction, from a disposition to yield to unwise pertinacity, or cultivate golden opinions at the sacrifice of duty; yet, probably, no practitioner ever enjoyed, in higher degree, the confidence and the affection of his patients and the subordinates of the sick-room. His clinical practice was rich in original prescriptions, the result of long-continued observation and research, and his knowledge of practical pharmacy extensive and minute. With this profound and accurate knowledge of his profession, he was naturally an uncompromising foe of all species of quackery and empiricism. The sick-room was for him a battle field, and with the most chivalrous devotion he there assailed the foes of human health—glorying in the defeat of the enemy, and the restoration of the victims of disease.