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A TOPOGRAPHICAL SKETCH,

WITH REMARKS

ON THE DISEASES

OF

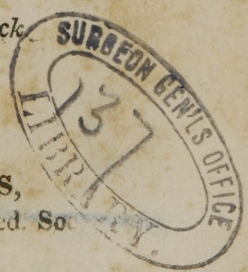
WEST TENNESSEE.

SUBMITTED,

As An Inaugural Essay,

TO THE EXAMINATION OF THE HON. ROBERT SMITH, PROVOST, AND OF THE REGENTS OF THE UNIVERSITY OF MARYLAND,

For the degree of Doctor of Physick.



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AN ESSAY, &c.

WHEN a young unpractised physician sets out in his professional occupation, it is highly important that he should consider well the nature of the situation in which he is establishing himself; the local peculiarities (if any) as respects climate, marshy grounds, and stagnant waters; the customs, manners, mode of living and avocations of the people who inhabit the country, and its state of agricultural improvement, &c.

In the application of particular remedies recommended by authors for any particular disease, he should first cautiously reflect how far the circumstances here enumerated may tend to vary the case in hand, and point out new indications of cure, or require a variation in the old.—But if this view be important to the young beginner, who has only received theoretical impressions, it is perhaps not less so to the more advanced practitioner who changes his situation; for, his impressions or opinions, on particular cases being founded on his own practice as well as the opinions of authors or favourite preceptors, are perhaps more obstinately fixed; it is therefore equally incumbent on him to make an exertion to devest himself of local and particular prejudices, which bind down the spirit of inquiry.

It has been truly said, that it is more difficult for the mind to unlearn errour than to learn truth *de novo*—and it may safely be added that the difficulty increases in proportion to the nature and duration of the causes producing the erroneous impressions. To avail itself more fully of the efficacy of this principle, it is necessary for the mind to conceive that it is highly possible for it to be under the strongest influence of erroneous impressions,

when even the fullest conviction of the contrary is felt; otherwise it will cease to avail itself of the facts and reasonings requisite to work the salutary change.

With a glimmering at least of this important truth, and after a practice of about six years in the more southern parts of the atlantick country of the United States, I removed to Nashville in the state of Tennessee, and according to my own principles, considered it important to learn as early as possible, the natural state of this new country, the history of its diseases, and their cure, to enable me to judge more immediately whether any peculiarities in their characters demanded a correspondent variation from the usual treatment of the same nominal diseases in the atlantick country where I had previously practised. I shall proceed to give a faithful account of the result of my inquiries, so far as this can be done from general impressions and recollection, for I have to regret here, the want of those notes which were made as the subjects presented themselves and which would enable me to do more justice to them in detail.

Nashville is situated in west Tennessee (Mero district, commonly called Cumberland country) upon a high rocky bluff, on the south west side of Cumberland river, surrounded by a flat and fertile soil which appears to be inclosed by a circle of high rocky hills, running at a few miles distance, and giving the surrounding country, when viewed from an eminence in the town, the appearance of a large basin, with Nashville seated upon an elevated apex in its centre. This prospect is most strikingly sublime and beautiful, when viewed from Bellmont house, the elegant and elevated seat of the honourable George Washington Campbell, within the limits of the town. In the neighbourhood of Nashville, and on either side of the Cumberland river, for many miles above and below, are

seen dispersed swampy grounds and extensive ponds of stagnant water.

When first settled by the whites (in contradistinction to the Indians) twenty-five or thirty years ago, that part of west Tennessee which surrounds Nashville then better known by the name of Cumberland country, was an almost impenetrable wilderness of canes over-shadowed with the thick branches of immense trees interlocking with each other. It lies between the high ridges of the Cumberland mountains running on the south-east, and an elevation called "the Ridge" on the north-west. The north-east end of the valley, thus formed, is interrupted with spurs of mountains and ridges, about fifty or sixty miles up the Cumberland from Nashville. The river runs for the most part from north-east to south-west

The Cumberland mountains, and *the ridge* I have mentioned, run nearly parallel with the river. The summer breezes of West Tennessee have been for the most part westerly, and coming up the valley from the same quarter, being met by the mountains and ridges above, may be supposed to form an eddy of air, hovering over Nashville and its vicinity. This appears to be Nature's general arrangement. Between these main ridges there are others of inferiour size, running sometimes parallel, forming correspondent vales; sometimes the ridges are circular, and form basins of various extent, of which I have described already the one containing Nashville.— In the winter season, springs of water, creeks, and rivers flow in every direction through West Tennessee. The whole earth seems to be supersaturated with water, forming what are called wet-weather springs, pouring out from the top or sides of every hill or mountain, and this state of things generally continues until May or June, when the earth becomes again prepared to absorb, or gives them out in steam to support the arid air; the eva-

poration is so considerable, that before the last of July, the inhabitants are in want of water, in consequence of the failure of the springs and streams; those that remain, however, are generally very pure and good.

Such was the situation of this country to which I removed to pursue the practice of physick in the spring of 1804, then already considerably populous and open.—Here I might give the history of the first appearance of fevers in the Cumberland country, as communicated to me by other physicians, together with their method of cure, progressive changes, &c. &c.; but as I shall in the end quote some remarks on that point, made by me in a communication to Dr. Mitchell, of New York, in 1808, on the influenza of the preceding year, I shall proceed to notice some peculiarities in the diseases of West Tennessee, which baffled the remedies that had proved effectual in my own hands, in diseases of similar names and appearance in the atlantick country That which arrested my attention first, as being very general, and affecting a most important organ, was a disease of the eyes, (ophthalmia) with a very alarming suffusion of the adnata.—This disease affected every age and sex, but mostly adults, and particularly new settlers: it commenced with a slight itching sensation, and increased very gradually to the highest stages of inflammation, attended by its worst symptoms. On my first arrival, I found several who had been many weeks, at least, suffering under this disease, and who had used various applications to little or no good purpose. Upon inquiry, I learned that many of the best collyria, adopted in ordinary practice, had been used, and my first conclusion was, that these must have been injudiciously prepared, or applied before the inflammatory state had been lessened by general remedies. It appeared singular too, that so many cases should baffle the skill of several medical gentlemen well

acquainted with the ordinary practice; and although upon the first application to me I determined to act from my first conclusion, that their ill success had proceeded from the premature application of collyria before the proper use of general remedies, I could not help feeling apprehensions that there might be some peculiar causes operating in these cases to baffle ordinary means of cure. I prognosticated therefore with diffidence, until I should learn more on the subject. If I entertained apprehensions of my success with the ordinary remedies before trying them, my embarrassment was not lessened afterwards; for bleeding, calomel, purges, sulp. sodæ, solutions of acetate of lead, sulphate of zinc, and the alkaline collyria, all afforded but very slow and moderate relief; and very many cases obstinately distressed the patients until time, or the efforts of nature, overcame the morbid effects of the agents producing this disease, and produced a cure. Another circumstance which early presented itself for consideration, as being rather singular, was a complaint amongst many, particularly young adventurers to that country. They felt an unaccountable listlessness, an indisposition to think or to act, with a sensation of oppression through the general system, and a heavy fulness in the head, comparative want of appetite, and unusual disposition to sleep.

The psora, or common itchy eruption on the skin, was more universal and difficult of cure than I had known it elsewhere; the inhabitants called it the Cumberland itch. In the atlantick states, the common blue ointment, or ointment prepared from the oxyds of mercury, or sulphureous ointments, had rarely, if ever, failed to effect a cure. Here many cases occurred that would yield to no one of these remedies, nor to them all in succession. Having before cured many inveterate cases of cutaneous eruption with a solution of the muriate of soda (common salt)

I tried this, and sometimes succeeded with it by long-continued use, where other remedies had failed.

In nothing was the skill of the physician more baffled than in attempting to cure syphilis in the ordinary way with mercury. There were comparatively few cases of this disease in West Tennessee, yet I witnessed more distress from it, than I had ever known in old cities of the atlantick country. The gonorrhœa was more easily cured; every one could cure himself with roots, diet, drinks, or some known injection. It was remarkable that in Nashville and its neighbourhood, there was an uncommon number of married women who continued unfruitful: this gave rise to a nominal organization of a jocular club of married gentlemen, who ranked according to their long and faithful adherence to the essential requisite of membership. Some of them who took their wives to breathe other air, and drink other waters, afterwards forfeited their claims to membership in this club.

There was a disease in West Tennessee which proved fatal to many; it was attended with catarrh and expectoration to an excessive degree: the physicians there called it consumption. If they meant by that a disease of the lungs, they were in an errour, as it was a disease of the liver, and invariably grew worse under the use of almost every remedy prescribed by them for consumption: it was cured by mercury, acids, and mountain air. It sometimes required the lancet, even when of considerable duration.

I have seen real cases of phthisis pulmonalis benefitted by a removal from the atlantick to the western country where I lived; and some of the worst cases have been cured by journeying down the Mississippi river, and remaining for a time at Natchez, Orleans, &c. I never heard of a genuine hepatick affection being benefited by the same journey. I observed more obstinate cases of

hypochondriasis and nervous head-ach in this new country than in the atlantick states, and there was one general phenomenon accompanying all the above cases.— The blood drawn from the arm was unusually black, and apparently more dense and warm than usual while running from the arm; and the buffy coat which usually appeared on it when cool, inclined more to a blueish or livid colour, than the buffy coat of atlantick blood under similar circumstances.

It appeared extremely difficult to make good vinegar in Nashville, insomuch that it was generally bought in Philadelphia and Baltimore, and sold in Nashville for the use of private tables, at three or four dollars per gallon.

These are some of the most prominent peculiarities which arrested my attention after my establishment in this country. Many other cases were noted by me more in detail, of which, however, it is not in my power to avail myself. One of the first reflections excited in my mind by the peculiar appearance of these cases, and the obstinacy and difficulty they manifested, was, that uncleanliness in dress, or peculiarity in diet, might have occasioned them, and I took measures accordingly, but with little better success. Cleanliness of person, alteration of diet, &c. superadded to my former plan, made but little change in the diseases: the quality of the water presented itself as a cause of disease, but afforded no satisfactory explanation of the difficulty; it was generally good lime-stone water, and I had seen no such effects produced by it on the east of the Alleghany, or on the east or south-east of the Cumberland mountain. The properties of the air, therefore, only remained to be considered; and here it may be proper to remark, that of all the phenomena of health or disease, dependent upon the pabulum or regimen of man, most of them are referable

to the air, and for the obvious reason that he takes in more of this fluid. No physician should prescribe a remedy for a disease without adverting to this most important consideration. Will bark or wine cure an intermittent in a cloud of miasmata? or all the stimulants of a Brown resuscitate expiring life in an atmosphere of hydrogene; or the depletion of Rush himself remove an inflammation of the lungs in a laboratory filled with oxygen gas? I have seen men (physicians they were not) pouring down wine and bark, blistering and burning their unfortunate patients, who were restless and parched for want of cool air, when they only required the doors and windows to be opened to admit the cordial stream of life, and to restore the unhappy victims of their ignorance. It was in the air then I was to look for a solution of the difficulties which surrounded and embarrassed me, and if the cause existed there, two ways only remained to obviate its effects; the one by introducing into the system a remedy to counteract or remove the effect of this invisible cause, whatever it was, and, if that failed, to cause the patient to be removed to a situation in which he would be better able to sustain the action of the air uninjured. Previous to the adoption of a remedy, it was necessary to know, or conceive, at least, the nature of the cause producing the evil; this could only be done synthetically, by deducing the cause from a consideration of the combined effects produced by it. Accordingly in this way I was led to conceive that a deficiency of oxygen in the surrounding atmosphere, or rather an insufficient quantity of it taken into the system for oxygenating the blood to the point of health, caused the peculiar appearances I have mentioned. It is highly possible that these appearances might equally proceed from some unknown property or pervading gas acting positively on the system at the same time that the absence of oxygen was

working a negative effect: but from a view of all the circumstances attending these cases, and their cure, I was induced to believe that they were to be accounted for principally upon the negative consequence of a deficient supply of oxygen, for the natural demands of the blood, and this appears more probable, when we consider the local peculiarities of West Tennessee, and the time when most of the above-recited phenomena occurred; to wit, in the spring of the year, and from that until autumn, times favouring simple evaporation (rather than putrefaction) which encumbers rather than poisons the air. I have stated that there existed in Cumberland, or West Tennessee, an almost universal inundation of water, in the winter and spring; added to this, in many places, a naked surface of rock is exposed to the scorching rays of a vernal and summer sun; moreover almost every stream of water in its course is thinly spread out upon a solid bed of clean rock: thus, early in the season, an excessive evaporation of water is caused in this secluded vale. Does the atmosphere, continually loaded with vapour in its passage upwards, offer a large portion of this unanimating fluid to vital appetency, to the exclusion of a correspondent portion of pure and animating gas?

The secretion which arises from the luxuriant vegetation of the soil of Cumberland, and the evaporation from dead and dying vegetables, give my conclusion something more than the air of mere hypothesis. Are the local causes producing this condition of the atmosphere, instead of being counteracted by ready supplies of marine air, aided by western gales of similar composition, from the swampy regions of Louisiana and Mexico? When the cause of disease is discovered, a large part of our work is done, we have only to apply the remedy indicated. I need hardly inform the intelligent reader, that when acting under the foregoing conclusion, the general

indication most obviously was to oxygenate the system to a degree equal to what it would have been in a more salubrious atmosphere Accordingly, if I used mercurial ointment to cure the itch, I accompanied the use of it with nitrick, muriatick, or sulphurick acid; if these failed, I gave proper doses of the oxide of arsenick in some one of them: but I can assure the reader with great truth, that in most cases, without this latter remedy, the acids afforded me a degree of success far exceeding my former expectations. Thus then the result of my inquiries and observations were, that there were some peculiarities in the diseases of West Tennessee, not common to the atlantick diseases, and I leaned to the opinion that these arose from a deficiency of oxygen in the quantum of air inspired, or to the presence of marsh or other effluvia, and that, in addition to certain remedies used in diseases of the same name and appearance in the atlantick country, here an additional and more general indication of cure existed. I extended my principles to the treatment of fevers with evident advantage, and the increase of my reputation and business, exclusive of considerations of a more philanthropick nature, afforded ample compensation for any additional care in deciding on a proper mode of practice. I mention this without boasting, to excite young beginners to industry and observation; for it would be unpardonable in them to resign their patients to a melancholy fate, because they had submitted to the ordinary round of practice, while any thing remained possible to observation and industry. I know it may be said that cases of eruptive, and other diseases, frequently occur in the atlantick and other countries, which require and receive a treatment similar to that adopted by me in Tennessee: like causes will produce like effects in every situation; and if local causes combine to produce such a state of the atmosphere in any

country as that which I suppose obtained in West Tennessee, the same indications of cure will exist, unless winds impregnated with marine vapour, or some other property capable of dissipating or removing this state of the atmosphere shall intervene, before its morbid effects are produced.

I shall conclude this subject with the statement of a case of syphilis in point, which was so remarkable, that I can recollect the particulars of it without reference to my notes. Some years before I settled in Nashville, Mr. *** had been to Philadelphia, contracted this disease, consulted Dr. Rush, took his medicines, and returned to Nashville with little apparent remains of it. Having consulted a physician on his return to Nashville, he was advised to pursue the remedies, which he accordingly did, but the disease increased, the whole faculty of the place attended him together, and in succession, but without success: it was a case of syphilis without complication; there had been no gonorrhœa. Mercury in various forms had therefore been chiefly relied on from the first. When I arrived in Nashville, the disease had acquired a marked ascendancy over the remedies, after a conflict of several years; it had then attacked the nasal parts, but in a slight degree, as was manifest by an inconsiderable discolouration of the external integuments of the nose, just below its junction with the os frontis. While in this situation I was invited by Mr. ***'s physician, to see the case with him, merely as an acquaintance, and not as a physician. Accordingly, after examining the case, I retired, without expressing any opinion to the patient, who betrayed considerable anxiety to communicate something secretly to me, which I avoided. How deplorable is the case of a patient who is sinking under the maltreatment of ignorance, and cannot shake it off!—how distressing is the situation of the man who sees

these things, and feels a reasonable conviction that he could afford the requisite relief, yet dares not interfere, because he would be censured for mean intrusion! At the time I saw this patient he was still in a comfortable state, moving, and attending to his business, under the slight embarrassment of the moderate ulcerations under which he laboured: six or eight months afterwards, however, he sent for me to visit him, and I saw a most miserable object. He was entirely confined to bed, reduced to a mere skeleton, laboured under a colliquative diarrhœa, loss of appetite, extensive ulcerations of the legs; the upper part of the tibia was naked and corroded away to the extent of several inches: and to complete the misery and deformity of this young gentleman (for such he was of fortune and education,) his nose was destroyed, but a small part of the upper lip, of about half an inch wide, was left to preserve the form of the mouth; the ossa palati, malarum, &c. &c. were extensively corroded away, and scarcely a bone remained connected with the nasal process:—in short, you could literally look down his throat, through a wretched opening, while the mouth was entirely shut—such was his case.

Believing that the injudicious use of mercury had hurried on the rapid dissolution of the parts above mentioned, I directed it to be instantly discontinued. The ulcers were still rapidly spreading, and being in a vitiated cancer-like state, I did not think it safe to depend upon ordinary remedies, but had recourse to a combination of the most powerful. I prepared solution of arsenick, and directed him to take three drops of it, twice a day, in nitrick acid, and use as much of the acid in the day as his stomach would easily bear: the average quantity of acid taken each day, was from one fourth to half a dram, half a grain of opium night and morning, sometimes the cicuta was superadded to this general plan, because of

his diarrhœa and irritability; the mineral solution was gradually and cautiously increased to five and ten drops twice a day. The ulcers were dressed with the mildest cerate and dry lint, the contiguous integuments were occasionally washed with a mild alkaline solution; under this treatment the ulcers quickly improved, discharged pure pus, and assumed all the appearances of common ulcers: in short, this general plan, with some attention to the incidental states of the system, in a few months removed every ulceration, except a very small part on the tibia, which was in a good condition when I saw him for the last time, it being our mutual opinion that my further attendance was unnecessary;—in this case the genitals were preserved entire. Two or three years afterwards I left Nashville and the low country, on account of ill health, and I was told that Mr.*** became alarmed at some appearance of ulceration on the bone of the tibia, and called in a physician, who gave him mercury: his throat immediately became sore, and he died with sudden suffocation. Here I apprehend the ulceration of the leg was from bad habit of body, and superinduced by the previous disorganization of parts on the leg, and the oxygenating plan would have been equally or more likely to have succeeded again; whereas the mercury, most probably, caused at last, as it had well nigh done at first, the patient's death.

Under the desperate circumstances of this case, I should have had recourse to the mineral solution and acid, in any situation or country. In the atlantick country I had never failed with mercury alone, in any early stage of the disease; indeed, early or late, I do not remember to have failed, under some modification or other of it; in West Tennessee I could never feel safe in trusting to mercury alone, in any form. The oxygenated muriate was best, and from those who did trust to mercury alone,

many very distressing cases, but little short of the one stated, were turned over to me; in all these my plan succeeded, as many living witnesses of high standing *could* testify. I never did, nor do I believe I ever could have effected a cure with the acids alone. I preferred the muriatick to the nitrick acid in all cases of common eruptive diseases and in fevers, from a belief that it answered the intention better; but in all cases of vitiated ulcers, I was induced to think the nitrick acid best—this might have been opinion only. I would not be understood, in the preceding remarks, to have the least idea of inculcating the doctrine, that any time or circumstances can change the essential nature of any disease: for, to use the language of the learned and acute professour of anatomy and institutes in the university of Maryland, the essential nature of every disease must invariably continue to be the same; it is the state of the animal system only that varies, giving rise to variation in some of the incidental phenomena of disease, and requiring a correspondent variation in the *mode* of treatment. A nosological arrangement of diseases, therefore, most conformable to the distinctions of nature, is highly essential to every practitioner, as well as student of physick.

The following extract from a letter written to Doctor Mitchell of New York, at his request, by the author of the foregoing pages, will give a slight sketch of the first appearance of fevers, and their subsequent appearances in West Tennessee. " The district of Mero has been settled rather more than twenty years, at first by a very few; within twelve years last past, however, the country has been comparatively much opened. I have been told that first, rheumatick affections were common, then autumnal intermittents, and then bilious remitteuts; finally, continued fevers have, in succession, pervaded the settled parts of this country, each in their first order of time,

simple and uniform in their nature and symptoms, and readily yielding to one simple and unvarying mode of practice,—emeticks and bark, venæsection, purges and bark, and finally, venæsection, purges, blisters, bark, and spirituous potations, wine, whiskey, &c for three or four years past, (I have lived there no longer) this last simple character of diseases has very much changed for the worse, and a more complicated, varying, and obstinate character has rendered the duties of a physician more arduous, and his success more precarious. There have been intermittents that would not yield to pukes and bark, bilious fevers that would not yield to jalap and calomel, the lancet and bark, and continued fevers with full pulse, florid countenance, and hot, burning skin, &c. &c. that have been precipitated to the most dangerous state of malignity, by drastick purges, injudicious bleedings, or oppressive stimulation, and indeed such has appeared to me the unstable character of our diseases of late, and each year and every season presents such new, unlooked-for, and complicated difficulties, as to render it impossible for a physician to foreknow how to proceed, until he finds out by care, observation, and a proper application of general principles to incidental, fluctuating causes, otherwise he will kill *secundum artem*, where his patient might have recovered *secundum naturam*."

I shall conclude this essay with a few general remarks. The vegetable growth of Cumberland, or West Tennessee, of every description, was formerly very luxuriant and thickly set, while the country was thinly populated, and but little cleared. Diseases, I imagine, originated principally from damp, cold, and stagnant vapour; for the cheering rays of the sun, or a refreshing breeze, could rarely penetrate the luxuriant foliage, and reach the smothered soil, but as the country became more thickly inhabited, and openings were more extensive, the more

intense rays of the sun, reaching a copious mass of moist vegetables, vapour and effluvia productive of more complicated disease, than would arise from damp or stagnant air were quickly generated; added to this, people from every part, adventurers in trade, or new settlers, brought with them various pre-dispositions, according to the circumstances which had produced them, to be acted upon by this new source of disease, and hence the variety in the different gradations or stages of fever produced, and the greater difficulty in their cure. Fortunately for West Tennessee, two causes will combine in future to prevent the aggravated state of disease, and their phenomena above-stated. Those who have been born, and have attained their growth there, will have their constitutions accommodated to the state of the air in future, and the country being more opened, and better cultivated, the air will be less stagnant and more pure.