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ART. I. *Remarks on the Autumnal Remitting Fever, as it appeared in Dallas County, Alabama, in the months of September and October, 1831.* By J. WIGGINS HEUSTIS, M. D.

AFTER a winter of unusual severity, spring at length returned, though tardy. The earth had been greatly chilled by the severity of the frost, so that it was late in May before the commencement of warm weather. Parts of June and August, and the whole of July, were unusually dry, and vegetation of every description was much injured by the severity of the drought, which was more sensibly felt in consequence of the plentiful supply of rain that had previously fallen, which, lulling to exuberance with sap the growing plants, caused a proportionable degree of suffering, from a sudden suspension of their necessary aliment.

About the first of August the sun presented an unusual appearance, which was observed throughout the United States, and perhaps elsewhere. Soon after rising, and just before sitting, its aspect was singularly striking, being clear and pale, of a bluish-green complexion, much like a well-burnished pewter dish. Its beams, even at noonday, were peculiarly faint and pale; and, as cast upon the floor through a door or window, of a sickly blue and greenish hue. This phenomenon appears to have been owing to an unusual accumulation of vapour in the atmosphere. The most satisfactory explanation of this circumstance is contained in a communication from BENJAMIN HALLOWELL, of Alexandria, Va. dated August 20th, 1831, and published in the National Intelligencer of the 24th. As the phenomenon is of a rare and interesting character, and as being perhaps in some essential degree connected with the peculiarity of the season, and the salubrity and insalubrity of the

atmosphere, I take the liberty of transcribing the explanation in the language of Mr. Hallowell himself, which is as follows:—

“To understand the phenomena alluded to, it will be necessary to make a few preliminary observations. During the great total eclipse of the sun that had recently taken place, the moon had just passed its perigee, or that point of its orbit nearest the earth, and consequently the combined action of the sun and moon upon the atmosphere produced a great tide in the equatorial regions, and diminished the pressure of the air upon the whole surface of the earth.* This diminution of pressure upon the surface of the water would occasion a great increase of evaporation, particularly when united with the high temperature that accompanied it. For it is an established fact, that the amount of evaporation from an insulated surface of water depends upon the elevation of temperature and diminution of pressure. A vast quantity of vapour thus raised was very observable on the evening of the twelfth instant, at a considerable elevation in the western part of the heavens, and continued to reflect a very red light for a long time after the sun had set. The appearance of the heavens on the morning of the thirteenth I did not observe, but about mid-day, the sun shining through this body of vapour had a silvery appearance, similar to that which it wears when shining through a vanishing fog; and I observed it to give an unusually ghastly appearance to the countenances of persons. Between three and four o'clock, the position of the sun with respect to this body of vapour becoming changed, it assumed a greenish-blue appearance, precisely similar to that produced by the following experiment, and which, in my opinion, was dependent upon the same cause. Let a screen, upon which the spectrum produced by the separation of the solar beam into its primitive colours by a glass prism is thrown, be perforated so as to let all except the red ray fall upon a double convex lens, and be converged to a focus, the result will be a representation of the sun of a greenish-blue colour, exactly such as it was observed to have at the time alluded to. The colour is that resulting from a combination of all the primitive colours except the red, and is denominated in optics the *opposite colour*. * * * The greenish-blue colour of the sun, then, I think, depended upon the red rays being reflected by the intervening body of vapour, while the other six passed to the eye, and produced the observed appearance. This opinion was strengthened by one or two facts observed at the time. I passed the sun's rays through a prism, and while the yellow, green, blue, indigo, and violet colours appeared with their appropriate brightness, the orange was considerably less distinct, and the red made less than the orange. Another corroborative fact was, that as the sun descended below the body of vapour, which was about fifteen or twenty minutes before its setting, the vapour reflected an intensely red light; the light that passed through it was, therefore, separate from the red, and would have produced the opposite, or greenish-blue appearance. The spot that was observed is by no means an

* It is evident, that as the air is partially supported by the combined attraction of the sun and moon, its pressure upon the earth must be diminished. The greatest effect would not be at the immediate time of conjunction, but some days after.

unusual thing upon the sun's disc. It was visible to the unprotected eye, merely in consequence of the diminished brightness of the sun. By aid of a telescope, a considerable number of spots were visible. In the summer of 1816, a spot was visible to the naked eye for eight or ten days in succession."

To whatever atmospheric phenomena and planetary influence it may be ascribed, such was the fact, that from about the twelfth of August to the third of September there fell an unprecedented quantity of rain. During almost the whole of this time the heavens were overcast with low-hung, lowering, and billowy clouds, that daily precipitated immense and overwhelming showers. Nature appeared to have undergone a complete revolution—a singularity and change unknown to the oldest inhabitants. Notwithstanding the heat of the weather, the rapidity of the evaporation, and the vast expenditure of moisture in the support and growth of vegetation, such was the surplus of water that the rivers rose and overflowed their banks, inundating the low grounds, and doing considerable injury to the crops: this was more especially the case in Georgia and the Carolinas, where great damage was sustained from the destruction of bridges and other property. The town of Augusta, in Georgia, was partially inundated, and was subsequently visited with an alarming degree and prevalence of sickness. The town of Tuscaloosa, in this state, also suffered greatly from a visitation of the autumnal endemic. Many towns, however, near the rivers, escaped almost entirely; of which, Cahaba was one; whilst places more remotely situated from the water-courses were subject to disease. This difference was owing to local peculiarities; for wherever the rain water formed ponds, and became stagnant, or met with a rich and fermenting alluvion, febrile miasmata were rapidly evolved, and diffusing their poison through the ambient atmosphere, became the cause of disease to such as were constantly exposed to them. I say constantly, for a transient exposure to, and continuance in those infected places, was not sufficient to originate the disease. And, indeed, very few persons visiting them, and remaining all night, were subsequently affected with fevers; and but a small proportion of the residents themselves became the subjects of disease.

The miasmata, or *materies morbi*, inhaled with the atmospheric air, and received into the system through the medium of respiration, doubtless existed in all who were exposed to it as the predisposing cause of fever; but, in most cases, required the additional aid of some debilitating agent to excite it into action, or to render the system susceptible to its morbid influence. As long as the various functions were performed with regularity, the resources of nature were suffi-

cient for all the purposes of health; but when the regularity of custom and habit were infringed upon and deranged by any error in the non naturals, or when the constitution was peculiarly susceptible, disease was liable to ensue.

The fever was mostly of the double tertian character, with paroxysms often protracted, and running into each other without any distinct intermission. In other instances, the single tertian type prevailed, but of greater severity than the ordinary fever and ague. In most cases the sensation of chilliness was slight, and after the first paroxysm almost imperceptible. In some, however, the disease was ushered in with a severe ague. In the majority of cases the patients complained of great pain in the head and back. The pulse was rarely full and strong, often hard and frequent, and in many cases small, weak, and easily compressible; and in persons advanced in life, intermitting, more especially under the operation of evacuants. The pain of the head was confined more especially to the forehead, where it was often distressing; becoming more aggravated during the exacerbation of the fever. But notwithstanding the severity of the pains in the head and back, the cases in general did not admit of the free and liberal extraction of blood.

The fever this season was of the congestive character, with a great disposition to an unequal distribution of febrile action and development. In many cases the head, and particularly the extremities, would be cold, while the trunk was hot; whilst at the same time there was considerable palpitation of heart, with a pulse small, weak, and frequent. In such cases I have known dangerous, and even fatal mistakes committed. This weakness of pulse and coldness of the extremities having been looked upon as circumstances of febrile remission, quinine has been exhibited and persevered in; but so far from putting a stop to the progress, or mitigating the disease, the symptoms have become more and more aggravated; the breathing short, anxious, and laborious, and interrupted with frequent sighing; the pulse, instead of becoming stronger, was rendered still more weak and frequent; the sighing and restlessness more urgent; and life was finally extinguished from over-stimulation.

Sickness, restlessness, and feelings of general distress were often the only, or the principal symptoms by which an accession or recurrence of fever could be ascertained. In other cases a weak and hurried pulse would be accompanied with an evolution of general increased temperature, with heat and dryness in the palms of the hands and soles of the feet, and an aggravation of pain in the head and back.

Sometimes after a transient state of febrile excitation, collapse

took place at an early stage of the disease, with little impairment of the general powers of the system; this was more especially the case where depletion had been too freely practised. It is necessary to make a distinction between this state of prostration and that which takes place at a more advanced period. The first is generally remediable, the second is not: in the former the prostration and collapse are for the most part confined to the vascular system, while such is the strength of the muscles of locomotion, that the patient is able to rise and sit up, and even to walk about. This disparity of strength and power between the two sets of organs also sometimes exists in the collapse which takes place towards the termination of the higher grades of bilious fever; and the more malignant the disease, the sooner is this state liable to ensue. This appears to admit of an easy explanation, on the presumption that as the fluids of the body are primarily contaminated, the strength and vitality of the heart and blood-vessels are sooner overpowered and subdued by the deadly poison that has been received into them. I have at this time, (Nov. 3d, 1831,) under my care a gentleman and his daughter, exemplifying this diversity of febrile action: in the man the heat and febrile development are general; in the child there is a great proneness to coldness of the extremities, with a weak, faltering, and almost imperceptible pulse. For the purpose of opening the bowels of the latter, I prescribed a moderate dose of calomel. After this had operated she was much relieved. * * Since writing the above the child has died. I had directed quinine to be given to her through the day, as she appeared to be quite free from fever, in order to resist the tendency to prostration. Under this treatment she improved. But a relative of the child, on the evening of the 3d, apprehending that the fever had returned, discontinued the quinine and administered a dose of castor oil. This I learnt on my arrival late the same evening. I did not think that her situation authorized its employment. The ensuing day, Nov. 4th, she became sick at the stomach, with a disposition to vomit. The relative of the child above referred to, endeavoured to encourage this by exhibiting a solution of tartar emetic, in broken doses; it failed, however, to have the desired effect. No vomiting was produced by it, but a cold clammy sweat broke out and exuded profusely from every pore. She became cold as marble, complaining at the same time of great heat. Arriving late the same evening I found her extremely restless, without pulse, clay-like, and dying, another victim to the administration of tartar emetic. So many instances have I known of like effects from the use of this dangerous article, that it is now several years since I have employed it as an emetic. The case above-mentioned, however, was

one probably of great malignancy; for previously to the administration of the tartar emetic she had vomited matter of a black and sooty appearance, and the whole vital system appeared to be greatly oppressed and overpowered. Besides, the dangerous illness of, and the absorbing interest for the father, caused the case of the child to be overlooked and disregarded by the family, considering it nothing more than a slight indisposition to which she was subject, until several days had elapsed, when she was found in the situation before described. The mother of the child, a woman of plain good sense, sententially remarked to me afterwards, "I have done with pukes."

It generally happens that our autumnal fever ceases as an epidemic about the 10th of October; yet the sporadic cases that occur subsequent to that time are of a more obstinate and malignant character.

Early in the season the discharges from the bowels were mostly of a light clay-coloured complexion, with very little black, green, or bilious discolouration, so generally remarkable in our autumnal epidemics. In the few sporadic cases, however, that occurred after the commencement of cool weather, the stools were highly coloured, of a dark green, olive, and almost black; becoming in the progress of the complaint, of a lighter hue, between an olive and a brown, and of a gelatinous, sleek, and oily appearance; but in no case peculiarly offensive. In one patient the stools were thin, watery, and of a sanguinolent, purplish hue, proceeding probably from a rupture of some small blood-vessels of the rectum or colon, occasioned by overaction and morbid stimulation of the bowels, an appearance I have several times observed. It is not, however, generally a dangerous prognostic, and may be removed by anodyne injections.

With the exception of the little girl alluded to before, only two persons have died within the sphere of my practice this season, and those were in a moribund state when I was called in, and expired in a few hours from the time I saw them. Both had been sick several days. One was an aged lady. The other a young married woman; the cold sweat of death was on her when I arrived at her residence; the face was cold and livid, the pulse tremulous and weak, and the whole system rapidly sinking; the taper of vitality was fast decaying, nor could it be revived by all the resources and remedies that were employed.

To these observations I beg leave to subjoin a few practical remarks. In a great proportion of cases the physician was never consulted; in others, medical advice was obtained, and the friends or family administered their own medicine; in others again the physician

was applied to for medicine and advice, and in a few of the more desperate only was his attendance required.

It was seldom that I was called in at an early stage of the disease. Domestic skill was generally resorted to in the first instance, which failing, the physician was applied to as a dernier resort. Emetics or cathartics, or probably both, had already been employed, and probably to too great an extent; so that the stomach and bowels being already in a state of commotion, and the patient frequently harassed with watery discharges by vomiting and stool, it became necessary to allay these inordinate actions.

As in former years, so in this, much injury was often done by the exhibition of tartar emetic; fortunately, however, the remedy is now, I believe, generally laid aside; though a few physicians still continuing to use it, cause it to keep up a limited credit and employment. The time, however, I trust and believe is not far distant, when this poisonous and dangerous article, as an emetic, will be discarded from among the medicines employed in the treatment of the autumnal fevers of our climate. When given even in doses of a few grains, I have known it to produce sudden, dangerous, and fatal collapses, and a persisting and uncontrollable catharsis, in consequence of the erythema and irritation excited in the mucous surface of the stomach and intestines. Given in minute quantities it is still valuable as a diaphoretic, the only manner and purpose in and for which I exhibit it.

I administered but one emetic this season, and that rather in compliance with the wishes and prejudices of the patient, than from my own views of its utility. It was a case, however, of chill and fever, of rather a mild and intermitting type, and little danger was therefore apprehended from the operation of a mild emetic. To use his own language, *as he wished something to turn it down after it had vomited him sufficiently*, I added to the ipecacuanha a sufficient quantity of jalap. The patient not being satisfied with the first exhibition, I repeated the dose, which, aided by copious draughts of warm water, acted effectually both as an emetic and cathartic. He remarked that he had taken ipecacuanha before, but never any that had operated so roughly. The fever subsiding with the operation of the medicine, left him in a situation to take quinine; about thirty grains of which restored him to his usual health. I had previously remarked, while in Florida, in 1818, the efficacy of emetico-cathartics in breaking up morbid associations, and putting a sudden check to fever if exhibited in an early stage of the disease. The articles I made use of were ipecacuanha, calomel, and jalap. In a great majority of

cases the fever was in this manner suddenly cut short by a single dose of medicine. For the same purpose the owners of slaves in this country are in the habit of giving to their negroes at the first announcement of disease, salts and tartar emetic combined. But it is seldom in country practice that the physician sees the patient sufficiently early to admit of this mode of treatment with any degree of safety. In a preceding number of this Journal, I have pointed out the danger of exhibiting tartar emetic, nor have I since had any reason to alter my opinion.

Notwithstanding the severity of the pains in the head and back, the cases in general did not admit of the free and liberal extraction of blood, or it was seldom that the physician saw the patient at a proper season to avail himself of its employment; and for the most part, the loss of four or five ounces was sufficient to produce a reduction and softening of the pulse. If the febrile action was considerable, with much head-ache, as there generally was, and a hot skin, bleeding was highly useful. But the quantity required at any one operation, was small, seldom exceeding eight or ten ounces; if the extraction went much beyond this, there was danger of sinking and alarming prostration. In this, there was a peculiarity, different from what existed in the fevers of former years, when I have known the pulse to remain firm after the loss of twenty or thirty ounces of blood. In one instance, the too free operation of bleeding had nearly proved fatal. This took place at the commencement of the sickly season, before the character of the epidemic was well understood. The case was that of a young, stout, athletic negro man, full of life and blood, but in whom the arterial action was not in proportion to the habit of body, and the other symptoms of the fever. The pulse, instead of being full and strong, or hard, vibrating, and elastic, was, on the contrary, rather small and contracted, indicating a congestive state of fever. I opened a vein, though on the third day of the disease, and without much alteration of symptoms, permitted the blood to flow until nearly twenty ounces had been extracted. Finding that no disposition to syncope or perspiration was produced, and that the trunk still continued preternaturally warm, I gave him the cold bath, seating him on a chair, and affusing with a small pitcher, about four gallons of cold well water on the naked body. He was now cool, and being conveyed to bed, expressed himself much relieved. I now gave him about twenty grains of calomel, with directions to exhibit a dose of castor oil, should not the calomel operate in the course of three or four hours; I then left him to visit other patients: returning in about three hours, I was startled to find him labouring under a

state of extreme arterial prostration. His system had not reacted from the effects of the cold bath; and the castor oil, which had been exhibited too soon, together with the calomel, had already produced profuse and repeated defections from the bowels. The extremities were cold, the countenance inanimate, the voice and consciousness nearly extinct, and the pulse thread-like, evanescent, and only perceptible to the most accurate and delicate touch. Without delay I applied blistering plasters to the extremities, made frictions with hot brandy, gave him an anodyne to check the operation on the bowels, and stimulated him with quinine, exhibited every hour; sinapisms and poke root poultices were subsequently applied to the soles of the feet and to the palms of the hands. This case remained critical and doubtful for several days; reaction however ultimately took place, with an accession of fever, which was combated by febrifuges and aperients, and the man recovered. The error in this case consisted in making too full and liberal extraction of blood, without, as yet, being sufficiently acquainted with the character of the epidemic; the paying too little attention to the state of the pulse, which, though the patient was of a strong and athletic habit, did not possess sufficient development and force to authorize the free use of the lancet. Yet, here again I was imposed upon; for, as the patient was bled sitting up, and as no disposition to syncope took place, with but little change of the pulse or other symptoms, the extraction was considered within the bounds of prudence. A second error was, in making too free use of the cold bath; and the third in following up these two Herculean remedies, by exhibiting a twenty grain dose of calomel; the latter, however, might not have been injurious, had it not, contrary to my directions, been succeeded too soon by the exhibition of a large dose of castor oil.

The uncertainty, and the diversified effects from the operation of blood-letting, show the impropriety of trusting this efficient remedy to any other than the hands and discretion of the attending physician. Much danger is to be apprehended from the mechanical operator, who, ignorant of the animal economy, and of the phenomena of health and disease, can have no proper conception of the circumstances, necessities, and changing symptoms of the patient, which govern and regulate the use of this important operation. Nor is it possible for the physician to decide, from the symptoms merely, the effect that may be produced, or the degree to which the extraction of blood should be performed. In the use of the lancet, I have always found it necessary to watch the patient with much care and attention, to ascertain the extent which may be required. Suppose, for instance,

that from the habit and constitution of the patient, and the height of the febrile excitement, the physician should prescribe the loss of twenty ounces of blood, when he would safely bear but ten, the consequence might be fatal. Therefore, while the blood is flowing, the finger, from time to time, should be applied to the artery, to ascertain when a change takes place in the pulse. The feelings of the patient, the countenance, and the state of the skin should also be watched with great circumspection. In the disease of this season, so characterized by unequal and irregular excitement, I sometimes found the best effects from immersing the lower extremities in warm water, and taking a gill or two of blood from the foot whilst thus immersed. From a state of extreme restlessness and distress, I have known the patient, in this manner, in a few minutes become composed and very materially relieved. These small bleedings were repeated as often as the exacerbations of fever, with pain in the head and back, seemed to require them.

In the fever under consideration, the bowels were, for the most part, easily operated on. As a cathartic, when one was required, I gave a preference to calomel and castor oil. To children, and to persons of much gastric irritability, I prescribed an infusion of senna, either alone, or in combination with manna. On many occasions, however, I was under the necessity of exhibiting anodynes to moderate and suspend the undue action, and the too frequent discharges from the bowels. A neglect of proper attention to this circumstance was sometimes productive of dangerous or fatal consequences. I was informed of several cases, in which, from the description, I have no doubt death was occasioned by hypercatharsis, induced by the injudicious exhibition of purgative medicines. In most instances, I found an advantage in the use of enemata, in preference to the exhibition of more active cathartics by the mouth. When the patient became restless, during the paroxysm of a fever, at the same time that the evacuations from the bowels had been for several hours suspended, an enema, composed of a little warm water, or gruel, salt, and molasses, was extremely serviceable in allaying the disquietude, and affording composure to the system; and if repeated a few times, was generally sufficient to empty the bowels effectually. Indeed, after the first dose, I seldom found it necessary to give an active cathartic of any kind during the whole of the subsequent treatment of the disease; and at most a dose or two of Seidlitz powders, aided by the occasional use of cream of tartar, or the compound nitrous powders, to be presently mentioned, was all that was necessary, especially if assisted by enemata, to keep the bowels sufficiently regular and open. Fre-

quent, watery, and pale coloured dejections were debilitating and injurious; these I always endeavoured to suppress, either by anodynes exhibited by the mouth, or more effectually by a tea-spoonful of laudanum given with an injection of a gill or two of warm water or gruel.

As a febrifuge during the paroxysm, whenever there existed too great a degree of constipation, I prescribed cream of tartar and spirit of nitre; when the bowels were too open I directed lemonade. I found however, the most decided benefit from the following:—Sal. nitre, gr. 8, pulv. Doveri, gr. 2, calomel, 2 vel. 3, antimon. tartaresat. gr. $\frac{1}{2}$, Mf. pulv. to be repeated every three hours. This compound I found to operate as a powerful diaphoretic, whilst the small proportion of opium in the Dover's powders allayed nervous irritation, and greatly assisted the other articles. In one instance only did the use of these powders produce salivation, and that in a slight degree; the other cases yielding before a sufficient quantity of mercury had been taken to produce that effect.

Whenever the temperature was high and generally diffused, I found, as in former years, the best effect from the cold bath given by affusion. In distressing and protracted paroxysms, which had perhaps continued thirty-six or forty-eight hours, on arriving and finding a general heat and dryness of the whole surface, pain in the head, and pulse tense and frequent, I have, without delay, directed the affusion of four or five gallons of cold water on the naked body, wiping and conveying the patient to bed; I have then sometimes given, with signal benefit, an anodyne sudorific mixture, composed of a tea-spoonful or two of spirit of nitre, the same quantity of paregoric, of twice the ordinary strength of the Dispensatories, and fifteen or twenty drops of antimonial wine. A warm fluid perspiration, by the use of these means, soon breaks out, which, being rather encouraged by drinking freely of cream of tartar and water, or lemonade, with from ten to fifteen drops of antimonial wine every two hours, leaves the system cool and free from fever, and in a proper situation for taking quinine. When the arterial action is strong and hard, I premise the use of the cold bath by the extraction of a few ounces of blood. When this circumstance has not been attended to, I have known the cold bath administered and repeated with nothing more than temporary relief; the fever in a few minutes developing itself with as great intensity as before. This is more apt to be the case in persons of strong constitutions and sanguine habits, from northern and healthy climates. If, after the first exhibition of the cold bath, it is found that the heat and increased arterial actions soon return, it will be better to have

recourse to venesection, previously to a repetition of the bath, which may then be given, should not the bleeding have had the effect of superseding its necessity with every probability of success.

When the increased temperature was only partial, as was frequently the case, being confined to the head and trunk, whilst the extremities were colder than natural, the general cold bath was not admissible; at least I have never employed it under these circumstances. In such cases cloths wet with cold water were beneficially applied to the head, chest, and abdomen. For this purpose I made use of large towels, or two or three of them together, and folded several times, so as to prevent their becoming too soon heated. These were renewed every fifteen or twenty minutes, or as often as they became warm, until the heat became permanently reduced to the natural standard, or a perspiration made its appearance. This plan is also adviseable in those cases where the general cold bath might be objectionable on account of the existing debility of the patient. When there was an undue accumulation of heat in the extremities, as was not unfrequently the case, great relief and benefit were derived from sponging or wetting them with cold diluted vinegar, or what was preferable, lime juice and water.

With respect to the exhibition and utility of quinine, in cases of well-marked intermitting fever, there is no question; but in the bilious remittent great care and circumspection are required in its employment. The physician is here often compelled to witness from day to day, the wasting ravages of disease slowly or more rapidly undermining the strength and constitution of the patient, without the power of arresting its progress. It seldom happens, however, that a remission more or less considerable, does not take place, at least once in the twenty-four hours; this is known by the reduced hardness and frequency of the pulse, the cessation of head-ache, and the distressing thirst and dryness of the mouth, by a state of comparative ease and composure, and perhaps by the appearance of a perspiration. This, then, is the critical and important period for exhibiting quinine. A perfect apyrexia is not to be expected; but if, as often happens, the quinine produces a perspiration, which it does more effectually if aided by the exhibition of spirit of nitre and antimonial wine, with an infusion of serpentaria or sassafras; if in this manner general perspiration is produced and kept up, we may be satisfied that the exhibition is safe and proper. When the remission is short, lasting no longer perhaps than one or two hours, it becomes necessary to push the remedy with a bold and vigorous hand. Under such circumstances I have often given as many as five grains every

ciety, and an overstrained economy in the attending physician has caused it to be administered in such minute quantities that it might well be said to be inert and unavailing. Thus, it is thought by many that five grains to the ounce in solution, exhibited in the dose of a tea-spoonful every two hours, is amply sufficient. This would make but little more than half a grain to a dose; scarcely more than the tenth part I have found it expedient and necessary to exhibit, in combating such obstinate and formidable diseases as the intermitting and remitting fevers frequently are.

An objection exists with many physicians against the use of opiates in fever, and it is doubtless true that their indiscriminate exhibition in cases of high arterial action might be productive of injurious effects; this, however, affords no argument against their occasional and judicious exhibition; and I have accordingly found them amongst the most valuable remedies that can be employed. It is often desirable to procure ease and composure, and a respite from the harassing restlessness and vigils of disease. For this purpose I often prescribe at bed time, provided the fever should not be very considerable, a tea-spoonful of paregoric, and the same quantity of spirit of nitre, with fifteen or twenty drops of antimonial wine, to be repeated if necessary. So far from stimulating the arterial system, and aggravating the fever, I have found this prescription one of the most effectual remedies in subduing the remains of febrile restlessness and excitement; which it appears to accomplish by its anodyne power, and by promoting perspiration, which latter property it possesses in a more eminent degree than any other medicine or combination of medicines that I have ever employed.

The disease this season was not generally marked by any considerable irritability of the stomach; yet in those few cases where this took place, blistering the epigastrium was of great service. Abstinence from all kinds of ingesta, either in the form of drink or nourishment was also required. For want of attention to this circumstance, I have known the irritability of the stomach and the vomiting to continue with great obstinacy. It is in vain, under such circumstances, to endeavour to quell the disturbance by carminatives, aromatic infusions, &c.; every article of bulk becomes a cause of offence to the irritable organ, and is sure to be rejected in a few minutes from the time of its reception.

On the morning of the 27th of September I was called to visit A. R. a very large and fat elderly gentleman. I found him with a strong full pulse, and great irritability of the stomach. The strength and fullness of the pulse were rather remarkable, as in persons of much

obesity I have generally remarked it to be small and weak. The person here spoken of, however, was of a strong constitution and industrious and active habits, which might account for the difference. He had been subject to the remitting fever for several days. When I saw him he was labouring under symptoms of cholera. He had great thirst, and such was the weakness and irritability of the stomach that every thing was thrown up almost as soon as it was swallowed, so that the floor of the room where he lay was inundated with the water that he had rejected. I administered a bolus composed of one grain of opium, three grains of camphor, and ten grains of calomel; at the same time I had his stomach well robbed with hot brandy and laudanum, and then a flannel cloth wet with the same, and applied to the epigastrium. I prohibited the use of both liquids and solids, except in very small quantities. In pursuance of this treatment the stomach soon became composed. In the evening, finding the pulse too full and strong, I took away about sixteen ounces of blood. After the lapse of about eighteen hours I allowed him to chew a little lean boiled ham, and to swallow the juice, which he did with some relish and much benefit; I also permitted him to take from time to time, as his stomach could bear it, two or three tea-spoonsful of strong coffee. Quinine was likewise exhibited every two hours in such quantity as his situation would admit. Under this treatment he rapidly recovered.

In desperate cases it will often be necessary for the physician, in some degree at least, to become also the officiating nurse and constant attendant, as no other person is competent to adjust the treatment to the various changing symptoms and necessities of the disease. In critical circumstances, where life and death stand almost on an equal balance, a slight error is sufficient to turn the scale, to the irretrievable destruction of the patient.

Cahaba, Alabama, Dec. 1831.

ART. II. *Account of the Scarlatina which prevailed in Deerfield, Massachusetts, in the years 1830 and 1831.* By STEPHEN W. WILLIAMS, M. D. late Professor of Medical Jurisprudence in the Berkshire Medical Institution.

IN the years 1830 and 1831 scarlet fever prevailed extensively throughout New England, and in many towns was very mortal. At intervals