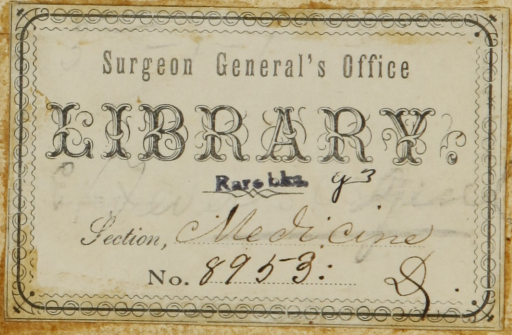

A

TREATISE

ON A

MALIGNANT EPIDEMIC,

COMMONLY CALLED

SPOTTED FEVER;

INTERSPERSED WITH REMARKS

ON THE

NATURE OF FEVER IN GENERAL, &c.

AND AN

APPENDIX,

IN WHICH IS REPUBLISHED A NUMBER OF ESSAYS WRITTEN BY DIFFERENT AUTHORS ON THIS EPIDEMIC, WITH THE ADDITION OF

ORIGINAL NOTES:

CONTAINING ALSO A FEW ORIGINAL AND SELECTED CASES, WITH CLINICAL REMARKS.

BY ELISHA NORTH.

New-York:

Printed and sold by *T. & J. SWORDS*, Printers to the Faculty of Physic of Columbia College, No. 160 Pearl-street.

1811.

District of Connecticut, to wit:

(L. S.) BE IT REMEMBERED, That on the fourteenth day of February, in the thirty-fifth year of the Independence of the United States of America, *Elisha North*, of the said District, hath deposited in this office the title of a book, the right whereof he claims as author, in the words following, to wit: "A Treatise on a malignant Epidemic, commonly called Spotted Fever; interspersed with Remarks on the Nature of Fever in general, &c. and an Appendix, in which is republished a number of Essays written by different Authors on this Epidemic, with the addition of original Notes: containing also a few original and selected Cases, with Clinical Remarks. By Elisha North."

In conformity to the Act of the Congress of the United States, entitled, "An Act for the Encouragement of Learning, by securing the Copies of Maps, Charts, and Books, to the Authors and Proprietors of such Copies, during the Times therein mentioned."

HENRY W. EDWARDS,
Clerk of the District of Connecticut.

A true copy of record, examined and sealed by me,

H. W. EDWARDS,
Clerk of the District of Connecticut.

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CASES.

PREFACE.

IT is many times proper for an author to explain the motives and object he has in contemplation when he presents the public with a book on any important subject. It is between four and five year since a new and singular disease, which has obtained the name of Spotted Fever, first appeared in Medfield, in Massachusetts.

Since this time it has prevailed as an epidemic, and has proved a most tremendous plague in a considerable number of towns in this state, in Massachusetts, in Rhode-Island, in the state of New-York, in Vermont, and elsewhere, sweeping off great numbers of inhabitants. No regular treatise, calculated to give the public an entire view of this disease, has hitherto been published. It

is true, a few short letters and newspaper essays have been published, but these have been designed to give only a succinct account of the disease in the particular neighbourhood of the physicians who have written them. Besides these, an Inaugural Dissertation has been published by a young physician in Hartford. It will be easily perceived that such publications must necessarily have a very limited circulation, and, from their nature, be very liable to be lost. All those who have written on this disease, consider it as a new one, differing, in many respects, from any disease which they ever witnessed; still it resembles, in some respects, diseases with which they are acquainted.

That a treatise calculated to give a more extensive account of this epidemic, and to preserve and bring into one view those things which have already been published on this subject, would be acceptable to the public, cannot, I think, be doubted. Should this epidemic continue to prevail, and to extend its ravages over a large extent of our country, such

a work must be of incalculable benefit; and should the disease subside, still it will remain a very useful medical record of a very singular and dreadful malady.

As it is of very peculiar importance that what is written on a medical subject should be a faithful delineation of the laws of nature, particularly as it respects the symptoms and cure of disease; so it must be eminently useful to have what is so written attended with accompanying evidence of its truth. This evidence will be contained in the essays in the Appendices. To these I have added notes. I have occasionally, as the reader will notice upon the perusal of the work, made such remarks on the subject of fever in general, as naturally came in connection with my subject. This I have done with a view to the improvement of the treatment of fever. It will be perceived that my opinions are in some respects different from those with whom I have associated myself in this treatise. This may be partly, if not wholly, owing to the different relation in which we stand to each

other. They derived their opinions principally from their own experience; these they committed to the press in a sickly season, when their time was mostly occupied in offices of humanity among the sick. In forming my opinions, I have availed myself not only of my own, but of their experience. Whether my opinions are more correct than theirs, the reader must decide for himself.

To those physicians who have favoured the public with their observations and opinions on this epidemic, I feel it my duty to acknowledge my particular gratitude; for without the assistance which I have derived from their labours, I could not have gone so far as I have done, in accomplishing the object of my wishes. Should this work prove of service to my country, I shall feel a conscious pleasure in being associated with them in rendering this service.

An apology to my readers may be proper on account of the same ideas and sentiments being so often repeated in the course of this work, including the appen-

dices, cases, and notes. This may render its perusal tiresome to many. But I wish it to be considered, that this work was not written for amusement, but utility;—that the author had a double purpose to accomplish;—that he had not only to exhibit the truth respecting the nature and treatment of this disease, but had to produce evidence of this truth. To do this in as short a compass as was possible, and, at the same time, have the evidence full and satisfactory, has been my object. How well I have succeeded, my readers will determine.

Goshen, Connecticut, Feb. 1811.

A

TREATISE

ON THE

SPOTTED FEVER.

CHAP. I.

Nosological Observations.

UTILITY may be derived from the nosological arrangement of diseases. Dr. Cullen's system of nosology is undoubtedly the best which has been published. This will require additions, alterations, and improvements, as physicians progress in knowledge respecting new diseases, or the better understanding of old ones. Dr. Wilson, in his Treatise on Febrile Diseases, has made some improvements upon Dr. Cullen's arrangement of fevers.

The cow-pox, that invaluable object of a modern discovery, will claim a place in a system of nosology: but whether it is to be considered as only a species or modification of small-pox, or a new disease; or whether it is to be regarded as the cow's small-pox, or the horse-pox, or a combination of disease pro-

duced by the horse and the cow, is yet to be settled among physicians.*

The attention of physicians has been lately excited to the contemplation of another uncommon disease; not such a one as the former, calculated to be one of the greatest blessings, and to eradicate or banish from among the catalogue of human evils, that dreadful and loathsome disease, the small-pox; but a disorder, which has come among us like *a flood of mighty waters*, bringing along with it all the horrors of a most dreadful plague. Those physicians who have written on the spotted fever, seem to be in doubt where to place it in a system of noso-

* I obtained some vaccine infection from New-Haven in December, 1800, which matter came from Dr. Waterhouse. This was, I believe, the first matter which proved to be genuine that was ever used west and south of Connecticut river. This acquisition enabled me to become acquainted with the cow-pox during the winter. In May, 1801, a young man by the name of Ives came to consult me as a physician. He said he had chills, head-ache and fever; also a swelling under his arm, and a sore on his hand; which, upon examination, I found to be the cow-pox pustule. Upon inquiry, I became completely satisfied, that this pustule was produced from infection derived directly from the udder of a cow, by milking. Being pleased with this discovery, (considering it to be the first of the kind which had been made in America) I prosecuted my inquiries still further. The result of these inquiries amounted to this, that this cow did not get her disease from the human subject, or from the horse; at least no possible way could be discovered by which the cow could have been infected from the heels of the horse, though the most diligent inquiries were made for this purpose. Infection taken from Ives' hand, (for I saw him in the right stage for taking infection,) produced the genuine disease in others. Hence, admitting that Dr. Loy and others have succeeded in communicating the cow-pox to the cow, by inoculating from the heels of the horse, this by no means proves that the cow-pox always originates from the heels of the horse.

May not man be liable to a disorder, called small-pox? May not the cow be liable to a similar disorder, which has been called cow-pox? May not the horse be liable to a similar disorder, called grease, which should be called horse-pox? And may not these different disorders be given, by inoculation, to the three different species of animals, beginning with the horse, and ascending up to man?

logy. All, however, agree, I believe, in considering it as being generally of a typhoid nature.

That benefit has resulted from the artificial division of fevers into synocha and typhus, I believe no intelligent physician will deny. But this division alone will not satisfy either the medical philosopher or the practical physician. These wish to see the division carried still further. There should be as many species and varieties of diseases, in nosological arrangement, as there are presented to us in the great book of nature. It appears to me that Dr. Cullen's distribution of typhus into two species only, viz. Typhus icterodes, and typhus petechialis, is too limited. This last, it is true, he subdivides into two varieties, viz. Typhus mitior, and typhus gravior. I shall endeavour to show that this mode of arranging fevers will admit of improvement. There is danger of simplifying too much in the nosological arrangement of disorders. Some physicians would consider the cynanche maligna and scarlatina as one complaint, and so dispose of it in a system of nosology. But I think it better to designate them as distinct diseases, because nature so presents them to our view. They may, in the relationship of diseases, be brothers. But for the purpose of medical treatment, it is said, they may be regarded as one; but, will the taylor measure one brother for the purpose of cutting a coat for the other? Or will the physician be less accurate than the taylor? Pestilential fe-

vers, the plague, cynanche maligna, scarlatina, and our late spotted fever, undoubtedly belong to one family of diseases. But still, each of these several disorders is shaded and distinguished by its own peculiar complexion.

The common typhus fever, which has been treated of by a variety of practical authors, under the different names of *nervous fever*, *jail fever*, *hospital fever*, and also all those fevers which are generated in the poor and filthy habitations of cities, and frequently in country places, particularly in new settlements, is a different disease from that kind of fever, to which the epithet *malignant* has been applied by practical authors. Dr. Huxham certainly considered himself as treating of a different kind or species of fever, under the name of the *putrid malignant fever*, from the one he had previously treated of, under the name of the *slow nervous fever*. This last resembles the common typhus; otherwise he could not have made the following observations, viz. "I am very sensible, the word *malignant*, as applied to fevers, hath of late years fallen into very great disrepute, and probably it hath often been made use of, to cover ignorance or magnify a cure. But there is really a foundation in nature for such an appellation, at least for some word that may distinguish such a disease as I have now been describing, from a common *inflammatory fever;*" (or, he might have added, a common nervous, or what is now called typhus fever;) "indeed, the very term *inflam-*

matory fever, supposes there are other kinds of fevers. It is perhaps indifferent, whether you call them putrid, malignant, or pestilential: when petechiæ appear, every one calls them spotted or petechial; and, if from contagion, contagious. I will contend with nobody about words, but it is necessary we should have some to communicate our ideas, and where they are well defined, no one hath great reason to quarrel with them."* Dr. Tissot's malignant fever is very different from his putrid fever. This last resembles our common typhus.† Dr. Hoffman's petechial fever is evidently different from the common typhus.‡ Although petechiæ may, in certain circumstances, attend all fevers, yet, I believe, they are more commonly attendant on that species of typhus, which has been called malignant. Perhaps it may be discovered by future observations, that this species of typhus is not contagious.

If what has been said is correct, I think it appears that nature presents to us three species of typhus, viz. The common typhus, typhus icterodes, and that species of typhus to which the epithet malignant has been affixed. Dr. Cullen was sensible that some mark of discrimination was requisite to distinguish the malignant fever of authors, from the common nervous fever, and has accordingly applied the term *gravior* to distinguish this fever. But it

* See Dr. Huxham's Essay on putrid malignant fevers.
† See Dr. Tissot's Advice to the People, &c.
‡ See Dr. Hoffman's Medical Works.

is evident, the picture would have been more complete, to have marked three distinct species of typhus, as nature has presented them, and to have had the terms *mitior* and *gravior* apply to all the species, to mark their different degrees as varieties only.

SECT. I.

Of the Nosological Arrangement of the Spotted Fever.

Whether the spotted fever may be considered as only a variety of cynanche maligna, or scarlatina, and be arranged under the order *phlegmasia*, or *exanthemata;* or whether it ought to be regarded as only a variety of the malignant petechial fever of authors; or whether it is a new species of disease, to be added to the list of human calamities, is yet to be determined. It seems to partake of the nature of three or four other diseases. In the worst form, in many respects it resembles the cynanche maligna. To this disorder it is similar in the suddenness of the attack, and its sudden mortality. In this form, it also resembles the malignant petechial fever of authors, in the great prostration of strength which occurs early in the disease, in the petechiæ attending, and sometimes in the great length of time to which it extends itself. In its milder form, from the red fiery eruptions which sometimes attend, it

assumes the appearance of scarlatina. This fever also resembles the plague in some respects: buboes and carbuncles have been observed to occur. But although there is a similarity, in some respects, to these last mentioned diseases, yet there is also, in many respects, a dissimilarity. The cynanche maligna and scarlatina anginosa are said to be contagious disorders; this is not: those have great throat affection; this has not: those are diseases of short duration; this is sometimes of short, at other times of long duration. The malignant fever is dissimilar to this disease in the following respects: the petechiæ do not generally appear in so early a stage of that fever as in this: that fever makes a more regular course in its progress, like other fevers, than this: death does not happen so suddenly in that fever, as in this: death happens in that fever, in seven, fourteen, or twenty days; in this, it commonly happens within forty-eight hours from the attack: that fever is said to be contagious; this is not.

Having made the preceding remarks, I will now attempt to arrange this epidemic in a system of nosology. Should others, however, be inclined to assign it a different place, I am not disposed to contend with them on the subject. I think it ought not to be arranged under the order phlegmasia, for the following reason: although in some few cases, local inflammation has been induced by the disease, yet this has not oftener happened in this epidemic than in other malignant fevers. Whether it more pro-

perly belongs to the order febres, or exanthemata, is not so clear. The following are, however, my reasons for not referring it to the order exanthemata. 1. It is not a contagious disease. 2. Persons have it more than once. 3. Eruptions are by no means a necessary attendant upon the disease.

If it is admitted that this disorder more properly belongs to the order febres, the next question is, whether it is more proper to consider it as a variety of the malignant fever, or a new disease? As it differs in so many respects from all other diseases, I am disposed to believe that it ought to be regarded as a new species of typhus. This new disease, to make the picture more nearly resemble the original, ought to be divided into two varieties; to distinguish which, the epithets *mitior* and *gravior* may be necessary.

From the preceding nosological remarks, it will be perceived, that the arrangement of typhus fevers, in a system of nosology, which is proposed, will stand thus: taking typhus for a genus, the species will be:

1. Typhus contagiosus.*
2. Typhus icterodes.
3. Typhus petechialis malignus.
4. Typhus petechialis malignus novus.

* Dr. Cullen considers, if we may judge from his definition of typhus, all typhus fevers to be contagious. That the first species in this arrangement is contagious I have no doubt; that the fourth species is not contagious I am equally confident; with respect to the second and third species I have my doubts.

The epithets *mitior* and *gravior* are to be used, to mark, or to distinguish more accurately, the different grades or varieties of each of these species.

CHAP. II.

Of the Symptoms of the Spotted Fever.

Introductory Remarks.

To describe a disease, so as to be readily recognized by one who has had some acquaintance with it, may easily be done; but so to exhibit or paint a disease, attended with multifarious symptoms, that it may be immediately apprehended by one, upon his first observance of it, is more difficult, especially when it appears, in different cases, in a variety of forms. To do this with most success, I think the order and progress of the symptoms which nature points out, i. e. the manner in which they are presented to the observer, without having reference to the artificial arrangement of the different functions of the body, must be the best. This purpose can probably be better effected, by a correct exhibition of the leading and prominent symptoms of the complaint, than by an attempt to enter into a minute detail of all the rare and singular symptoms which the disease may sometimes present: most of these last,

may, however, with propriety, be shown in the back ground.

This disease may be divided into two varieties, for the purpose of description; indeed, nature has so divided it. These varieties, however, by imperceptible gradations run into each other, so that it may be difficult, in many cases, to draw the line of distinction. But this difficulty is a common one, where the laws of nature are in contemplation. Day and night present a striking contrast; yet during twilight, the light and the darkness are so intermingled, that the beholder knows not exactly where to draw the line of distinction.

If there is any one symptom which may be regarded as a premonitory symptom of this disease, in all its varieties, it is a sore throat. I have observed this in so many cases, and have found so few exceptions, that, were it not an attendant symptom of so many other disorders, I should consider it as a pretty sure premonitory sign of this complaint; and yet this affection is so slight, that few patients mention it, unless they are questioned respecting it.

SECT. I.

On the Symptoms of the first Species of the Fever.

These are the following: A great, surprising, and sudden loss of strength, is a constant

and prominent symptom; a cold surface also presents itself, sometimes accompanied with chills, sometimes not. The extremities, in the cold stage, appear of a purplish or livid colour. Violent pain of the head, and many times of the limbs, is among the first symptoms; sometimes one, at other times the other is first attacked. When the pain commences in the limbs, it soon mounts up to the head. Distress about the precordia, violent and extreme, also universal agony of the whole system, and numbness of the extremities, are often added to the above list of symptoms. The breathing is often laborious, and attended with frequent sighing. Syncope sometimes occurs. The pulse in this, and in all the varieties and stages of this complaint, is soft, weak, and never hard, although sometimes as slow, and even slower than in health; it is often intermitting, fluttering, or totally absent, even in cases in which the patient has afterwards recovered. The tongue is generally covered with a white coat; but in some bilious cases it is of a brownish hue: sometimes it has been observed to have a bloodless appearance, which has been considered as almost a certain token of approaching death. The urine deviates but little from health, except a hysteric flow which has sometimes been observed to happen. There is loss of appetite, and sickness at stomach, and vomiting. The worst form this disease ever assumes, particularly in children, is that of coma, or cholera morbus. It frequently assumes the form of a

violent mania at the time, or within a few hours of the attack, particularly in sanguine young men. Sometimes delirium is among the first symptoms; sometimes coma; and many times petechia. This symptom does not occur so often as the name which this disease has obtained would lead one to expect: these vary in size, and in colour, from a bright red to a dark purple.

Unless the patient recovers, he commonly dies within the first twelve, twenty-four, or forty-eight hours. Death is ushered in by the gradual giving up of the powers of life, by syncope, by the febrile apoplexy, or by convulsions. In those who recover, the disorder puts on, either before or soon after the expiration of the first forty-eight hours, the form of the second variety of this disease; or, to express myself in the words of others, "runs into the form of a mild typhus of uncertain duration."

As petechiæ, when they do occur, may almost always be considered as marking the worst form of this disease, I will now describe them in the words of Dr. Strong. "Blind hæmorrhages, or those where the blood flowing from the vessels of the skin, is detained beneath the cuticle, forming petechial spots, were more common:" i. e. more common than other hæmorrhages of which he had been treating. "So frequent indeed was this species of hæmorrhage during the first season in which the disease prevailed, that it was considered as one of its most striking characteristicks, and gave rise to

the name *petechial*, or *spotted fever*, which has been very generally, though very improperly, applied to the disease. These spots commonly appeared on the face, neck, and extremities, frequently over the whole body. They were generally observed in the early stages of the disease. In size they were various, commonly the head of a pin and a six cent bit would mark the two extremes. These spots were evidently formed by extravasated blood; they did not rise above the surface, and would not recede upon pressure. In colour, they varied from a common to a very dark purple, and the darker the shade, the more fatal the prognosis. These spots, which in 1806-7 marked almost every case, in 1808-9 were rarely observed."* In addition to this, I would observe, that in some protracted cases, where the patient has recovered, these spots have sphacelated, and suppurated, and, upon coming out, have left ulcers, which required some time to heal.

SECT. II.

On the Symptoms of the second Species of the Fever.

These are milder in their aspect. At the onset, a chilly fit comes on; but this is soon succeeded by a warm surface, and a fever re-

* See Dr. Nathan Strong, jun.'s Inaugural Dissertation, p. 10.

sembling a mild typhus, or the fever attendant on the scarlatina; no petechiæ, but a *red fiery eruption*, or, what is perhaps more common, no eruption at all; pain of the head and limbs is less severe; less universal agony of the system; loss of appetite, nausea, but seldom vomiting or purging; no coma; no delirium; or, if delirium, very slight, and only at the height of the evening paroxysm. Pulse but little removed from health in quickness; sometimes full, but never hard. The tongue is white and moist; slight sore throat. Medicines, when given, have their usual effects, and easily control the symptoms. This species or variety resembles, in its duration, the scarlatina.

The red fiery eruptions may generally be regarded when they do occur, as designating the second variety of this disease. These will now be described. Dr. Fisk, when comparing this disease with scarlatina anginosa, observes, that it resembles this, "in the eruption of the skin, and subsequent desquamation of the cuticle, and in the anasarcous swellings which sometimes ensue." He also observes, when describing the eruption, that, "sometimes it appears like a milary eruption over the whole body, in patches in the bend of the arm, on the breast and neck, without any discolouration at first, but followed with inflammation—sometimes in detached inflamed spots upon the face, arms, &c. sometimes like the nettle-rash." (See chap. xvii. sec. 1.) Dr. Bestor says, after having described the petechial spots, "In others, there

are bright red ones, either permanent or transient; in some others, a pustular efflorescence, resembling measles, which, if early, is a favourable prognostic." (See chap. xvi. sec. 1.)

SECT. III.

On the more unusual Symptoms of the Fever.

These are a dilatation, and, in some, a contraction of the pupils of the eyes; redness and suffusion of the eyes; blindness in some, in others double or treble vision; a drawing back of the head, with a kind of clonic spasm of the muscles of the neck; apthæ in the throat; an inflammation like erysipelas upon the limbs; swelling like rheumatism of the joints; paralysis of an arm or a leg, or both; carbuncles and buboes; stranguary, and to such a degree as to require the use of the catheter; a violent pain in a finger or toe; hysteric symptoms; pain like cholic of the bowels; a slight cough; œdematous and shining appearance of the skin; transitory and evanescent flushes of heat; erratic pains flying from part to part; a deadly feeling of the stomach; a corpse-like rigidity of the limbs; hæmorrhages, which were less frequent, however, than the other symptoms would lead one to suspect; costiveness; and many other symptoms too tedious to relate.

The disease has been observed to assume different shapes, according to the different con-

stitutions of the patient affected with it: Thus women were more liable to hysteric symptoms; in children it sometimes appeared in the form of cholera morbus; and in young men of the sanguine temperament it not unfrequently produced a violent mania.

SECT. IV.

On the Type of the Fever.

I have found it difficult to detect the nature of the epidemic in this respect. The observations of others, who have written on this subject, afford me little assistance in investigating this part of my subject. They appear not to have turned their attention to it. The result of my own observations amounts to this; that there is generally an exacerbation of fever at evening. By this, however, I do not mean to be understood, that this is always rendered evident by increase of heat and quickness of pulse, as in other fevers, but by an aggravation of the other symptoms of the disease. I have thought that something like a long paroxysm of fever, continuing from twelve to twenty-four or forty-eight hours, took place in the commencement of this complaint; that afterwards daily paroxysms and remissions were apparent; and that these paroxysms became shorter and lighter until the patient was left convalescent. Much irregularity, however, in all these respects prevails.

SECT. V.

On anomalous Cases of the Epidemic.

Anomalous cases have occurred, in which a paroxysm and intermission of the symptoms, like ague and fever, have happened: some of these have continued during four or five weeks. Other cases have happened in which the patient had the common symptoms of this disease, such as delirium, sore throat, head-ache, fainting fits, spots, &c. without any fever at all. These patients had a weak pulse, but no febrile irregularity of pulse of any kind, nor flushes of heat or chills. Some of these cases were of considerable duration. As evidence of the correctness of the opinion, that such ought to be regarded as having had the disease, it may be observed, that these cases occurred in families in which other branches of the family had the complaint in the usual form. Hence it was observed, (in chap. xii. sect. 1.) that fever was "not a necessary attendant on the disease." Cases have occurred, in which, after the patient has been relieved by appropriate remedies, from the depressed state of the system at the onset of the disease, something like a relapse has taken place, producing, at a subsequent period, the same train of symptoms as at first.

Having detailed the symptoms of this disease, I will now select such as may be considered as pathognomonic. These are pain of the head,

soreness of the throat, white tongue, weak pulse, and great prostration of strength. (See chap. xii. sect. 1.)

An increase of the temperature of the body is so common and prominent a symptom in most fevers, that it has usually constituted a part of the definition of fever. An increased frequency of the pulse makes another part of this definition. Neither of these are prominent symptoms in the disorder. Cases occur, it is true, in which the temperature is increased above the natural standard; but these are rare, and in many of these cases, if not all, the heat of the body has been raised by artificial means. This, however, is so far from being a common or prominent symptom, that, especially in the worst species of this fever, most physicians, who have had experience in it, consider their patients relieved from a most deplorable state, as soon as they get the surface of the body warm by any remedies which may be in their power. The urine is not changed in its appearance, as in other fevers. Subsultus tendinum is another symptom which is common to bad forms of typhus, but which has seldom been noticed in this disorder. As a general rule, there is less thirst and more appetite in this fever than in others.

To render the foregoing history more complete, it may be necessary to observe, that children, women, young people, and those of the sanguine temperament and lax fibre are most liable to the disorder; that certain families

oftener have it than others; that patients may have it more than once. This, like all other epidemics, has been more fatal upon its first appearance than afterwards. All those physicians who have witnessed its ravages agree, that it is not contagious or infectious.

I have known more than one instance, in which persons, upon coming from a part of the country where this epidemic had never prevailed, and residing a short time in a town in which this disorder had been epidemic, have had the disease, and at a season when the inhabitants of said town were free from it. I have also known persons who reside in sections of the country where this epidemic has appeared, after having been on a journey to places where it had never been, attacked with it soon after returning home, and at a season when it did not attack those in different circumstances. Whether others have made similar observations we are not informed. If the united observations of different physicians, in different situations, should be similar to those I have made, it would establish an important fact; from which very curious, if not useful deductions might be made. Do such patients have the disorder in a greater or less degree than others?

CHAP. III.

Of the Diagnosis.

WHEN any epidemic prevails, physicians and others are more liable to mistake other diseases for the epidemic, especially after the occurrence of a few cases, than to mistake the epidemic for other diseases. It is obvious, however, from the great variety of symptoms which this disease exhibits, that there will be great liability to mistake it for several other diseases, particularly for the cynanche maligna, scarlatina, common typhus, rheumatism, hydrocephalus internus, worms, cholera morbus, hysteria, mania, phrenitis, apoplexy, paralysis, nettle-rash, cholic, &c.

Every physician will be sensible that sporadic cases will be particularly liable to be mistaken for other disorders. Such cases have frequently occurred in various parts of the country where this disorder has never prevailed as an epidemic. The consequences of such mistakes will easily be perceived by all when they compare the very different mode of treatment which experience has directed in this disease from that which is used in those other diseases. The best direction which can be given for avoiding such mistakes is, to remind the young or inexperienced physician diligently to compare the history of this disease with those to which, as

has already been observed, this bears a resemblance. By this it is believed he will be enabled, in general, to distinguish the difference. But should cases occur in which it may be impossible to make the necessary discrimination, the prudent physician will, as in other cases, in like circumstances, prescribe such remedies as may not prove destructive to the patient, should he happen to labour under the more dangerous disease, instead of the less dangerous one with which it is compared.

CHAP. IV.

Of the Prognosis.

"IT is always a matter of some consequence to the character of a physician that he be able, as far as the shortness of human foresight and the nature of a disease will permit, to form a correct judgment of its probable course and termination. In the disease under consideration, great caution is often necessary, especially for those who have had but little experience of its deceitful nature. In some cases, as has been before observed, the first attack has been disguised under the appearance of a mild hysterical affection, until death was near at hand. From the mildness or violence of the attack,

however, we may generally form a judgment of the probable result. When the symptoms assume a mild form; when the prostration of strength is not uncommonly great; when some degree of energy remains in the pulse, and the surface does not become cold; if the tongue continues moist, or, though dry, is not greatly shrivelled up, or does not assume the bloodless appearance which has been noticed; if deglutition is not greatly obstructed, and the stomach retains medicine, we may confidently hope, by careful attention, to carry the patient safely through. Again, though the symptoms may assume a more severe form; though the prostration of strength be great, and the vital energy seems almost destroyed; though the pulse trembles at the wrist; and a cold surface presents itself to the touch; though the torpid tongue is moved with difficulty, and the stomach throws off its contents; yet if these symptoms appear to be easily controlled by medicine; if we soon succeed in restoring a genial warmth and moisture to the surface, and increasing the energy of the pulse; if the successive vomiting is overcome, so that we are able, through the stomach, to invigorate the system; then also may we confidently hope, by assiduous and unremitting attention, to ward off the shafts of death from our patient, and restore the smiles of joy to the countenances of his friends. On the other hand, if the stomach obstinately rejects every medicine administered, or a paralysis of the throat prevents deglutition; if we cannot by

any means succeed in restoring warmth to the surface, and energy to the arterial system; if a torpid insensibility prevails, deep coma shuts up the senses, and destroys the power of voluntary motion, the respiration becomes difficult, or the melancholy sound of the apoplectic stupor salutes our ears; our fears must be great, our hopes but few. *Dum spirat sperabimus*, however, should still be our motto, and those applications which remain in our power should be used with as much assiduity as though a brighter prospect was before us. By such persevering, though almost hopeless attention, the writer has seen more than one snatched from the very jaws of death, and restored to their friends and the world, after the grave seemed open to receive them."*

In addition to the above, it may be observed, that petechiæ and vibices are dangerous; that the darker their colour, and the earlier they make their appearance, the more danger they indicate. In certain cases, unless the proper remedies are used at the instant of the attack of the disease, dark coloured petechiæ, complete coma, obstinate vomiting, a cold surface, little or no pulse, rigidity of the limbs, make their appearance within a few hours of the attack. If the fortunate moment for the prevention of some or all of these symptoms, by proper medicines, is suffered to escape us, such patients, I fear, will seldom be cured.

* See Dr. Strong's Inaugural Dissertation, p. 23.

It may be laid down as a general rule, that the shorter the cold or sinking stage is, and the sooner the re-action of the system is incited, the safer the patient.

Delirium or mania is much less dangerous than coma. But the danger of all or any of these states depends, in some degree, on the stage of the fever: they are more dangerous in the cold stage than after the re-action or hot fit is formed. Patients attended with delirium or mania only may, by proper treatment, be generally cured. Such symptoms as indicate a torpid state of the patient are more dangerous, agreeably to what has already been said, than such as exhibit signs of a more active state of the irritability or excitability of the system; hence a judgment may be formed of the probable event by the ease or difficulty with which medicine can be made to operate.

It may not be improper to admonish the reader, that in forming his prognostic, he must be careful not always to give up the patient for lost, although the lamp of life may seem to be utterly extinguished: for, strange as it may appear, I have been credibly informed, that instances have occurred in which the vital flame has re-kindled, and the patient been restored to life and health, even after he had apparently met the cold embraces of death! I very much regret having neglected the necessary means of resuscitation in the case of an amiable young woman whom I lost (see chap. xiv. sect. 1.) in the beginning of my practice in this epidemic.

CHAP. V.

Of the Causes.

THE spotted fever is asthenic in its nature. Hence the remote and predisponent causes must be such as debilitate the system. These I am disposed to look for in the state of the seasons. Dr. Huxham has informed us that the seasons during the prevalence of the ulcerous sore-throat and malignant fevers which he describes were unusually cold and wet. These diseases were asthenic. I think it will readily be recognized by every observer, that our seasons have been very cold and wet since the prevalence of this epidemic. It is well enough known that coldness and dampness have a direct effect upon the human system, by producing a gradual relaxation and debility of its powers; and I do not hesitate to assert, that the same causes, when existing in a more than ordinary degree, render the vegetable productions of the earth less nutritious and less fit for sustaining the vigour of animal life. Whether these causes, which I have supposed were the predisponent causes, (see chap. xiv. sect. 1.) operating thus directly and indirectly, to produce a general debility of the human body, have existed in a sufficient degree to account for the prevalence of this epidemic; or whether it has proceeded from some unknown noxious quality of the atmosphere; or

whether its remote cause or causes are totally unknown, and as yet unthought of, is what I do not indeed pretend confidently to say.

It is true, that all persons must, in some degree, feel the influence of causes so general as the coldness and dampness of the seasons; but still, from the variety of constitutions of different persons, their different modes of living, as it respects food, &c. the indirect effects, if not the direct ones, of these general causes, may be somewhat more severely felt by some than by others. Hence, from knowing the constitutions and habits of living of certain people, I have been led to suspect, that they would be peculiarly liable to the spotted fever; and in several instances has the correctness of these suspicions been evinced, by their having been afterwards actually attacked with this disorder.

The exciting causes are better understood. They are such as immediately debilitate the system, as too much fatigue, fear, grief, nursing, abuse of stimuli, wetness, cold, and other diseases preceding, as the measles (see chap. xiv. sec. 1.) and influenza, (see chap. xiii. sec. 2, and chap. xviii.) and chincough, (see chap. vi. sec. 5.) Among these, as far as I have observed, cold (see chap. xiv. sec. 1.) is the most frequent exciting cause. The reader will readily perceive that many of these causes may act both as predisponent and exciting ones.

With respect to the proximate cause, much cannot be expected, unless we know more of the nature of fever in general. But as it is na-

tural to the human mind to search for the immediate causes of such phenomena as are presented to the senses, I have indulged a few reflections on the nature of this disease. I have suspected, whether those sudden deaths which happen in the cold or sinking state of this fever, and sometimes in other fevers, may not frequently be occasioned by a gradual, but rapid diminution of the caloric of the body. The effects produced by the cold-bath, if its application is continued long enough to cause death, are analogous, in many respects, to those which take place in the cold or depressing state of this fever. The symptoms caused by the cold-bath are the following: " A sensation of cold which gradually ceases, and is succeeded by numbness, tremors in the skin, and shivering. The skin becomes pale, contracted, and acquires the appearance termed *cutis anserina.* The fluids are diminished in volume, the solids are contracted, the caliber of the vessels is lessened, and therefore numbness and paleness are induced, and the visible cutaneous veins become smaller. There is a sense of drowsiness and inactivity, the joints become rigid and inflexible, and the limbs are affected with pains and spasmodic contractions. The respiration is rendered quick and irregular; the pulse slow, firm, regular and small;* the external heat is at

* If a person of an extremely debilitated habit, instead of one in health, should be exposed to the long continued influence of cold, it is thought the pulse would be different, and perhaps some of the other symptoms, from what is here stated.

first diminished, but gradually and irregularly returns nearly to its natural standard; the extremities, however, continue cold and numb, or swollen and livid; the perspiration is suppressed, and the discharge of urine is rendered more frequent and copious. If the cold be excessive on its application, long continued violent shiverings are induced, the pulse ceases at the wrist, the motion of the heart becomes feeble and languid, there is a sensation of coldness and faintness at the stomach, and a rapid diminution of animal heat; and at last delirium, torpor, and death are consequences."*

Dr. Currie found even the temporary application of cold water produce the most dreadful sinking symptoms in a case of typhus fever, when applied during the cold stage; notwithstanding it is a most invaluable remedy where the heat is steadily above the natural standard.†

Does not the relief obtained by the application of external heat, (see the two next chapters) in the sinking state of the spotted fever, tend to corroborate this theory?

I have also thought that a peculiar debility of the brain and nervous system was induced in this disease. Many of the phenomena which attend the complaint seem to exhibit evidence of such debility.‡

* See American Dispensatory, p. 181, by John Redman Coxe.

† See Medical Reports on the effects of water, &c. by James Currie, M. D. &c. particularly the case in chap. vii. of his work, in which it was used in presence of Mr. Hoffman, the army Surgeon to the Duke of Brunswick.

‡ Since the above was written, I have applied to the Rev. Ebenezer Fitch, D. D. President of William's College, for information

CHAP. VI.

Of Alexipharmic Remedies.

DR. A. Philips Wilson, who has been at astonishing labour to collect from the writings of

concerning the state of the seasons, as it respects coldness and wetness. The following is an extract from his letter to me on this subject.

" I have at last, with considerable labour, made out from my books the average heat of seven successive summers. Had I time I would go back three summers more, to 1801. My thermometer is always kept in the shade of the house. I make three entries of the state of the weather each day, one at or near sunrise, one between 12 and 3 o'clock, and one just before I retire to rest, which is usually at 10 or 11. I added the three entries of each day, divided this sum by three, and thus got the average heat of each day of the month. These were then added, and the sum divided by the number of days in the month. This gave the average heat of the month. You will see, by carefully attending to this account of the heat, that 66.13$\frac{3}{7}$ degrees is the average heat of seven successive summers; that 1804 was a little above, and 1805 more than 2 degrees above this mean: that 1806 was a little below, 1807 and 1808 above, 1809 more than two degrees below, and 1810 more than one degree below. The summer of 1805 was much the hottest, and the summer of 1809 much the coolest of these seven summers. Your good sense will at once lead you to see that one degree of average heat through a whole summer makes a very considerable difference in the state of vegetation; and it may also in the state of diseases. But how far you may go in assigning this difference as a cause of spotted fever I am less able to judge than you are. I find the average heat of these seven summers to differ less than I expected.

" Average heat of the summer of 1804 66.31
1805 68.46
1806 66.07
1807 66.89
1808 66.82
1809 63.77
1810 64.62

7)462.94(66.13$\frac{3}{7}$ average of seven summers."

From this it appears, that, even in the three summer months, a season in which there is probably the least variation of temperature of any of the four seasons, and a season always the most healthy,

the ablest physicians the best things on the subject of fever, has neglected to recommend, except in a very few instances, the use of the application of external heat to the surface of the body as a remedy in typhus; but expressly says, that "The natural agents, the quantity of which is to be diminished in typhus, are, 1. Caloric, &c."

The remedies on which he relies are bark and wine, with the addition of opium and blisters occasionally. When he speaks of sweating in fever, he adopts Dr. Cullen's rules respecting the mode of conducting it, in which the hot stimulating practice is condemned.

Dr. Wilson having gone thus far in detailing the practice of others, whose sentiments he adopts at the close of his book, in consequence, I conjecture, of having read Dr. Hamilton on the use of purgatives in typhus fever, and in consequence of his own new theory of fever, at length goes so far as to disapprove of even wine in fever, unless in very small quantity. In this instance I must be allowed to say, notwithstanding the very great respect I have for his writings, that, according to my understanding, he is evidently guilty of a contradiction. I believe it will appear, upon examination into

it has been colder by about 1°.75 since the appearance of the spotted fever than it was in the two summers immediately preceding.

With respect to the dampness, another and more powerfully debilitating cause, I am not able to say, with mathematical accuracy, what the state of the seasons may have been, but I think it evident to common observation, that the seasons have been wetter, if not colder, since the prevalence of this epidemic than usual.

medical history, that the hot alexipharmic plan of treating fevers, which prevailed previous to the days of the great Sydenham, and during his time, and which would be now called the hot diffusible stimulating plan, has been gradually getting out of practice, down to the appearance of the spotted fever. Wine, however, which may be considered as belonging to this class of remedies, has maintained its ground. But the use of external heat has been disallowed. Sweating, however, has, among the women, been handed down as a good remedy in the attack of a fever; and, I may add, that their mode of exciting sweat, viz. by external heat and warm herb teas, will oftener succeed than that which a fashionable physician would adopt.*

From the experiments which have been made with sweating in the spotted fever, I think those

* It is curious to trace the effects of tradition among the common people in medicine, as well as in religion and language. It is probable we are indebted to the effects of tradition for the discovery or revival of the use of external heat in fever. (See chap. xiv. sec. 1.) Mrs. Hurlbert, from whom the practice of sweating by means of external heat in the spotted fever originated, may be regarded as having learned this practice traditionally from the physicians who lived previous to the days of Sydenham. Thus we see, while the medical faculty succeeded in banishing from among their list of remedies the practice of sweating by means of external heat, that, among the women, the current run the other way.

The great and good Dr. Tissot exerted all his force to eradicate the practice among the common people of using external heat in the malignant fever, by means of animals cut open and applied warm to the patient. The reasons, no doubt, which the common people assigned to justify the practice were foolish and ridiculous; but the reasons which the Doctor gives why they ought not to be used are equally unsatisfactory. It would have been more wise in him to have investigated the effects of such applications, by which he might probably have found that the warmth imparted to the cold surface of the sick might have really afforded relief. See the Doctor's essay on malignant fever.

physicians who have had experience in this fever must be convinced that the same remedy may be useful in other fevers. The circumstances in which this remedy may, with propriety, be used in this epidemic, will be detailed when we come to the treatment of it. Dr. Cullen, it is true, mentions that sweating has been found useful in certain fevers, caused by a powerful sedative contagion, as the plague. But even in those cases in which he admits the beneficial tendency of sweating, his mode of exciting it is very different from the hot alexipharmic practice, recommended by those physicians, who, from their experience, were convinced of its utility.

Dr. Sydenham discovered the baneful effects of the hot regimen in the small-pox, and in other inflammatory fevers; but he did not make the necessary distinction between inflammatory and typhus fevers. Hence he fell into as great an error as his cotemporaries upon the opposite side of the question. They used the hot regimen in all fevers; he used the cool regimen in all fevers; and still his opinions have had too great influence upon the minds of physicians, and have caused them to run into the opposite extreme.

Perhaps another cause may have contributed to render the cooling plan of treating fevers so general. The plague and malignant fever, in which the hot stimulating practice is useful, may have been less prevalent, as epidemics, since the days of Sydenham than they were before.

The cynanche maligna has, however, frequently made its appearance in modern times; and has always proved a dreadfully mortal disease when epidemic. But the old hot sweating regimen, by means of external heat, &c. has never been tried in this disease. Dr. Wilson thinks it would not answer a good purpose. But since the use of external heat has been attended with such salutary effects in this late epidemic, few physicians, I believe, who have become acquainted with this disease, would hesitate to try the same plan in cynanche maligna.*

Dr. Huxham, though he decidedly disapproves of Dr. Sydenham's method of practice in the malignant fever, seems not to have used the application of external heat in the low state of fever.

I shall conclude these remarks with expressing my belief, that to the list of generally approved remedies in fever, the application of external heat may be added as another excellent one, which may be used in all cases where the temperature of the body is below the natural standard.

Dr. James Currie has long since demonstrated

* Dr. James Hamilton, in his treatise on purgative medicines, has the following remark: "Under these impressions I have formed a favourable opinion of the utility of purgative medicines in cynanche maligna. But let me here caution the reader, that in giving this opinion I have departed from the rule which I had formed to myself. It is a theoretical opinion, and not so fully supported by experience as to enable me to deliver it with confidence." The same reason, probably, which induced this respectable author to inform the reader, that the above opinion was a "theoretical opinion," has induced me to add this note. Had he ever witnessed a disease like our spotted fever, I am persuaded he would never have formed the above opinion.

the utility of diminishing the heat of the body in fever, when it is above the temperature of health, by the use of cold or tepid water. I have seen excellent effects from this practice in common typhus, when conducted agreeably to Dr. Currie's directions.

The reason why I have chosen to introduce this chapter previous to entering upon the treatment of the spotted fever is the following. The cooling plan of treating fevers is so rivetted in the minds of physicians, that they will not be persuaded to adopt the opposite plan in the treatment of this epidemic, even by the testimony of those who have had an opportunity to witness its ravages. Hence, in every place where this dreadful plague first appeared, numbers have fallen a sacrifice to the evacuating plan of treating fevers; until, by dint of fatal experience, the physicians became convinced of the baneful tendency of such practice.

Experiments of this kind have been made in sufficient number to convince the most sceptical, if they will but make the necessary inquiries; so that, it is to be hoped, they will not, in future, be repeated.

CHAP. VII.

Of the Method of Treatment.

UPON the first appearance of this disease, in any place, so many fall sudden victims to the jaws of death, that a universal terror seizes the minds of all, and of physicians among the rest. Hence, a great variety of means, and powerful ones too, have been used with a view to arrest its progress, and to baffle its rage. A proper discrimination of the various circumstances of the disease has not always been made. Many of the milder cases, which require only gentle remedies, have been treated as though the patients were at every moment in danger of sharing the same fate with their more unfortunate neighbours! To make the proper distinctions, in laying down the plan of treatment, is a difficult and important business. That the tonic and stimulating method of cure, as opposed to the debilitating plan, is the correct one, I have not the least doubt; for there is testimony abundantly sufficient to prove this fact. But to ascertain the best means to be used, the manner in which these should be employed, and to fix the mode of treatment, so far as general rules are concerned, so as to render future practice firm and unchangeable, is what would be desirable. But the present state of our knowledge of fever in general, and of this epidemic

in particular, is too limited to admit an expectation of accomplishing so desirable an object. And every one must be sensible, that were it possible to lay down an accurate set of rules, the application of such rules must always depend on the judgment of the attending physician.

Previous to entering upon the detail of the various remedies which have been found useful in this disease, I think the following preliminary observations may be of use.

It may, I believe, be asserted as a fact, that those persons who are subjects of this disorder are, from certain causes, (whether the true ones have been assigned or not, see chap. v.) operated upon so as to produce a particular temperament, which predisposes to this disease. This temperament may be called the typhus temperament. That an inflammatory temperament is capable of being produced no one doubts; and the causes of this are well known. If a person of vigorous constitution, who breathes in a pure and dry atmosphere, is accustomed to a very free use of rich and highly seasoned animal food, ardent spirit, wine and beer, the inflammatory temperament will, sooner or later, certainly be produced. If cold or other exciting causes be applied to the typhus temperament, spotted fever is produced; if the proper exciting causes be applied to the inflammatory temperament, an inflammatory fever or pneumonic inflammation is the consequence. Now, it is easy to perceive that the degree of these causes

must vary the degree of the temperament; and this last the degree of the future disease which may happen: and it is equally evident, that the remedies employed ought to vary or bear some proportion to the virulence of the disease. That this principle is correct, when applied to an inflammatory disease, nobody will deny; for no one would think of drawing as much blood in a slight inflammatory catarrh as in a violent pneumonic inflammation.

As evidence of the correctness of the opinion, that certain causes have operated to produce a state of the system of the patient's predisposing to the spotted fever, or the typhus temperament, it may be observed, that a change in the nature of our prevailing diseases has taken place. Almost all those physicians who reside in sections of the country where the spotted fever has been epidemic, agree that sthenic disorders have been less prevalent than usual since the appearance of this malady. "At a meeting of twenty-five physicians from various towns in the counties of Hartford and Litchfield, every individual agreed to these facts."*

* See Dr. Strong's Inaugural Dissertation.

My own observation tends to corroborate this position: yet I must allow that I have seen cases of measles within this period; but I think I do not mistake when I assert, that fewer of these cases have required venesection than usual. I also think, that those few cases of pneumonic inflammation which I have seen during this time have required the loss of less blood than similar complaints formerly did.

Should an inquiry be instituted to ascertain the nature of the prevailing diseases in those parts of the country in which this epidemic has not raged, and, upon such inquiry, it should appear, that diseases of the sthenic kind have generally prevailed in those towns during the same period that diseases of the opposite class have been

The treatment of a sthenic disease, the common pleurisy for instance, has been for so many ages under the eye of the physician, that not only the kind of remedies which are useful, but the degree in which they are to be used, the time when, and how they are to be used,

the reigning diseases in other parts, it might lead to a curious, if not useful subject of investigation.

Since the above was written I have received a letter from Truman Powell, M. B. dated Burlington, (Vermont) August 8, 1810, from which the following is an extract. Speaking of a complaint which had raged in his neighbourhood, he says, "It commenced about the first of January, 1810, and continued to increase until about the first of March, when it seemed to be pretty much on the decline, and disappeared by the first of April, though in some towns further south it prevailed much longer, even into June. But those towns were generally exempted from the disease during the winter. The symptoms of this disease were those in common to all other pneumonic affections, differing no way but in degree from a common pleurisy or peripneumony. It generally among physicians went by the name of malignant pleurisy or peripneumony, which seemed to be an appropriate term. It predominated over all other diseases; no person could fall sick without having some pain in the breast, side or shoulder, with cough and expectoration of a very ill-conditioned matter, resembling what is generally discharged from sores in a state of gangrene: no precursory symptoms were to be observed, whereby the approach of the disease could be known. The seizures were almost instantaneous. Many would get up in the morning and eat a hearty breakfast, and, in thirty minutes, be in the most excruciating pain. It generally finished its course in six or eight days; terminating either in death or a favourable crisis. A few instances occurred where the weight of the inflammation fell on the throat; in which case it produced a complete angina maligna. A few other cases occurred where the face and limbs were much tumefied and inflamed, in all of which cases the lungs seemed exempted from inflammation. I have been informed by a respectable physician, who lives at the northward, that, in his vicinity he had a number of cases of spotted fever with the disease above named: but one or two happened in this vicinity. Yet I have no doubt but the spotted fever and the disease above named originate from one and the same cause, differing no way but in degree and seat of the urgent symptoms. I believe it will be acknowledged by every medical gentleman, that two epidemics which are diametrically opposite in their natures can never exist at the same time in the same climate (diseases of specific contagion excepted); therefore, I conclude, that the malignant pleurisy which existed in this country last winter, and the spotted fever which prevailed in sundry parts of New-England, have one and the same cause, differing only in degree and seat of the urgent symptoms.

and their expected effects are so well ascertained, that the physician has nothing to do but to apply these general rules to the particular patient he may be treating. I wish such a set of rules existed with respect to the spotted fever: but, since this is not the fact, let each physician endeavour soon to render it so.

As this is a new disease, the best guide we can have for framing a set of rules for its treatment must be derived from the experiments which have been made since its appearance among us, and from comparing it with those other diseases which it resembles. It will be proper, in the first place, to make a few observations on such remedies as are useful in both species of this fever; many of these are common to all fevers.

SECT. I.

On the Regimen proper in this Fever.

Rest of body and mind is particularly necessary in a fever of so much debility; for if the principle of life, which is called by various names by different authors, and, by Dr. Darwin, the spirit of animation, is too much of it expended in voluntary motions, less of it remains to be employed in the more necessary motions of the heart and arteries, and other vital motions. These cannot rest; for to rest is death. The former experience of the pa-

tient, from which he has learned when it is suitable to rest his weary nerves and muscles, is not now to be trusted; for he cannot be supposed to know, that if, in this weak state, he expends too much of the spirit of animation in voluntary movements, there is not remaining vigour enough in his frame to recruit what is thus expended; hence, death is the consequence. In this manner many of those sudden deaths may be accounted for which sometimes happen in fever, even previous to the fever's being formed.

The passions of the mind are to be kept under control, particularly fear. This passion has often been sufficient, in its depressing effects, to destroy even those in health: how dangerous then must its influence be upon him who is previously prepared to have it produce its full effects? No doubt, in times of great distress, from sweeping sickness, death is frequently thus occasioned.

Fresh air is always a necessary cordial in the sick chamber.

Liquid nutritious diet, and that which suits the stomach of patients, is best. I know that solid food has been recommended,* but I have my doubts with respect to this, as a general rule; it may be proper in particular cases, if it suits the stomach of the patient. The judgment of the physician and nurse must, after all, dictate principally in this, as well as

* See Dr. Strong's Inaugural Dissertation.

in other fevers, respecting the quantity and quality of food. But, let it be remembered, that the patient's own healthy experience, in this respect, will not now enable him to judge correctly on this subject, without the assistance of his physician; for he has had no experience of what is suitable in his new and diseased condition. The effect of food, as well as medicine, is different upon the stomach in its disordered, from what it is in its healthy state.

A great variety of light, cordial, agreeable drinks, may be prepared by any physician who has a tolerable knowledge of fever. It is hardly necessary to particularize. But I would observe, that these should always be taken warm, unless the patient's heat is evidently above the natural standard; and it would be well always to ascertain what his condition is in this respect by a thermometer.

SECT. II.

On the Means necessary to keep up the Strength of the Patient.

If the suggestion is correct, that those of a lax fibre, and debilitated habit, are generally the subjects of this disease, then it must follow, that there must be peculiar propriety in supporting the strength of the patient; nay, in

many cases, absolute necessity for it, during the period he may labour under the depressing effects of the disease. This indication will apply to all cases and circumstances of the disease, except those in which the means proper to carry it into effect interfere with the means which may be necessary to obviate some symptom or cause of irritation, or other circumstance, which may be attended with more immediate or greater danger. In such circumstances it is proper to suspend the attempt to support the strength of the patient till the indication is fulfilled, which may be necessary to obviate the circumstance which may be attended with more immediate or greater danger than the debility of the patient. Few circumstances, however, occur in which different indications interfere with each other. It is necessary to follow up the invigorating plan with more assiduity and attention than in most other fevers and diseases of debility. This direction is more particularly applicable to the bad and protracted cases.

The Peruvian bark and bitters may be used for this purpose in the form of decoction, infusion, tincture and beer: (see chap. xvi. sec. 2.) the latter form is peculiarly pleasant and salutary. The bark, in substance, is not so agreeable, though it may often be used with propriety. Fermented liquors of every kind may be used: of these claret, port, and Madeira wine are preferred. Those who suppose distilled spirits are equally suitable, as general

remedies, are much mistaken; though these may have their use as sudden stimulants.

Sulphuric and other acids have been supposed by many physicians peculiarly adapted to the cure of malignant fevers.

To detail the various methods of preparing and exhibiting the above remedies would require a volume. To the practical physician this would be useless and tiresome; and to the student unnecessary, because he can find the requisite information in books which are in every body's hands; and he can also discover, from the history of the cases contained in this work, the manner in which these and other remedies have been used in this fever by old and experienced physicians.

Some remarks may be expected respecting metallic tonics. These have not been used in fever sufficiently to enable one to ascertain satisfactorily how to appreciate their effects. With regard to their use in cynanche maligna, the celebrated Dr. Wilson has a remark to the following effect: 'We have reason to believe that the metallic and saline preparations would prove hurtful in cynanche maligna.' I have myself used the tincture of iron in our spotted fever in a few instances; with what effect I am not able to state. The metallic tonic which has been most used in fever is the arsenite of potash, or Fowler's mineral solution. This, however, I believe, has seldom been used in any

fever, except intermitting fever, previous to its being used in the spotted fever by Drs. Danielson and Mann, of Medfield, in Massachusetts. (See chap. xi.) Since the account of their use of it was published it has been used by other physicians in the treatment of this complaint.

That a medicine of such peculiar activity may have been sometimes used with success I am not disposed to deny. That it was beneficial in some of the cases related by Drs. Danielson and Mann is quite probable. That it has been much used by physicians both regular and empiric, in intermitting fever and in chronical diseases, is well known; but its superiority over bark, in the cure of intermitting fever, is far from being established. It has been observed to be attended with the following inconveniences, viz. it sometimes produces tremours, paralytic actions, a tendency to phthisical complaints and emphysematous swellings of the skin: it sometimes produces obstinate vomiting, even when given in very small doses. These effects of this medicine very much resemble some of the symptoms of the spotted fever. Hence it must be extremely difficult ever to know when such symptoms depend on the effects of the medicine, and when they are produced by the disorder.

Before a medicine which is allowed to be attended with such serious inconveniences is recommended to the public, it is the duty of those who recommend it to bring forward strong evidence to prove that it is superior to other me-

dicines in the cure of this disease, and that it does not produce evils to the patient.

The following observations with respect to the use of the decoction of the twigs of the hemlock tree (*Pinus Canadensis*, Linn.) may be acceptable to many of my readers. Accident, for a time, rendered this a very popular remedy in this part of the country. (See chap. xii. sec. 3, &c.) The virtues of this medicine probably depend not only on the astringent principle of the bark of these twigs, but upon the terebinthinate principle, which is slightly extracted by the watery menstruum. Whether this medicine may not be used as a substitute for the decoction of the Peruvian bark is yet to be decided. The most correct way to ascertain this would be to put it to the test of curing intermitting fever. That it may be employed with safety is abundantly proved by its extensive use in this epidemic. The tanners make much use of the bark of this tree, instead of that of the oak, which, in many places, is more scarce and expensive. Until more is known, however, with respect to the virtues of the hamlock, it is proper that physicians should adhere to the practice of administering the Peruvian bark; a remedy with which they are better acquainted.

The considerations of those other medicines which have been used, and which possess stimulant and tonic powers, will be resumed, with more propriety, in the next section.

SECT. III.

On the Remedies proper to obviate certain Symptoms and Circumstances which have a Tendency to cause Death, or otherwise to injure the System.

1. As to the means which experience has found useful in the first, cold, or sinking stage of the fever, when it appears in its worst form, it is proper to observe, in the first place, that all evacuants, such as venesection, emetics, and cathartics, are hurtful. Great injury, and even death, in some instances, have been consequent upon the injudicious use of such remedies. All physicians who have had an opportunity to become acquainted with the modes of practice which have been resorted to, agree, that evacuations, under such circumstances, are pernicious. With respect to the remedies which may be employed whilst the patient is in the condition above described, all agree in opinion respecting the utility of the application of heat and other external means to the surface of the body, which are to be continued until the coldness of the surface of the body is removed, and perspiration restored; all, also, agree, that some kind of internal stimulating medicine, given warm, is proper to aid in producing the same effects. But as to the kinds of remedies which are most proper to be used as internal stimulants, the opinions and practice of medical

men have been various. Some have preferred the use of hemlock and warm herb teas, sometimes in combination with submurias hydragyri, sometimes with ardent spirit. (See chap. xii. sec. 3. chap. xiii. sec. 2. chap. xiv. sec. 2. chap. xvi. sec. 2.)

Others have adopted a more bold practice, that of giving brandy, spiced wine, opium and arsenite of potash.* Some have preferred a composition of calomel, ipecacuanha, camphor, and opium, to be given, and to such a degree as to affect the throat, to almost every patient. These physicians gave aromatic teas, tinct. opii. and ardent spirit in extreme cases only, where sweat could not otherwise be produced. (See chap. xvii. sec. 2.) Some have preferred the continuance of the flowing of the sweat for a number of hours; others have chosen to stop the sweating when it was once produced. All agree that the patient is relieved as soon as he grows warm, or begins to sweat. (See chap. xii. sec. 3. chap. xiii. sec. 2. chap. xiv. sec. 2. chap. xv. sec. 2. chap. xvi. sec. 2. chap xvii. sec. 2.)

The external applications which have been used for giving relief to the patient have also been various. Some have used blocks boiled in water; others, whilst the hemlock was so much in vogue, preferred blocks boiled in water in which the boughs of hemlock had been boiled. These blocks, after having been boiled, and whilst hot, were wrapped in cloths, and

* See Dr. Strong's Inaugural Dissertation.

laid in bed near the patient. Brands taken from the fire and quenched, and then wrapped in cloths, have been used by some instead of blocks. Some have chosen hot steam thrown into the bed of the patient; and others have applied bottles of hot water and heated flannel to the body; and, instead of any of the preceding means, the practice of some has been to rub the body with hot ardent spirit, salt and vinegar, or with olive oil.*

From this variety in the practice of the medical gentlemen who have been conversant with this epidemic, and also from their agreement in the more general principles, as well as from my own experience, I am led to the following observations. The unanimity predominant is sufficient to establish the fact respecting the utility of heating and sweating remedies in the circumstances above mentioned. But I am confident that a medium ought to be observed in administering these, and that sweating may be continued to a hurtful excess.† It is demonstrated by Dr. Currie, that the flowing of the sweat is a cooling process, or, in other words, that the caloric of the system is carried off by the sweat.‡ It is obviously an evacua-

* See the essays in the appendix; also Dr. Strong's Inaugural Dissertation.

† I am aware that Dr. Cullen, after having adduced the arguments both for and against the practice of sweating in fever, observes, "that, when excited, it should be continued for a due length of time, not less than twelve hours, and sometimes for twenty-four or forty-eight hours," &c. But still I must take the liberty to dissent from this opinion, at least in relation to the spotted fever.

‡ See his treatise on the use of water in fever.

tion; and, consequently, debilitating; so that although one point of prime importance is gained, and sudden death prevented, yet the chance of ultimate recovery, by the abuse of this remedy is lessened. If benefit is to be expected by restoring caloric to the system, agreeably to the doctrine already advanced (see chap. v.) then long continued sweating must be improper. I do not, however, mean to rest my opinion of the hurtful tendency of much sweating on theoretical reasons only. There are facts in support of this opinion. Dr. Bestor observes, that much sweating does harm. His words are, "If I do not much mistake in judgment, I have seen great injury done by deluging the patient with sweat for many hours." That it is not necessary to the cure of the spotted fever I am confident from my own experience.

May not the long contested question, in respect to the useful or hurtful tendency of sweating in fever, be at length settled? If the fever is a synocha, synochus, or even typhus, attended with too much heat, may not sweating, provided it is excited without the use of much external heat and stimulating medicines, and continued a sufficient length of time, be useful? If the fever is a typhus, attended with too little heat, and great prostration of strength, may not sweating, provided it is excited by the use of external heat and warm stimulating medicines, and not continued too long, be beneficial?

In relation to the choice of the external means which may be used for exciting sweat, few

very judicious discriminations, in the present state of our knowledge, can be made. Neither is it probably very material, provided the desired effect is produced, viz. "a reviviscence of the cutaneous capillaries." Whether the modern mode of exciting sweat in the plague, (introduced by Mr. Baldwin, the British agent and consul at Alexandria, in Egypt) by means of olive oil, is superior to the old alexipharmic mode formerly used in Europe, I am not disposed, at this time, to answer.

With respect to the external use of cold water, which sometimes operates to produce sweating, and which has lately been introduced as a remedy in fever, by Drs. Wright, Jackson, and Currie, some directions will, with more propriety, be given in another place.

There may sometimes be difficulty in discriminating the circumstances in which external applications may be advantageous. During the time, however, that *torpid debility* triumphs over the system, they must never be neglected. But they seem to have been adopted as a kind of universal remedy, and to have been applied under all circumstances; and though this practice may have been generally harmless, yet it is by no means always necessary to the cure of the disease; and it would be desirable that a mode of practice attended with trouble and inconvenience to patients and nurses should be avoided, unless it is productive of benefit. If the patient is labouring under the first species of the disease, then it will be proper (or erring

on the safe side of the question) to adopt the sweating process. There is one exception to this rule; if the disease commences in the form of cholera morbus in children, a different course will be necessary.

The internal means, whether used for exciting sweat or other purposes, should be varied to fulfil the different indications which arise in the different varieties of the disease. The first, and imminently dangerous variety, is that in which the patient is comatose, attended with almost all the other bad symptoms of the disease. In such cases we should be not only assiduous in the use of some of the external remedies which have been mentioned, but should administer, with a liberal hand, diffusible stimulants, such as wine, opium, æther, essence of peppermint, brandy, &c. until the reaction of the system is excited, sweat produced, and the pulse invigorated; or the life of the patient is inevitably lost! In these circumstances, I have thought a blister applied to the nape of the neck a very useful remedy; and, indeed, in the most deplorable cases of this description, I should strenuously urge the application of a blister to the whole head, the hair being previously shaved off. In the appendix some cases are related in which the quantities of the medicines which were given are shown. Whether such quantities were indicated in these cases must depend on the degree of credit ascribed to the judgment of those who administered them.

The composition of calomel, opium, ipecacuanha and camphor, which was used as a kind of universal remedy by Dr. Fisk and the medical gentlemen with whom he was connected, must not be relied on, unassisted by other means in this variety of the disease. Dr. Fisk, indeed, observes, that where he found petechial blotches, bark, wine, &c. were liberally used; but he has not informed us whether any of his patients were attended with coma, in connection with the other bad symptoms. (See chap. xvii.)

2. The next most dangerous form in which this disease appears, is that of cholera morbus. When it assumes this shape the subjects of it are commonly children. When it is recollected how dangerous artificial evacuations are in the commencement of this complaint, the necessity of restraining morbid evacuations will easily be inferred. Three cases of this description have occurred in this town, each of which terminated in the death of the patient within the first forty-eight hours. But as no cases of this description have fallen under my own immediate care, I will refer the reader to Dr. Bestor's account of the spotted fever in the appendix; (see chap. xvi. sec. 5.) in which he has given us a successful method of treatment. Should Dr. Bestor's plan ever fail, I should try the cort. simarouba, in the form of beer.

3. The next most dangerous variety is that in which the patient is found in a delirium or mania. Such patients are generally curable.

These require a different treatment, according to the different circumstances of the patient. If the delirium commences in the cold stage of the paroxysm of fever, or if it alternates with coma, the hot applications will be necessary, more especially to the feet and legs, until sweat is produced. The internal means are warm aromatic teas, opium, comphor, wine, or even ardent spirit. These ought to be used in sufficient quantities to ease pain and to invigorate the pulse. When the re-action of the system is once produced, and this carried to such a degree as to produce sweating; and if, at the same time, the vital powers appear to be invigorated, it is evidence that the proper quantity of stimuli has been used; the delirium or mania may be expected to subside upon the declention of the paroxysm of fever. If the delirium or mania occurs during the hot stage of the paroxysm, and a re-action is formed, there is less danger than in the former case. In these circumstances cold applications to the head are useful, and less stimulants are required. (See chap. xvii. sec. 2.) A blister to the nape of the neck is proper in all kinds of delirium or mania. It is important for the welfare of the patient, that the physician attend constantly in these, as well as in comatous cases, until his patient is relieved; for the quantity of medicines which may be necessary can only be ascertained by attending to their effects.

4. In the hysteric form, such medicines as have been called anti-hysteric may be more pro-

per than others. I have used, in such cases, the warm pediluvium, tinct. castor. com. tinct. assafœtid. and opium. I have thought the diffusible stimuli not so proper in the hysteric temperament, unless, from other circumstances, I considered the patient in immediate danger, and then I have added more powerful means.

5. An obstinate vomiting is always a dangerous symptom, and sometimes difficult to control. The remedies are opium and camphor in a solid form, combined; bladders of warm water, or other warm applications to the stomach, or a blister to the stomach, and the use of warm cordials. Cold drink must be forbidden the patient, so long as the heat of the body is below the natural temperature. If the heat is above the natural temperature, the neutral mixture may be used; if below, might not the carbonic acid be exhibited in the following manner? Take creta ppt. rendered aromatic with a little pulv. semen. cardamom, or pulv. capsicum, to be swallowed first; then swallow some diluted aromatic sulphuric acid, made sufficiently warm. I do not know that such a mixture was ever given in any case of disease; but from the known chemical properties of the composition, I think it must be safe.

The arsenite of potash has had the effect of controlling this symptom;* and were it used

* See Dr. Strong's Inaugural Dissertation.

only for this purpose, and a small dose or two should be found sufficient to answer the end, no inconvenience to the system afterwards would be apprehended.

6. For the treatment of this disease, when it appears in the form of colic, I must refer to Dr. Bestor, (see chap. xvi. sec. 4.) having never seen but one case of this description; and that I had not an opportunity to treat. The mode of practice which he adopted appears to have been successful.

7. Stranguary, although not a dangerous, is sometimes a troublesome symptom. The remedies proper to remove this symptom vary according to the circumstances of the patient. When the patient is attended with preternatural heat and symptoms of re-action, emollient means and the tepid bath are proper: if, on the other hand, the patient is cold and torpid, which is almost always the case, then stimulating means, such as those made of brandy or turpentine, are suitable. The salt of amber has been recommended in similar cases as a kind of specific remedy.* Should other remedies fail, the catheter must be used.

8. Paralysis of any part may be treated with local stimulants to the part affected.

9. Pain and distress of all kinds are to be removed by the proper exhibition of opium, and by the application of blisters to the pained parts.

* See Dr. Wilson, when treating on small-pox.

10. Dr. Heberden, in his commentaries, informs us, that a blister on the nape of the neck is a kind of specific remedy for the febrile head-ach. As so much head-ach attends the spotted fever, (for the brain seems to be the part most affected) I have been in the habit of imitating this practice in every serious case of it; and it has frequently had the desired effect.

11. Cases may occur, in which the heat of the system may be raised above the natural temperature, either by the nature of the disease, or by the too liberal use of heating remedies. Cases of the first description have been noticed by Dr. Woodward; (see chap. xiii. sec. 1.) of the second description by others. (See chap. xvi. sec. 6.) In these circumstances, I know no reason why, if the directions given us by Dr. Currie, with respect to the use of the means I am about to mention, are observed, this increased heat may not be taken off by the application of cold or tepid water to the surface of the body. I have known three cases in which water was so used with benefit. Dr. Solomon Everest, a physician much acquainted with this disorder, informs me, that he has seen it useful in these circumstances. The sudden effect of the shower-bath, I apprehend, would, however, be too powerful a means to be ventured upon in a disease of so much debility. But cold drink, in such cases, would be beneficial.

Having noticed the principal means which may be used to combat this proteiform disease,

in its commencement, we will proceed to point out the remedies which may be necessary to fulfil certain indications which may arise during its progress.

In the simple uncomplicated spotted fever, the first passages are not the part on which the causes of this disease principally act; and they are probably affected only by sympathy or consent with the brain and nerves, and that sentient organ, the skin; hence, cathartic remedies, at least to any extent, are not often indicated.

12. Costiveness is, however, a frequent symptom in all stages of the disease. This may be partly owing to the nature of the disease, partly to the necessary confinement of the patient, and to the necessary means of cure.

Accumulated fæces are a cause of irritation to the system; hence, it is proper to evacuate the bowels pro re nata. The means to accomplish this end should be gentle, and their exhibition so timed as not to operate during the sinking or cold state of the patient. This latter caution is to be particularly attended to. To fulfil this indication, rheubarb, aloetic laxatives, and injections are preferred. Calomel has, in my opinion, been too much used for this, as well as other purposes. (See chap. xii. sec. 3. chap. xiii. sec. 2. chap. xvi. sec. 2. chap. xvii. sect. 2.)

13. Cases have occurred, in which were present the symptoms indicating a turgescence of blood in the lungs, such as "great difficulty of breathing, and great oppression at the breast,

exhibiting at the same time a strangulated countenance." (See chap. xv. sec. 2.) I have not seen a case of this description. Such symptoms have probably been occasioned by the too liberal use of diffusible stimulants; and they have been removed by the use of the lancet. In such circumstances venesection may be proper.

14. In cases in which aphthæ in the throat may be troublesome, the sulphuric acid, properly diluted to be used as a gargle, is preferred.

SECT. IV.

On the Treatment proper in the second Species of this Disease.

15. In this species of the disease the attack is milder. At the onset a chilly fit comes on; but this is soon succeeded by the hot-fit, and the re-action of the system is formed. As the attack is similar to that of other fevers, I at first adopted the practice ordinarily followed in such fevers, of giving an emetic in this early stage; and though I did not discover that any injury was produced by this mode of treatment, yet, as I observed the stomach was seldom disordered, I at length abandoned this practice, on account of the trouble attending it. The proper method of treating this species of the disease will be easily inferred from

what has already been said. (See sec. 2. of this chapter.)

16. Carbuncles and buboes usually denote a mild case of this disease; and, whenever they occur, they may be regarded as a favourable sign. They rarely need any applications, and in no case can they require any but very mild ones.

17. In those anomalous cases, in which a regular paroxysm and intermission of symptoms take place, (see chap. ii. sec. 5.) the rules of treating intermitting fever may be partially applied. Perhaps arsenic, if bark should fail, may, in these cases, be used with safety and advantage.

18. The proper treatment, with regard to the other varieties of anomalous cases, (see chap. ii. sec. 5.) will easily be known from considering the nature of this disorder.

SECT. V.

On the Treatment in complicated Cases of this Disease.

19. This disease has been complicated with local inflammation, which has most frequently appeared in the form of acute rheumatism, erysipelas, aphthæ, &c. I have known one complicated case, in which an inflammation of the tibia occurred. This ended in an extensive carious ulcer, which ultimately terminated the

life of the patient. In these complicated cases, calomel has been used with benefit, and may doubtless often be administered with propriety. Blisters and local blood-letting are useful, and even general blood-letting has, it is said, in these circumstances, been attended with advantage. (See chap. xiii. sec. 2.)

20. This disease has been complicated with bilious symptoms. (See chap. xvi. sec. 3.) In such cases emetics and cathartics are indicated.

One physician has informed me that he had been very successful in such cases. His patients have been children, in which the disease followed the chincough. His practice has been to give, at the onset of the disease, a large dose of calomel, at the same time applying external heat to the feet and legs, by means of the warm pediluvium and warm cataplasms. This produces, at first, a sweat, and afterwards moves the bowels, and gives relief to the patient. Many of these patients have been comatose and delirious. Patients of this description, if neglected, have died comatose, within twelve or twenty-four hours. In such cases there may be propriety in using calomel, to answer the double purpose of a general stimulant and cathartic.

21. I do not know that this disease has been observed to be complicated with worms. Should cases of this description, however, occur, anthelmintics may be necessary.

22. If this epidemic continues to prevail, it, no doubt, will complicate itself with other dis-

GENERAL INDICATION.

On the regimen proper in this fever; the means are, rest of body and mind; avoiding fear; fresh air; liquid nutricious diet; agreeable cordial drinks.

On the means necessary to keep up the strength of the patient; these are, bark and bitters; fermented liquors, such as wine; sulphuric acid.

On the means necessary to obviate certain symptoms and circumstances which have a tendency to cause death, or otherwise to injure the system; these are in the

1st. Comatose, or sinking, or torpid state.	External heat; diffusible stimulants liberally, such as wine, opium, blisters, æther, peppermint, brandy, &c.
2. Cholera Morbus state.	Injections of yeast and tinct. opii; ablution of the surface; solution of carbonate of soda and essence of peppermint; port wine and water, &c.
3. Delirium, or maniacal state.	External heat, particularly to the feet and legs; opium, camphor, wine, ardent spirit, &c. Confinement; a blister to the nape of the neck.
4. In the hysteric form.	Warm pediluvium; tinct. castor. com.—tinct. assafœtid. opium, &c.
5. In the vomiting state.	Opium and camphor in a solid form, combined; bladders of warm water to the stomach; warm cordials; or, if the patient is hot, the neutral mixture.
6. Cholic form.	A blister, and fomentations to the bowels; injections of yeast and brandy, and purging injections, &c.
7. In stranguary.	If the patient is hot, a tepid bath; emollient enemas; if cold, stimulating enemas, such as those made of brandy or turpentine; salt of amber, or the catheter.
8. Paralysis of any part.	Local stimulants, as blisters, opodeldoc.
9. Pain and distress of all kinds.	Opium; and blisters to the pained parts.
10. Head-ache.	A blister to the nape of the neck.
11. Heat above the natural standard.	Cold and tepid ablution; cold drink.
12. Costiveness	Rhubarb; aloetics; and injections.
13. Turgescence of blood in the lungs.	Venesection.
14. Aphthæ.	Gargles of sulphuric acid.
15. Second species.	General indication to be fulfilled.
16. Carbuncles and buboes.	These are salutary; very little to be done.
17. Intermitting anomalous cases.	Bark; arsenic.
18. Anomalous cases unconnected with fever.	General tonic plan of treatment.
19. Cases complicated with inflammation.	Calomel; local blood-letting; general blood-letting has been used.
20. Bilious cases.	Emetics; cathartics; calomel.
21. Cases complicated with worms.	Anthelmintics.
22. Other complicated cases.	The treatment to be learnt from considering the nature of the disorder with which it is complicated.

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cases, the proper treatment, in such cases, must be learned by considering the nature of this disease, and the nature of the complaint, with which it may be complicated.

It may be useful to subjoin to this chapter a synopsis, by which, at one glance, all the varieties of this epidemic may be seen. It will be perceived that the figures 1, 2, 3, &c. refer to correspondent numbers which mark the several divisions of the chapter in which the various modes of treatment are more particularly detailed. (See annexed table.)

CHAP. VIII.

Of Submurias Hydrargyri.

DR. Trotter, who has witnessed the effects of mercury in fifty thousand cases of the venereal disease which he has attended, gives us the following evidence of its pernicious effects on the constitution. He observes, " Mercury is the most dangerous of all frequent purges; it sooner exhausts the irritability and vital power of the intestines than any other metallic oxide, except arsenic. It never fails, in the end, to add to the disease: it is peculiarly contra-indicated in the nervous temperament," &c. Again: " Some persons have an opinion, that mercury acts immediately on bilious affection, independent of evacuation; but this is fanciful. A purge, in which calomel is combined with a cathartic, as it excites the duodenum in its passage, it also urges into action the different ducts which open into it; and the last evacuations of a mercurial purge are commonly bilious. This increased action may, by sympathy, go farther; the *pori biliari* may feel it, and perhaps the whole viscus. Thus the liver may be purged and excited to healthful action. But what one dose or two may effect, a third and a fourth may destroy; and, by knowing the constitution of the patient, we shall know when to stop," &c. Again: " The hepatitis of the

East-Indies has been long considered a serious disease, and often fatal; and as it has seldom yielded to a mild treatment, the exhibition of mercury is justified. But it cannot be denied, although this medicine is chiefly to be depended on, that even in India it has done infinite harm to the constitution. I, therefore, embrace the opportunity of quoting the following passage from the Edinburgh Medical and Surgical Journal, No. viii. p. 503. It is given without the writer's name, but the cautions which it inculcates are of such great value in practice, that even anonymous authority renders it respectable.

"Extract of a letter from a surgeon on the Madras establishment, dated the 22d October, 1805.—'My last letter from —— gave me sad accounts of his health. He is suffering much from excessive use of mercury; and has had, he says, *spasms of the diaphragm, and excruciating pains in his skin, bones, and head.* It may be news to you, that mercury in this country, when given in too large quantity, causes sufferings more dreadful than the disease for which it is a *specific;* and experienced surgeons are cautious never to exceed in its employment. You ask me if the erythema mercuriale* is frequent with us. Very lately a brother surgeon here had a case of it in his hospital, which terminated fatally; and, with

* For a more particular account of this affection the student is referred to Dr. Coxe's Dispensatory, p. 368.

the natives, who never can be made to clothe themselves sufficiently, or almost at all, when under the use and influence of mercury, this disease occurs frequently, and often proves destructive.' If such are the effects of mercury in robust constitutions, and in a climate peculiarly favourable to its administration, what severities are we not to expect in weak nervous bowels, and in a condition of atmosphere, that, in despite of every precaution, so often throws its activity on the first passages? It is to be hoped the advice given in this extract will not be lost on physicians and surgeons in England, who are so apt to resolve every pathological difficulty into a liver complaint, and pour in mercury *ad infinitum*.

" Mercury, as a cathartic, acts best in conjunction with jalap: a pill containing three grains of the latter to one sixth of a grain of the former, purges moderately in a hale state of body. I may be told, in contradiction to this, that a *dram* of calomel has been given to a child, and *half an ounce* to an adult, in a few days, without any bad effect. But because these patients were not destroyed, is the heedless administration of so active a medicine to be justified by such proofs? I have seen persons survive large doses of *corrosive sublimate*, *mercury and arsenic;* yet no judicious physician will compare these recoveries with the limited doses of either article, adapted to the nature of the temperament and diseased state of his patient." Again: " Mercury exhibited in quan-

tity, either by the mouth or by friction, very quickly excites an artificial fever, ushered in by chills, shivering, and a hot stage. The pulse becomes frequent; at first full, but latterly weaker and quicker: want of appetite, nausea, often vomiting, commence; restlessness and night sweats supervene; the body bears the cold air ill; head-ache; fœtid breath; the bowels are commonly oppressed with flatulence, severe twiches, purging, tenesmus, and even bloody stools: to these symptoms debility and emaciation succeed; the tongue, mouth, and throat inflame, swell, grow painful, and ulcerate, and the saliva is poured forth in a continued stream," &c. Again: "The constitutions of children, in point of debility and irritability, approach to the female habit of body; the nervous power is liable to irregular motions, easily affected by stimuli, and prone to convulsions. Hence mercury is apt to have dangerous effects upon them," &c. Again: "On the whole, while mercury is capable of great good in the hands of the sagacious physician, when indiscriminately used by the ignorant of the profession, it must do incalculable mischief."*

Mr. Benjamin Bell, in his treatise on the venereal disease, says, "it is not an uncommon effect of mercury to excite an eruption upon the surface of the body. In some this appears

* See Dr. Thomas Trotter's View of the Nervous Temperament, &c. from p. 111 to 129. Troy (New-York) edition.

as a miliary rash, somewhat resembling measles; while in others it is considerably elevated, and seems to be produced by a serous effusion between the cutis and scarf-skin. In some the eruption is partial, being confined to particular spots, while in others it prevails generally over the whole body,"* &c.

I think the sentiments expressed in the preceding quotations calculated to have a salutary operation upon the minds of those who are in the habit of dealing out calomel too liberally, not only in the spotted fever, but in other diseases.

Mercury has been much recommended as a remedy in the fevers of sultry climates. These are often accompanied with some local affection, frequently of the liver. In such cases it is, no doubt, a necessary remedy. It has also been used in angina maligna by Dr. Ogden; and I have no doubt but he found it useful. That disease is attended with local typhoid inflammation: hence mercury may have been necessary, especially in its worst form. But even he, I believe, used it oftener than necessity required; for those milder cases, attended "*with eruptions commonly called a rash*," did not probably require such a Herculean remedy.†

* May not the use of calomel have rendered eruptive cases of spotted fever more frequent than they otherwise would have been? I think cases of this description have occurred oftener in the practice of those who have frequently used calomel than in that of others who have seldom employed it.

† See Dr. Jacob Ogden's method of treating the malignant sore throat distemper in the year 1769, in the fifth volume of Mitchill and Miller's New-York Medical Repository, p. 97, published by T. & J. Swords.

From what has now been said, if recourse is had to the different authorities to which I have referred, the circumstances in which calomel may be necessary to the cure of this epidemic may easily be learned.

In answer to those who may think I have limited the use of calomel too much in this complaint, and who may produce the success of Dr. Fisk and others as evidence of the superiority of their method of treatment, it may be observed, that others have been equally successful without the general use of this medicine. I have myself treated not less than two hundred patients with this disease: of these I have lost two. I have never given calomel except to three of the whole number.

In making an estimate of the relative success of different physicians in the treatment of this epidemic, it is particularly important to take into consideration many circumstances which contribute to vary the power of the disease, as the season of the year in which it prevails, &c. for it is generally more malignant in the winter season than in the summer.

CHAP. IX.

Of Torpor and Debility.

IT would be very convenient if the medical term *debility*, instead of its indefinite use, had a precise and accurate meaning attached to it. For the purpose of conveying with more precision my ideas of the state of the system of the patient in spotted fever, I have chosen to attempt the following distinction between the words *torpor* and *debility*. Suppose a person to be weakened by loss of blood, to such a degree as to be unable to turn himself in bed, he may be said to be merely debilitated; and will, in sufficient length of time, recruit his strength by rest and nutritious food. Another person may be reduced equally low by famine; and he, likewise, will gradually regain his strength by a proper use of food. So likewise all persons who, for a length of time, labour under any serious disease, are reduced to a low and feeble state of body. Patients weakened by any of these causes are in that state of the system which may, with propriety, be designated by the medical term *debility*. The motions of the body, in such cases, are performed with their accustomed, or even, in many cases, quickened velocity, but with weakened energy or force. Stimuli have their usual, or more than their usual effects. That such debility is

induced in the spotted fever I have no doubt; but this term by no means expresses the whole state of the system, which is sometimes induced in this disease. Torpor is a term which has been sometimes used as applicable to diseases. This term may be defined a want of power, generally, if not always, accompanied with a want of disposition in the system to motion. This state of the system may be induced, not only in diseases of the sthenic and asthenic form, but also in health, as in sleep.

A person in an apoplexy, from a blow on the head, is instantly rendered torpid. Another is rendered torpid by intoxication from ardent spirit or opium.* These states of the system are very different from that in which mere debility is induced. The remedies to remove such torpor, viz. venesection, or the trephine, are very different from those necessary to remove that state of the system, which I would call *debility*. To remove debility, or to restore strength, requires considerable length of time. Torpor is suddenly reduced, and may be soon removed; for instance, excessive fear or terror may unnerve the man in an instant of time; a violent tremor of his whole frame, and universal torpor, even unto death, may be pro-

* I am aware that this state of the system has been called the state of indirect debility, in support of a certain theory; and that in case a person is rendered torpid by too large a dose of poison, as opium, the cure consists in giving more poison. Who would think, when he found a man torpid from having swallowed a quart of rum, of giving him another quart to cure him? Nobody, I presume, except a Brunonian physician.

duced. But in this case we have a remedy equally quick in its effects: remove the cause of the fear, and the patient is suddenly cured.

The causes which operate to produce the torpid state in the spotted fever, (see chap. v.) I apprehend to be, the sudden escape of the caloric of the system, fear, too much fatigue, excessive evacuations. The remedies have already been pointed out. But, as in the example given, it is necessary to remove the cause of the fear before the torpor is suffered to go beyond a certain length, or the cure will not be effected; so in the spotted fever the necessary means must be applied in due season, or the life of the patient is lost! If it should not be thought too theoretical, I would observe, that I have thought local torpor is sometimes induced; as torpor of a limb, producing numbness, or even paralysis; torpor of the cutis, producing petechiæ; torpor of the heart, producing syncope; torpor of the brain, producing coma; or universal torpor, producing death.

If the preceding observations are correct, it will easily be perceived how necessary a watchful attention is in the first stage of this disease, when torpor is most apt to be induced. I have long been of opinion, that were it possible to diffuse the requisite information, and to excite a sufficiently watchful attention among mankind, this disease might be almost entirely disarmed of its malignity; for I am scarcely acquainted with any serious disease which appears to be

more under the control of the medical art, when all the circumstances and symptoms which have a tendency to produce death are properly discriminated, and when it is attacked with appropriate remedies *seasonably applied.*

CHAP. X.

Of the Quantity of Stimulants to be used.

IT will be perceived, by attending to the history of a number of the cases which are recorded in this work, and to the essays in the Appendix, to which the reader is referred, that the quantities of stimulants which have been sometimes given are enormous. To enable my readers the better to decide how far, in certain circumstances, such practice ought to be imitated, the following quotations and observations are made. Dr. Wilson, speaking of the use of wine in typhus fever, says, " Dr. Cullen is among the first who recommended it in large quantities; and to compensate for the harm which the Brunonian system has probably done, it has been a principal means of extending the use of this valuable medicine." He goes on to observe, " I have no where met with better observations on the use of wine in typhus than in Dr. Moore's Medical Sketches; and I quote his observations in preference to those of any sys-

tematic writer, because he is not attached to any hypothesis, and merely relates, with accuracy, what fell under his own observation. His remarks, however, are not here given as the result of his own observation alone, but, I may say, of the medical faculty of Great-Britian for the last fifteen or twenty years; for during that period there is no British practitioner of eminence whose observations, as far as they are known to the public, do not tend to confirm those I am about to quote." In this place Dr. Wilson has a note, in which he says, "I allude chiefly to the lectures of professors in the different medical schools, and to the observations of many of the best practitioners which have occasionally appeared in the various periodic works established in Great-Britain." He goes on to state, "It will appear, from the remarks which it will be necessary to make on what Dr. Moore says, that even he, in certain circumstances, did not employ wine with the freedom which repeated observation has now ascertained to be proper."

Of the medicines employed for the diminution of excitement, it may be observed, that they are to be had recourse to only when they are absolutely necessary; of those which increase excitement, that they are to be employed whenever they are not absolutely hurtful. The former are often attended with the worst consequences, even where necessity obliges us to have recourse to them; the latter are often beneficial when they are not necessary. There is

no remedy to which the last remark is more applicable than wine.

When the pulse is soft and frequent, when the patient complains of weakness, and feels a desire for something to support his strength, although these symptoms do not go so far as to indicate danger, the exhibition of wine is proper.

The quantity must be proportioned to the urgency of the symptoms and the habits of the patient, but always sufficient to remove this sense of debility. Dr. Moore erred in not having recourse to the wine till the more alarming symptoms showed themselves.

" When that prostration of strength so often mentioned has taken place, and is followed by stupor, low delirium, twitching of the tendons, and other symptoms, however proper we may think the bark would be, and however eager we are to give it, this is no longer in our power. In this state the patient generally rejects it in all its forms, or will only take it in such small quantity as can be of no service. Yet the case is not entirely hopeless; for, even in this situation, if the lips are moistened with a little warm wine, sweetened with sugar, he will show a relish for it; and, when given in spoonfuls, will suck it into his mouth with signs of satisfaction, after rejecting every medicine with disgust, and refusing every other kind of nourishment whatever.

" In one particular case of this nature, which I well remember, after a certain quantity of wine, perhaps near a pint, had been given in

the space of an hour, I perceived the patient's pulse acquire strength and become slower, while the insensibility seemed to wear gradually away; but the relations, taking alarm at this quantity of wine, notwithstanding these flattering appearances, withheld it, and offered the patient some other kind of drink, which, in their opinion, was more suitable to his case, notwithstanding his again and again rejecting every thing they offered. It was not till after they plainly perceived the pulse to sink, and delirium to return, that they could be prevailed on to give more wine, which, on my returning to visit the patient, I persuaded them to do, and with the same success as before.

"I have known instances also where the physician, not being convinced that the filling of the pulse and the removal of delirium was owing to the wine, has set aside the use of it in the same manner, till the return of the bad symptoms obliged him to resume it, not without remorse for having made an experiment which had like to have proved fatal to the patient.

"It is generally necessary in such cases to begin by giving the wine warm, with sugar, to induce the patient to take three or four spoonfuls, but afterwards he takes it freely cold, and without sugar. The reader might be astonished were I to mention the quantity of wine I have known some patients take in this fever, and in some cases of the confluent small-pox, where the weakness, insensibility, and other symp-

toms were the same, and where the recovery of the patient was evidently owing to that cordial alone.

Dr. Wilson in this place informs us in a note, that "Dr. Smith sometimes allowed his patients two bottles of Madeira in the day; and, in one instance, the patient took two bottles of port in little more than half that time." He then goes on with the continuation of the quotation from Dr. Moore, in which we are informed, that "the proper rule is to give the wine till the pulse fills, the delirium abates, and a greater degree of warmth returns to the extremities. Upon the smallest appearance of stupor coming back, the pulse quickening and sinking, for they all go together, the wine must be resumed. Attentively observing this rule, I have often known patients who, in health, were not fond of wine, and who would have been intoxicated with a single bottle, drink in the space of twenty-four hours, two bottles of claret,* without any other effect than that of strengthening the pulse, abating the delirium, removing the tremor, and creating a moderate warmth on the skin. In others I have known a much greater quantity necessary to produce

* "More than twice this quantity of claret," says Dr. Wilson, in a note, "has been taken in twenty-four hours in the more alarming forms of typhus, by people unaccustomed to the use of wine, with the best effects, and without the least symptom of intoxication; so insensible is the system in a state of atony to the most powerful stimuli which tend to correct the atony; whereas, by a moderate application of many of the natural agents, which acting now as atonics, increase the morbid state, life itself may be extinguished."

the same effect, but by giving that greater quantity the same effect was produced. As I am told that this part of my work, and many others, will be exposed to censure, I refrain from mentioning the exact quantity of wine which I have known some patients to take, with the best effects, in this fever. It is sufficient to say, that it ought to be given in such quantity as the patient will willingly take, till the effects above mentioned are produced, and then stopped." The wine ought never to be stopped till the patient is restored to health. But as the more alarming symptoms abate, the quantity should be gradually diminished. A smaller quantity will be required to prevent the return of these symptoms than to remove them. There are few observations relating to the treatment of typhus which deserve more attention than the following of Sir John Pringle. "Perhaps there is no rule more necessary than never to let the patient, when low, remain long without taking something cordial or nourishing; as I have seen men, once in a promising condition, sunk past recovery, by being allowed to pass a whole night without any support about the time of the crisis."

"But, on the first appearance of the pulse becoming weaker," Dr. Moore continues, "or any other symptoms returning, we must again have recourse to the wine, persevering in that quantity which is found, by attentive observation, sufficient to keep up the pulse, and ward off the other bad symptoms. When that quan-

tity has been continued for several days, it may be gradually diminished; a little bread soaked in the wine, or some other simple nourishment may be offered." Wine should always be conjoined with some farinaceous matter, when the stomach will bear it, by which the nourishment afforded is increased, and, as appears from a variety of facts relating to digestion, the wine itself is better assimilated. In extreme cases, however, where the digestive powers are almost wholly suspended, the farinaceous matter must be omitted, as it will then only occasion oppression, and may produce a disgust for the wine. As soon, however, as a remission of the symptoms is produced, sago, panada, or some other farinaceous matter should be mixed with it. "After the patient is able to take panada, mixed with wine, or bread soaked in it, with any degree of relish, the appetite sometimes becomes very keen, and he is even willing to take more panada, rice, or sago, mixed with wine, than is proper for him. This return of appetite is undoubtedly one of the strongest indications of returning health; but it must be indulged with caution; the patient must be allowed to eat but little at a time, even of this kind of nourishment, and to return very gradually to his usual food.

"Soon after the fever is entirely removed, and long before the patient has recovered his strength, he will, by proper management, be entirely weaned from the wine; or his allowance may be reduced to two or three glasses in

a day, if the physician should think that quantity more proper than none." This part of Dr. Moore's observations is also exceptionable. We should not discontinue the wine when the febrile symptoms are removed, but when the patient is restored to health. Wine is not only the most powerful means of correcting the atony, but the best article of diet for removing the debility which succeeds it. After the removal of the fever, indeed, the quantity must be greatly diminished; it must never be sufficient to produce the least symptom of intoxication; a few glasses in the day will generally be found sufficient. "Indeed, the third part of what formerly had proved a salutary cordial, and a restorative, would, in this state of convalescence, occasion a dangerous state of intoxication. So great a difference is there in the effect of this cordial upon the constitution in this state of extreme weakness, when all the natural functions seem loaded and clogged by disease, from what it has in perfect health, or when the fever being just removed, the animal functions gradually resume their former course. Claret is the wine I have generally recommended when the circumstances of the patient would afford it. I have seen the same good effects, however, from the use of port, Madeira, and other wines. And when no kind of wine is to be had, brandy or rum, diluted with water or milk, and sweetened with sugar, must be substituted in its place.

"In the state of stupor, debility, and low

delirium already described, spirits diluted have nearly the same effect as wine, and are even more relished by a certain class of patients."

"We should never have recourse to distilled spirits, except when wine cannot be procured. Many practitioners fall into a serious error, who believe, that, provided the same quantity of alcohol is exhibited in typhus, it is of little consequence in what form it is given."*

From all this it may be inferred, that the following quantities of stimulants, in extraordinary circumstances, have been given, and, it is said, with benefit, viz.

Dr. Moore has given two bottles of claret wine in twenty-four hours.

Others, four bottles in the same time.

Dr. Smith, two bottles of Madeira in a day; and, in one instance, two bottles of port in little more than half that time.

In the spotted fever Dr. Bestor has given two quarts of brandy and one quart of wine in twenty-four hours, besides twenty drops tinct. opii. once in two hours. (See a case in chap. xvi. sec. 6.)

Drs. Haskell, Spooner, and Holmes gave to a girl twenty years old one quart of brandy, with twenty grains of good Turkey opium, in twelve hours, besides external stimulants. (See chap. xv. sec. 2.)

Dr. Strong has given one quart of brandy in

* See Wilson on Febrile Diseases, vol. i. first American edition, from p. 267 to 271.

eight hours, besides one and a half grain of opium every two hours. (See case ii.)

Dr. Lyman has given, in seven hours, (viz. from 5 o'clock A. M. to 12 o'clock at noon) to one patient, the following quantities of stimulants, viz.

Tinct. opii.	ggt. 100.
—— cort. comp.	℥ i.
Essen. minth. pip.	℥ 5.
Gum. camphor.	℥ ss.
Brandy	℥ ij.

Wine, one pint and a half.

Besides these, external stimulants, such as tinct. camphor. and spt. C. C. vol. were applied to the nose and temples. External heat, by means of blocks, ppt. &c. was also assiduously used during the same period.

At 12 o'clock at noon I saw this patient, as consulting physician, and found him relieved from a most deplorable state of torpor, and was satisfied that stimulants had not been used too liberally.

As counter-evidence to what has now been exhibited, the following quotations are introduced. Dr. Wilson, however strange it may appear, again states his last opinion on the subject, in the following words:*

"To the state of increased excitement, whatever be the mode of treatment, or nature of the fever, if it last above a day or two, always sue-

* See his work on Febrile Diseases, vol. ii. p. 585, Hartford edition. Also note 63 in his Appendix.

ceeds that of debility. The action of the heart and larger vessels now falls below, as in the first stage of fever it rises above the healthy degree. If we cannot sufficiently excite them, the debility of the circumference increasing with that of the central parts of the vital system, the powers of life are at length lost in the former, and death gradually extends to the centre.

" This part of the treatment of fever seems at present the most defective; no writer, as far as I know, having laid down any rules by which the treatment of what may be called the second stage of fever, can be confidently regulated.

" The feeble state of the circulation, and the temporary good effects of powerful stimuli have led most physicians, and particularly those of later times, to employ them with great freedom. Many, however, confess that they have been disappointed in their effects; of this number I can feel no hesitation in declaring myself to be one. I have found the second stage of fever most tractable when all powerful stimuli were avoided.

" It is true, indeed, that large quantities of opium or wine will often give a degree of vigour, increasing the strength and lessening the frequency of the pulse. But these effects are transitory. It is soon necessary to repeat the remedy, and at length to increase its power, in order to procure the same effects; and this transitory vigour seems frequently obtained at the expense of exhausting the strength, which,

had it been more carefully husbanded, might have carried the patient through his disease.

" Were I to state the result of my own experience in the second stage of fever, it would be, that opium is only useful when small doses allay irritation, and procure composure, if not sleep; and that wine is rarely beneficial, if given in larger quantity than might be taken in health without subsequent debility, and can seldom, perhaps, be given without injury, even to this extent.

" Whether there are states of fever in which large doses of these stimuli may be of advantage, it is difficult to say. In extreme debility, when the patient is almost in *articulo mortis*, a strong stimulus may sometimes, perhaps, by rousing the languid system, be the means of preserving life. I have frequently seen the experiment made with temporary, never with permanent good effects."

The Doctor continues to observe, in a note, that when we see a patient labouring under symptoms of extreme debility, and find these symptoms almost uniformly relieved by a considerable quantity of wine, it is difficult, at first view, to persuade ourselves that the wine is pernicious; but an attentive observer will look beyond its immediate effects, and will then readily see sufficient reason to doubt the safety of this practice. He will find, that the temporary excitement he thus procured is succeeded by a greater degree of debility than that which the stimulus had removed, and if he perseveres in this plan,

that, in a large proportion of cases, the pulse, upon the whole, will gradually become more frequent and feeble, till it ceases altogether. These effects I have so often witnessed, that I cannot help thinking that almost any fever may be rendered fatal by a certain quantity of wine. And when we recollect that the excessive stimulus of wine is a frequent cause of fever, can we be surprised that the constant repetition of this stimulus should increase its symptoms?

Beside the apparent good effects of wine for a short time after its exhibition, physicians have been led to an excessive use of it in typhus by another observation, the comparatively small effects it produces. That a pint of wine in typhus will not produce a greater effect than a glass in health, is adduced as an argument for the pint in the one case being as innocent as the glass in the other. But it is to be recollected, that wine, in typhus, only produces less excitement than in health, in proportion as the remaining excitability is less, and, consequently, that a degree of excitement which would occasion little or no inconvenience in health, may produce a fatal exhaustion in typhus. Here there is no excitability to spare, and the first principle of the treatment seems to be as much as possible to prevent its farther exhaustion. A very moderate and uniform exhibition of stimuli seems often necessary, that the action of the central parts of the sanguiferous system may not fall too low to support that of

the circumference; but all excitement beyond this seems to have no other effect but that of exhausting the little vigour which yet remains. See the observations of Dr. James Hamilton on the Use of Wine in Typhus, in his work on Purgative Medicines.

There is a case which, at first view, may be mistaken for the second stage of fever, in which I have witnessed excellent effects from powerful stimuli; that in which spontaneous gangrene appears in one or more parts, from the failure of the vital principle in particular parts of the capillary system.

But here the various secreting organs do their office, and the action of the heart and larger vessels often differs little from that of health. In short, there is no general debility of the vital system, and there seems not the same risk in exciting it to increased action, in order either to restore to vigour, or entirely to throw off the debilitated part.

Dr. James Hamilton, on the use of wine in typhus, in his work on Purgative Medicines, says, "I cannot, however, omit remarking, that, for some years past, I find wine less necessary in fever than I formerly thought it was. This may be owing to the fever which has prevailed of late being less malignant than it was some years ago; or to the effect of the purgative medicines which I have employed, and which may obviate symptoms of debility, as well as remove them.

If this be a just view of the case, the plain inference is, that the employment of purgative medicines, to preserve a regular state of the belly, does not increase the debilitating effects of fever. This doctrine, I know, is contrary to the opinion generally received; but I am confident that it is consonant to the fact.

For a purpose which will presently appear, I select the following passage from Dr. Hamilton: "The peculiarly healthy, airy, and dry site of Edinburgh; the general cleanliness and comfort which the inhabitants enjoy since the extension of the royalty, and the erection of the houses in the new town, will account for the rare appearance of cynanche maligna among us, and for my good fortune in having witnessed few instances of it."

Drs. Huxham, Pringle, and others, used wine more sparingly than the followers of Drs. Cullen and Brown; Dr. Hamilton and his followers would use it perhaps more sparingly still. How is all this contradictory testimony to be reconciled? All agree in the necessity of using some stimulants in typhus. The question seems to be to ascertain the requisite quantities.

Much of this disagreement probably originates from this circumstance; that fevers, in different places, in different seasons, and in different circumstances, appear in various shapes, requiring various treatment. Physicians are prone to be tenacious of their own opinions, founded on their own personal observations; and wish to extend these to distant places and

times, where the same observations, in all the circumstances, may not hold true.*

Another circumstance perhaps may have contributed to increase the difficulty in settling this dispute, viz. physicians have not always distinguished properly between *torpor* and *debility* in fever.† Where debility only prevails, a small quantity of wine and other stimulants may be best, until the fever has run through its course, when food and light tonics will be sufficient to restore the patient's strength.‡

But if torpor is superinduced upon this debility, either from the nature of the fever, or

* In illustration of this opinion, it may be observed, that Dr. Wilson and Dr. Hamilton have seen typhus in "the peculiarly healthy, airy, and dry site of Edinburgh;" and the suspicions of Dr Hamilton may be true, that the "fever which has prevailed of late may have been less malignant than it was some years ago." Hence less wine may have been necessary. Those physicians who have witnessed a typhus fever in the form of our epidemic can never be brought to assent to the doctrine of Dr. Hamilton with respect to the use of wine, &c.

† Dr. Moore seems to have been more sensible of those different states of the system, which I have designated by the terms *torpor* and *debility*, than Dr. Wilson, as appears from the quotations which have been made. For it appears that he used wine only when the patient was in a low state, and discontinued its use when relief was obtained from this state.

‡ An account of the mode in which I have treated the common typhus fever may be seen in an essay published in the Philadelphia Medical Museum. But I have found some cases of typhus fever, since that account was published, in which I have thought more wine was indicated.

I am disposed to embrace this opportunity to request the readers of that work to correct the following errata in the printed account of a recipe, which was there given, for making Mr. Jenkinson's pills.

Instead of page 43 read page 48. The recipe ought to read thus:

℞. pulv. gum. myrrh.		ʒ ij.
	Sal tart.	ʒ j.
	Sal mart.	ʒ ss.
	Gum. camphor.	gr. xvi. &c.

from bad treatment, more wine and other stimulants are unquestionably requisite.

In the epidemic of which I am treating this torpor is often produced; and, when produced, ought to be attacked with decided remedies.

But it is not to be denied, that the use of stimulating, as well as evacuating remedies, has been abused in the treatment of our epidemic. The proper distinctions and requisite rules for the use of these have not always been known, and if known, it would not always be possible for mere man, on every occasion, to judge correctly; but the abuse of stimulants is attended with less danger than the abuse of evacuations.

This torpor is not peculiar to our epidemic. I have seen it produced in common typhus; and although I use, perhaps, less wine than many physicians do, in its usual course, yet, in case of torpor, I have seen the most decided benefit and permanent advantage from the thorough use of wine and other stimulants. It may be useful to observe, that those patients had been treated by others, and had taken no stimulants, or only in small quantities, previously to my finding them in such deplorable circumstances: hence, wine might have had more effect than it would have had if the patients had used it freely; and perhaps they would not have fallen into this situation under a different treatment.

APPENDIX.

CHAP. XI.

The History of a singular and very mortal Disease, which lately made its appearance in Medfield—Symptoms of the Disorder—Its Progress and Termination—Appearances on Dissection—The different Methods of Treatment, and what eventually proved successful: Communicated by Drs. L. DANIELSON *and* E. MANN, *attendant Physicians on the Sick.**

DR. ADAMS,

IN conformity to the demand which society has on the united exertions of all to ameliorate the condition and alleviate the distresses of humanity, the undersigned think proper to submit the following history of facts, relating to the disease which lately made its appearance in Medfield, with the *methodus medendi* (method

* This account is taken from the Medical and Agricultural Register, published in Boston.

of treatment) proceeded on in each case; giving in detail the consequences which followed, and leaving it with the speculative inquirer to draw his own conclusions relative to the nature and origin of the disorder. The similarity of symptoms in nine cases which proved fatal, all between the 8th and 31st of March, has been so great, as to render a particular detail of each unnecessary; we shall, therefore, give only a concise history of the mode of attack, and progress of the symptoms generally.

Without any apparent predisposition, the patient is suddenly taken with violent pain in the head and stomach, succeeded by cold chills, and followed by nausea and puking; matter discharged from the stomach of no unusual or morbid appearance; respiration short and laborious; tongue a little white toward the root, and moist; velocity of the blood increased, with a very sensible diminution of momentum in the radial, while in the carotid arteries it was much augmented; and in a child of 15 months old, a very violent pulsation was discovered at the fontanel (opening of the head); the eyes have a wild vacant stare, without much, if any appearance of inflammation; the heat of the skin soon becomes much increased, yet the skin is not remarkably dry: these symptoms are accompanied by a peculiar fearfulness, as if in danger of falling from the bed or nurse's arms, and continue from six to nine hours, when coma (suppression of sense and voluntary motion) commences, with increasing debility; ex-

tremities become cold; livid spots, resembling petechiæ (purple spots, which appear in the last stages of certain fevers) appear under the skin, on the face, neck, and extremities; pulse small, irregular, and unequal; spasms occur at intervals, which increase in violence and frequency in proportion as the force of the circulation decreases: at this time the eyes appear glassy, and the size of the pupil varies suddenly, from almost wholly obliterating the iris, down to the size of a millet seed, and then again as suddenly dilating. These symptoms seem to mark the second period of the disease, and continue from three to five hours. The third and last stage is distinguished by a total loss of pulsation at the wrists; livid appearances become more general; spasms more violent; coma more profound; death! The patient has, in general, continued in the last stage from six to twelve hours.

In the treatment different methods were used. At first it was thought advisable to evacuate the stomach and bowels, and to exhibit bark and wine as speedily and freely as possible. This mode was followed in the three first cases that received medical advice,* in all which it was found ineffectual; the patients seemed invariably to sink faster after each evacuation, and the stimulating powers of the bark and wine were found to be either too feeble or too slow in action to produce any good effect.

* The first subject was in the pangs of death when first seen.

Case 5.—In this case the attack was more gradual, and the symptoms more mild than any which preceded or followed it. Convinced not only of the inefficacy, but of the absolute injury of evacuations in those cases which had gone before, it was determined to lose no time in exhibiting evacuants, but to commence the stimulating process immediately: accordingly, the child (aged 3 years) was directed to get cal. 3 grs. gum opii. ½ gr. mixed, once every three hours; bark and wine in as large quantities as the stomach would bear. This method was followed for several days, until she had taken a hundred grains of calomel. Notwithstanding the liberality with which the medicine was introduced, the mouth was not affected, nor any purging produced. The extremities were blistered largely; and the child was frequently immersed in a warm decoction of white oak bark for ten or fifteen minutes. The length of time which this child continued gave us some hope of recovery, as her life was prolonged eleven days from the attack, when she failed in the same manner as the others had done. Whether it was owing to the mildness of the attack, the peculiarity of constitution, or the herculean treatment employed in this case which prolonged her existence, we cannot determine; this, however, is certain, that the 6th case, a child of two years old, of a robust and healthy constitution, failed in twenty-six hours, under the same mode of treatment.

In the 7th case, affusion of cold water was

added to the above treatment, with a like want of success, as the child lived only twenty-seven hours from the accession of the disease. In the two following it was thought advisable to assist the natural efforts to puke with an infusion of camomile flowers, and to discharge the contents of the rectum by a clyster; after which turp. min. æth. ammon. musk, blistering the whole head, embrocating the extremities with spt. terebinth. spt. sal am. tinc. canthar. mixed, were tried, and found alike unavailing.

In the last case, a child of 15 months old, on account of the *very violent pulsation* discovered at the fontanel, about an ounce of blood was taken from the jugular vein: the effect was unfortunate; the child seemed to fail faster, even from this small depletion, and died within twelve hours from the attack.

This last mentioned case closed the fatal scene, yet did not lessen our fears, and gave strength to the alarm which had fastened on all, and which had gained such complete ascendency over every prospect of success, that it would be impossible to describe the impressions made on the minds of tender parents and affectionate friends for the safety of their children and connections.

Two days after this last fatal case, we were called to visit a female child, aged three years and four months; which case was so distinctly marked, that scarcely a ray of hope existed that the issue would be favourable; and all who had

witnessed the effects of this terrific malady, viewed this child, as it were, in the article of death; her symptoms being almost as violent as any, and more so than some of the preceding cases. As the means which we had hitherto used had uniformly failed us, we thought ourselves justified in leaving them, and trusting wholly to *Fowler's mineral solution** and wine: accordingly, the child got, in about three-fourths of an hour after the commencement of the disease, *two drops* of the solution in a table spoonful of wine, and in half an hour she ceased complaining of pain, became more lively, and, in fact, the only remaining symptoms of disease were a very small, quick, and irregular pulse, accompanied with a dull, heavy appearance of the eyes. After the exhibition of the medicine, she was directed to get one drop every two hours, and to take wine freely. This course was continued for eighteen hours succeeding the attack, during which time the child seemed free from pain, and got a tolerable night's rest. The second day—child evidently better, and had some appetite; pulse still remarkably small, and had been, after a small evacuation from the bowels, quite imperceptible at the wrist; eyes still dull. Same medicine, gradually diminishing in quantity, was continued for five days, at which time, and not before, had the pulse regained a healthy

* A medicine well known to physicians, and one of the most active in the *materia medica*.

standard, the eyes their usual vivacity, and the patient was considered out of danger, if not perfectly well. Since this we have had three or four other cases, in all of which we have placed our whole reliance on the *solution*, and are happy to have it in our power to say, that, from a similar exhibition of this *heroic medicine*, all our patients have recovered.

Examination by dissection was had on five bodies of patients dying of the above described malady.

The first examination was made on a boy ten years old, seven hours after death, whose case was strongly marked, terminating in about 22 hours. On removing the cranium and dividing the dura mater, there was discharged, by estimation, half an ounce of a serous fluid. The dura and pia mater, in several places, adhered together, and both to the substance of the brain. The veins of the brain were uncommonly turgid with a fluid similar to that which was discharged from between its membranes, and the substance of the brain itself remarkably soft, offering scarcely any resistance to the finger when thrust into it: the cerebellum also was found in the same state. The stomach contained about six ounces of a dark fluid, resembling coffee grounds, and its villous coat was nearly in a state of dissolution. The lungs were rather darker than usual; otherwise all the viscera (bowels, &c.) both of the thorax and abdomen, were in a healthy state.

The second examination was made twelve

hours after death, on the body of a girl of five years old, of the same family, and sick at the same time, and whose case was also strongly marked. Between the dura and pia mater was effused a fluid resembling pus, both over the cerebrum and cerebellum, the veins of the brain turgid with blood, and the hemispheres adhered together with considerable strength. These were the only morbid appearances within the cranium. The appearance of the stomach differed in nothing from that of the preceding case, only that the villous coat was not so tender. The abdominal and thoracic viscera were apparently healthy.

In the three other cases that were examined, nothing peculiarly morbid was discovered in any part of the system, excepting the veins and sinuses of the brain were found remarkably turgid with a very dark coloured blood.*

L. DANIELSON.

Medfield, May, 1806. E. MANN.

* These are the only instances, I believe, in which recourse has been had to dissection. Two of these patients appear to have shown traces of inflammation of the meninges of the brain. Sir John Pringle, in his treatise on the diseases of the army, has informed us, that abscesses and effusions of pus have sometimes been found in the brains of those who have died with the jail or hospital fever. Dr. Fordyce, however, informs us, that cases of typhus fever, in cold climates, complicated with inflammation of the brain, are rare. From various considerations, I am disposed to believe, that spotted fever has not often been complicated with inflammation of the encephalon. It would be very desirable, if there were any symptoms which might be regarded as exhibiting certain evidence of the supervention of such inflammation, when it does occur. This would enable one to prognosticate, if not to prescribe, with more accuracy. The publication of the dissections made by Drs. Danielson and Mann gave rise to an opinion, in the minds of some of the medical gentlemen who treated this disorder at Winchester, that inflammation of the brain was a frequent attendant on this complaint.

CHAP. XII.

*New Epidemic, or Spotted Fever.**

Messrs. SEYMOUR and SMITH,

GENTLEMEN,

IT is well known to many in this part of the country, that on the morning of our last commencement, my eldest son, a promising and hopefully pious youth, died suddenly of a new and most malignant disease.

This distressing event awakened my attention, and led me to make inquiries about a disease unknown to physicians in general, and, on its first appearance, baffling all their skill. Hearing that in some towns in Connecticut the disease had become epidemic, and that successful modes of treating it had been adopted, I sent a request to two very respectable physicians, Dr. ELISHA NORTH, of *Goshen*, and Dr. ELIJAH LYMAN, of *Torrington*, to give me information of their mode of treatment.

They, in a sickly season, and when fully occupied by professional labours, very obligingly drew up and sent me the following accounts of the disease, and their methods of cure. I presume the gentlemen had no expectation that their letters would be published. But as they

* This essay is taken from the Berkshire Reporter, a newspaper published in Pittsfield, Massachusetts.

certainly can do them no dishonour; as little or nothing, so far as I can learn, has been published on this new and fatal epidemic, except a small tract in the *Medical and Agricultural Register*; as instances of it are frequently taking place in various parts of the country, and baffling the best medical skill; I feel it a duty which I owe to the public, to send you these letters for publication. The writers will I trust readily excuse this liberty. Should the publication of these letters be the means of saving one life, their benevolent feelings will be gratified, and my labour in transcribing, and yours in publishing them, will be amply repaid.

I am, Gentlemen,
Your humble servant,
EBENEZER FITCH.

SECT. I.

Extract of a Letter from Dr. ELISHA NORTH, *dated Goshen (Con.) Feb. 12th,* 1808.

"You have requested information respecting the prevailing epidemic in this town. The compass of a letter will not be sufficient to furnish all the information that might be agreeable. I shall therefore confine myself principally to the history of the disease, and the method of cure.

"The pathognomonic, or characteristic symptoms of the disease, are pain of the head, soreness of the throat, white tongue, weak pulse,

and great prostration of strength. To these are added or combined, differently in different persons, some or all of the following symptoms, viz. sickness at stomach, vomiting; sometimes though not often, delirium, coma, chills; frequent, transitory, and evanescent flushes of febrile heat; pain and numbness of the limbs; fainting fits are frequent; spots in the skin and eruptions of various kinds and colours, some transient, others permanent. Fever is not a necessary attendant upon the disease, although some have a regular paroxysm of fever continue the usual term of ten, twelve or twenty-four hours. These cases are not frequent. In general, although the patients have white tongue, yet they have more appetite than is common in regular fevers. Hysteric and hypochondriac symptoms are frequently an attendant or consequent of the complaint. In many the disease spins out to considerable length, as two, three, four, and even five or six weeks. I think it not contagious. It is principally confined to young people.

"*Death appears to me to be occasioned, not by violence of fever, inflammation or putrefaction of the system, but by an unaccountable, sudden and violent prostration of the energy of the brain and nervous system.*

"I have prescribed for sixty-five patients with this disease during the winter; of these I have lost one. This was the second patient to whom I was called. The number of patients attended by the other physician in town I am

not able at present to ascertain; sixteen have come to my knowledge. Perhaps he may have attended twenty or twenty-five; of these, four have died: one has died without a physician; three or four have been attended by physicians from out of town; as many perhaps have cured themselves: so that the whole number of the sick may amount to between ninety and one hundred. Of these, six have died; five of whom died in forty-eight hours; the other died on the fourth day of the disease. This epidemic began about the first week in December, and still continues.

"*Method of Treatment.*

"Respecting the method of treatment, the plan I have adopted, since I lost the second patient to whom I was called, has been the stimulating plan in its fullest extent, *and I can confidently say, with decided benefit in every instance.* The remedies I have been in the habit of using, are wine, brandy, opium, camphor, Peruvian bark, serpentaria, oil of peppermint, castor, elix. vitriol, rob of elder, blisters, sinapisms.

"Sweating has been much practised, and with much benefit. A decoction of the twigs of the hemlock tree, or 'Pinus Canadensis,' *Linn.* has been much used for sweating, and has accidentally become a very popular remedy; but I do not know that it

is superior to other warm stimulating teas. I have in some instances used a gentle emetic of ipacac. but I cannot say whether with benefit or not. I have almost done using them. Gentle cathartics or clysters enter into my list of remedies, if the bowels are costive. The various methods of dosing, preparing and exhibiting the above remedies, must depend upon the practical judgment of the physician in attendance. The circumstances of age, sex, constitution of the patient, and degree of the disease of every individual patient, must vary the manner of exhibiting the different remedies.

"As example teaches better than precept, I will relate a case or two.

"A strong healthy girl, aged eighteen years, was attacked with a severe, dull, heavy headache, sore throat, pulse full, undose and frequent, but not hard, (the pulse is generally weak); her flesh was hot, face red, great prostration of strength, tongue white, want of appetite, distress at stomach. Many would say bleeding was indicated in such a case. But having previously learned the nature of the epidemic, I determined on the use of stimulants. The first medicine I gave was five or six gr. of pulv. gum camphor. I soon after gave twenty-five drops of tinct. opium. I waited half an hour and then gave a wine glass full of good wine. In one hour after her head became easy, and her pulse less frequent. After this she took a glass of wine once in two hours during the night. She rested well. Next morning I di-

rected her to take half a wine glass full of a decoction of Peruvian bark and Virginia snake-root, with an equal quantity of wine, to be taken once in two hours. Also, ordered a few grains of camphor, to be taken once in three hours. She recovered fast under this treatment.

"A boy, ten or twelve years old, had a violent head-ache, tossing about his hands and legs from distress, drawing back of the head, coldness of the extremities, pulse feeble and quick, white tongue, sore throat, sighing and difficult respiration, sickness at stomach, great prostration of strength. I instantly exhibited ten drops of tincture of opium, applied a blister between his shoulders, bathed his feet in warm water, put him to bed, and gave him hemlock tea with brandy in it; applied hot blocks, boiled in water and wrapped up in clothes, to his sides and feet. In one hour he sweat profusely; after waiting an hour, and finding his head did not get easy as was expected, gave him ten drops more of tincture of opium. He soon after this became easy and very talkative, like a person slightly intoxicated. He remained perhaps an hour in this situation, and then fell asleep. He rested well through the night. He afterwards mended fast under the use of Peruvian bark and wine.

"Should a similar epidemic ever prevail in your part of the country, and what I have written prove any benefit to my fellow creatures in distress, I shall feel myself amply compensated for the trouble of writing the above."

SECT. II.

Torrington, February 8, 1808.

SIR,

"At the request of Mr. Griswold, I send you a short account of a new and formidable disease, which, within the year past, has made its appearance in this vicinity; together with the most successful mode that has been adopted in treating it.

" Those most subject to the disease are children and young people, and women more than men; for the greatest number have been between two, and twenty years of age. In some instances, previous to the attack, there is lassitude, a dull and heavy appearance of the eyes, an aversion to exercise, and in children an uncommon peevishness; but often there is no mark of predisposition except soreness of the throat. This I believe generally precedes the attack. Patients have generally sickened in stormy weather. The disease is ushered in with coldness of the extremities, often with sensible and severe chills, either attended with, or soon followed by a distressing heavy pain in the head; pulse quick and full; heat, thirst, tongue foul and thickly covered; eyes dull and heavy, attended with stupor, or wild staring, with a countenance expressive of surprise; nausea and vomiting; pain and rigidity of the muscles of

the neck often, and the head is in many instances inclined backward. In some instances there is a dark red efflorescence on the skin, but more frequently petechiæ or vibices. There are, however, some even among the fatal cases, without any such appearances on the skin.

"Different degrees of stupor attend in different cases. In some instances the patient suddenly starts as if in surprise. The foregoing symptoms attend during the first stage.

"If the patient is not soon relieved, most of the above symptoms continue; the pulse becomes quick and weak; the heat subsides, and is followed by a preternatural coldness of the skin; the eyes appear more insensible to the light, the pupils are often dilated; spasmodic affections supersede rigidity; subsultus tendinum, and death close the scene. The whole disease, when it terminates fatally, in some instances occupies not more than ten or twelve hours, and in most not more than forty-eight. The first appearance of this disorder in these parts was, I think, in April last, at Winchester, a town adjoining this. It continued to prevail there for two or three months, and for some time a great proportion of those that were affected, died of the disease. The physicians who attended, though skilled in other diseases, were strangers to this. From the sudden and violent manner of the attack, and the excessive action which appeared (especially in some cases) to take place in the first stage of the disease, they were led to conclude that it was inflammation of

the brain, and that copious bleeding and powerful cathartics must be the remedies; but upon making the experiment, the pulse failed, and several patients sunk almost immediately into the arms of death. Soon after the disease appeared, Fowler's mineral solution was found to be recommended in the Medical and Agricultural Register. This was used in a few instances, but, together with the lancet, was soon abandoned.

SECT. III.

"Not long after this a new method was adopted, which, when seasonably and thoroughly pursued, has been generally attended with success. I have had frequent opportunities to make use of it, and to witness its effects, within the last three months. The importance of an early and thorough application of remedies cannot be too strongly inculcated; for in many cases it is only during the first stage that an effectual foundation can be laid for a cure. Where this opportunity has been neglected, or misimproved, and the patient falls into the sinking state, medicine has generally proved ineffectual. As soon as the patient is found to be affected with the disease, a cathartic is given, consisting (especially if the vomiting be frequent) either wholly or in part of calomel; the feet are immersed in water of the warmth of new milk; the patient is undressed and put to bed; blisters are applied to the extremities, especially

to the legs. While this is doing, a quantity of hemlock boughs are procured from the common hemlock.* From a small quantity of these, a strong tea is made in the common form, to be drank when warm; the remaining part was put into a large kettle of water, and boiled till the water is thoroughly impregnated; the boughs are then taken out, and blocks of wood boiled in the water and wrapped in flannel, are applied to the feet, legs and thighs. This application is repeated so as to procure and continue a sweat four, five, or six hours, or even longer, according to the effect produced, to the strength of the patient, or the violence of the disease; being careful to give frequent draughts of hemlock tea, or some other diluting drink. The patient is not allowed to leave his bed, or discontinue his sweat on account of his cathartic; and when the sweating has been continued a sufficient time, it should subside by degrees. Taking cold is apt to occasion a return of the symptoms. Where patients recover under this course, at the beginning of the sweating, the pulse is usually frequent; but on continuing the sweat, the pulse becomes less frequent but more strong; it next abates in strength and becomes more natural.

"The patient complains of pains in the limbs, and occasionally in almost every part of the body. As these pains increase, the pain in the

* This medicine, as has already been observed, was at one time extensively used, and by Dr. Woodward as well as by others, although he has neglected even to mention it.

head, and other symptoms which attend at the commencement of the disease abate, and the disorder assumes a more favourable appearance. Patients are liable to relapse in this disease, but may be relieved by the same means as are used in the first instance of the disease. During the violent state of the disease, if the vomiting be frequent or severe, the neutral mixture, in the act of effervescing, ess. menth. pip. &c. afford relief. During the convalescence from this, as well as from other disorders, remedies must be adapted to the state of the patient. After the pain in the head and other marks of actual disease have principally disappeared, light bitter teas, as columbo-root, flowers of camomile, Virginia snake-root, and in some instances tonics, are useful in restoring to health.

"This disorder, though in its appearance it is more nearly allied to the worst species of scarlatina anginosa than to any other disorder with which I am acquainted, is still, in my opinion, a distinct disease. To ascertain its cause, investigate its nature, and arrest its progress, are objects of the first importance. To give it a name, and assign it a place in the catalogue of diseases, is the province of the nosologist. I have avoided theorizing, and have only given a statement of the symptoms as they present themselves, and of the manner in which the disease has been successfully treated. This method, it is acknowledged, has not succeeded where it has been neglected till the last stage of

the disease. Should you, Sir, be able to point out a method which will be successful when in this stage the patient appears to be fast falling into the arms of death, a communication on the subject would be thankfully received.

"I am, Sir,

"Yours with respect,

"ELIJAH LYMAN."

"REV. EBENEZER FITCH."

To the foregoing Letter Dr. Lyman, for the use of this Publication, has furnished the following.

It may perhaps be thought, that the practice which I recommended for the use of spotted fever, in a letter to President Fitch, is inconsistent with that which I pursued in the treatment of Grove Hinman, whose case I have since related. That letter was written February 8th, 1808, in haste, during a sickly season, and within two months after the first appearance of the disorder in this society. The disease, at least within my observation, had not at that time appeared in all the different forms and grades which it has since exhibited; and it was impossible, in the compass of a letter, to do justice to the subject, even as far as it was then understood. During this time, a very considerable number were suddenly and violently attacked with the disease; and though in many re-

spects, there was much difference in the symptoms attending different patients, yet by the mode of treatment there recommended, I uniformly succeeded in effecting a cure. Hence I was satisfied with the practice myself, and felt a degree of confidence in recommending it to others. And I am still of opinion, that my practice in the treatment of the disease, as it then appeared, was correct; for it has for years been a maxim with me, in the treatment of diseases, that the mildest remedies, provided they are effectual, are the best.

It is now nearly three years since the disorder first appeared in this society. During this time I have seen it in many, perhaps in most of the forms in which it has made its appearance. At different perods, from the 1st of March, 1808, to the present time, I had opportunity to observe a number of different species or grades of the disease, varying from the extreme torpor which prevailed in the case of Grove Hinman, to the active state of fever, which, after the cold or torpid stage at the accession was past, constituted a prominent feature of the disease, in the case of Wadsworth Loomis.

It is now generally agreed among those physicians who have been acquainted with it, that this is an *asthenic* disease, and that the general indication is, to rouse, and suitably to support the vital energy. But various means have been used, and different quantities of medicines given by different physicians, for answering this indication.

It is a matter of the utmost importance, that the coldness and torpor which very generally attend at the commencement of the disease be removed as speedily as possible, and that proper and effectual means be made use of to prevent their return; for, when the disease proves fatal, the patient usually dies in this state. In a disease where the coldness and torpor are so great, and so difficult to remove; where the indication for stimuli is so strong;* where the state of the patient is such, as either to render it impracticable to introduce any thing into the stomach,† or to retain it there when introduced; or where very large quantities of stimulants, when retained, fail to remove the torpor, I am confident that the application of external heat constitutes an important part of the treatment.

In a considerable number of instances I have omitted external heat in the low state of the disease; but, as far as my experience will enable me to judge, I am fully satisfied, that internal stimulants are aided in their operation by the proper application of external heat. I am also persuaded, that, in the more dangerous forms of the disease, in the low state, when internal remedies alone are insufficient, by a proper application of external heat, patients may

* I am now speaking of the cold, torpid, or sinking state, whether it occur at the accession, or in a more advanced stage of the disease.

† This has been the case with my patients, in several instances, until, by friction and external heat, action and warmth were partially restored to the surface.

sometimes be saved, who would otherwise be lost.

From the history of the two cases to which I have referred in these remarks, it will be seen that I have been far from pursuing an indiscriminate course of treatment in all cases. Those two cases which I have selected were designed to exhibit varieties of the disease which have occurred, and different methods of practice which I have pursued in the cases that have fallen under my care. My object has been, that my remedies should be adapted in their nature, and proportioned in their quantity to the violence and danger of the disease. Much depends on the *time of giving*, as well as the *quantity* of medicine given in this disease. The same medicine, and in the same quantity, which, in a certain stage of a disease, may be not only safe, but useful, may, in a different stage of the same disease, produce dangerous, and even fatal effects. In the cold, torpid, sinking stage, stimulants should be freely administered; but should we, from the relief they have afforded, by removing the torpor, continue to administer them in the same quanties after it is removed, we should be guilty of improper practice, and our patient would probably suffer serious inconvenience from the same medicine by which he had been before relieved. Much more medicine is necessary to restore a proper degree of excitement when it has fallen extremely low, than is requisite to preserve it when it is restored.

ELIJAH LYMAN.

CHAP. XIII.

Remarks on the Spotted Fever, from the American Mercury, a Newspaper printed in Hartford. By Dr. SAMUEL WOODWARD, *of Torringford, Connecticut.*

SECT. I.

I Noticed some hints, several weeks since, accusing the physicians of this State of a criminal neglect, for not giving to the public the result of their experience on the spotted fever; and hearing that a number of physicians met at Farmington for that purpose, and not having leisure to attend said meeting, I offer the following remarks, which are the result of my experience alone, without any assistance from books.

This disease appeared in the town of Winchester, in Litchfield county, in April, 1807, when the frost was dissolving, and the ground breaking up, and was noticed to make the attack most frequently in rainy weather. Young people, under the age of twenty, were most liable to it; and among adults, females more liable than males. No age nor sex, however, were free from the attacks. It assumed, in different subjects, all grades of disease, from a mild fever to a perfect plague. The symptoms were va-

rious, according to its inveteracy. It attacks with lassitude, chills, great prostration of strength, eyes red and watery, pupils dilated in some cases, in others small, like dying persons; often delirium, with exquisite pain in the head; great anxiety at stomach, with tossing of the body; nausea, and often a troublesome vomiting; a pain and lameness in some of the limbs often ushered in the disorder; there was a soreness of the flesh, and generally spots on the skin, the size of half a common turkey-shot, were scattered over the body, resembling blood blisters; likewise, efflorescences, of various sizes and shapes, in different parts, which were dark or florid; and a dark or light colour of these spots and efflorescences gave a clue to a favourable or unfavourable prognosis. The darker the more dangerous. In some, after the chills, there was *great heat, which was of the thrilling, stinging kind. The pulse, like other symptoms, was various, sometimes considerably full, but generally very weak, quick and irregular. The disease sometimes in this season, assumed the inflammatory type*, sometimes the synochus, but generally the typhus. The violent symptoms were great lassitude, with universal pains in the muscles, chills; *heats, if any, were of short duration;* unusual prostration of strength; delirium, with severe pain in the head; vomiting, with undescribable anxiety at the stomach; eyes red and watery, and rolled up, and the head drawn back with spasm; *pulse quick, weak, and irregular;* petechiæ and

vibices all over the body, and a cadaverous countenance and smell: death often closed the scene in ten or fifteen hours after the first attack: some, however, survived all these symptoms: those who died generally appeared to sink away under the load of disease, became cold and low, and died comatose, with all the marks of general mortification; others went off suddenly, apparently apoplectic. The body, near the fatal period, and soon after, became as spotted as an adder, and demonstrated a general dissolution of the fluids. Those who survived these symptoms appeared to owe their life to a very liberal use of strong stimulants and tonics: and when the vital flame began to be rekindled in the system, some grievous external affection most certainly appeared; such as inflammations of the joints, like the acute rheumatism, or an erysipelatous affection of the skin, or racking pains, without any morbid external appearance, convulsions, spasms, &c. These external affections often proved very lingering and tedious, and, in some instances, quite exhausted the patient. This, however, generally proved a manageable state of the disease, and rather to be desired than feared.

Respecting the method of treatment, physicians judged differently, as they probably always will, when diseases assume unusual forms. Some were depending entirely on evacuants, others on stimulants and tonics: the violence of the symptoms seemed to demand potent remedies, and the shortness of the term that those

remedies be early applied. It is highly important, in such violent diseases, where a physician can have no time to correct his own errors, that the state of the system be early and nicely distinguished. *In some instances, in this season, the disease undoubtedly put on the inflammatory type,* in which blood-letting proved a remedy,* but subsequent experience has convinced me that it was used much too often. *The heat was frequently so great, and of such a duration, that a very early use of evacuants from the stomach and bowels gave manifest relief;* but this, like bleeding, was carried too far; *generally, in this season, stimulants and tonics were the most successful.* I pretty early learned that faintness was very hazardous, and if blood-letting was used, that it ought to be *in a recumbent posture from a small orifice.* I saw cases where there was insupportable anxiety, and tossing of the body, *accompanied with great heat, where ease was procured by small openings in the veins of the hands or feet, and the blood suffered to flow by drops. I likewise saw several who were brought into a low comatose state by a small bleeding, which cases entirely baffled the power of medicine, and proved fatal.* A low comatose state, with occasional vomiting, was most to be feared. An apoplectic state was likewise very dangerous. I saw some lie in that state for a considerable time, where the heat of the body, the respiration and pulse were as manageable

* See note at the end of this essay.

by medicine as they are in fevers generally; but nothing gave the least relief from the affection of the brain. When patients were raised from a low comatose state, it was done by large quantities of stimulants and tonics. *When wine or ardent spirits were given in such quantities as to produce a degree of intoxication, they never appeared to do any injury.*

SECT. II.

Having no guide but experiment, bleeding, vomiting, purging, sweating, and stimulating were all tried: sweating appeared to give the most relief. The methods to procure it were various, but that which proved the most certain and easy was by the application of external heat with internal stimulants. Fomentations with hot cloths, the application of hot blocks, hot bricks or stones, and a column of steam conveyed into the bed by a funnel, were all tried, and the steam preferred. Laudanum, brandy, wine, essence of peppermint, hot sling, hot herb teas, such as pennyroyal, peppermint, rue, saffron, and many other kinds of warm teas by themselves, and with spirit, were used according to the habits of the patient, and other circumstances. When herb teas would sit on the stomach and produce sweat, I thought them preferable to ardent spirits, as not so apt to produce headache and delirium. Sweating produced by any hot applications, not essential

what, seemed to answer the desired purpose; and after this method was adopted the disease proved much less fatal. When those inflammatory affections of the limbs above mentioned appeared, the treatment was various, but for those affections simply blistering and mercurials were most successful. Those inflammations of the limbs frequently arrived to such a state as to require bleeding and antiphlogistics, where a great degree of lowness had preceded. The seat of these inflammations often changed; the fingers, wrists, elbows, shoulders, back, hips, knees, ancles and feet, were alternately attacked, and the pain and lameness were so severe that the patient would cry out grievously on the least motion. The disease grew milder as the weather became warm, and disappeared at the heat of summer. Those who died chiefly went off with the lowness which took place early in the disease, some in five or six hours, but they generally died between twenty-four and forty-eight hours after the attack. If they survived forty-eight hours, the disease assumed the type of fever, and became manageable, like other febrile diseases; some died at a later period, but no more than are commonly carried off by other bad conditioned fevers. In September following the disease made its appearance in the village of Winstead, attended with less inflammatory symptoms; the eruption on the skin was not so general, nor the inflammation of the joints so severe as in Winchester the preceding spring. The disease, in

this season, frequently succeeded the influenza, and more generally assumed the typhus form. *Bleeding was tried, but, I believe, always did harm.* Sweating, produced by external heat and internal stimulants, proved most successful, and was most generally used. In December following the disease appeared in the town of Goshen, and, at first, was treated like other fevers: several of the first cases proved fatal; then the stimulating, sweating course was adopted, and proved very successful. I saw but a few of the cases myself, but was informed by an intelligent physician who attended, that the disease yielded generally to sweating, bark, wine, and other stimulants. The proportion of fatal cases was much less than had been in the adjacent towns.

In the spring following and fore part of summer, the disease appeared in various towns adjoining the first mentioned, with symptoms considerably different. An eruption on the skin so seldom appeared, that it could no longer be considered a characteristic symptom of the disease. Those spots, the size of half a shot, resembling blood blisters, have not appeared in those cases which I have seen; and those inflammations of the joints above mentioned are now seldom noticed. All the attacks, for a year past, which I have seen, are of the low typhus kind. *I have not bled a patient for a twelve month, when labouring under that disease,* unless accompanied with some other complaint which I thought required it. *I have seen some*

very malignant cases, but generally the disease the year past has been much milder than before: bark, opium, ether, peppermint, ardent spirit, wines, stimulating teas, and sweating, with external heat, have been the remedies used, and, when applied in season, have seldom failed of success. I endeavour to obviate costiveness with some kind of cathartic; calomel is a favourite ingredient for that purpose. Where there is vomiting accompanying a sufficiency of vital strength, I have given vomits, but, seeing the ill effects in a few cases, I am cautious, and hereby caution others against vomiting where there is lowness. I have seen several cases which appeared desperate, where there was no pulse in the wrist, and the patient too insensible to swallow what was put into the mouth, recalled to life by the application of external heat. This likewise will continue the circulation for a considerable time, and add to the chance of life in cases sunk by incessant vomiting. This method, I confess, admits of some exceptions in warm seasons. When the patient had been over stimulated, I have seen cool air, a cool room, and a cool bed, very refreshing. Unexceptionable rules cannot be introduced into the practice of physic. The symptoms of each case form the indications, and must regulate the practice. I would recommend to people who reside at a distance from a physician, to pay attention to any kind of indisposition which gives reason to suspect this deplorable malady. If a person is attacked

with pain or lameness in the limbs, accompanied with chills, headache, vomiting, with great weakness, a pale sunk countenance, with a weak pulse, pains in the flesh generally, or any particular part, let him be put to bed, and use as freely of hot sweating teas, with a little spirit, as the stomach will bear, together with small doses of laudanum and essence of peppermint, repeated every few hours, and at the same time apply fomentations, hot blocks, or the steam of hot water externally. *If the disease should not prove to be spotted fever, the practice may give relief; or if the disease is inflammatory, and the practice injurious, the mischief produced may easily be remedied.* I am induced to give this advice, from a knowledge of the hasty progress of this doleful malady to death, and a conviction of the efficacy of this mode of treatment, when early used, to prevent that result, or mitigate the symptoms till a physician can be called to give better advice.

Note on the foregoing Essay.

To me it would appear, from the symptoms, and from the effects of the remedies used, that, in these instances, this disease was of a typhoid nature.

"*The pulse*," we are informed, "*like other symptoms, was various, sometimes considerably full, but generally very weak, quick, and irre-*

gular;" but it is not said, it was ever hard, which the author certainly would not have neglected to do, especially as he considered the disease, at this time, in some cases at least, as synocha, had he ever noticed this circumstance. But he has told us these patients had "*great heat.*" In one place he says, "*the heat was frequently so great, and of such a duration, that a very early use of evacuations from the stomach and bowels gave manifest relief.*"

In another place it is said, "*ease was procured by small openings in the veins of the hands or feet, and the blood suffered to flow by drops,*" in those cases in which the patient was "*accompanied with great heat.*" Again, it is stated, "*there was great heat, which was of the thrilling, stinging kind.*" In another place it is observed, "*heats, if any, were of short duration.*"

From all this, especially if taken in connection with the other symptoms which are given, it appears that some of these patients had great heat, which was sometimes of longer, and at other times of shorter duration; that others had no heat. This is inferred from the expression, "*heats, if any, were of short duration.*" It also appears, that in those cases in which heat did occur, this "*heat was of the thrilling, stinging kind.*" It is apparent from the manner in which this subject is treated, that venesection and cathartics were used in cases attended with this kind of heat; for the idea is communicated that these remedies sometimes procured ease in such cases. It does not, however, irresistibly

follow, because a remedy procures ease to the patient, that it is well calculated to cure the disease.

The thrilling, stinging heat that is mentioned, instead of being an evidence of the inflammatory nature of this disease, would in my mind tend to prove the contrary. The following opinions of eminent physicians, show that this kind of heat has been considered a prominent symptom of typhus. Sir John Pringle has expressed his idea of the heat of typhus in these words: "Upon feeling the pulse for some time, I have been sensible of an uncommon ardour, leaving an unpleasant sensation in my fingers for a few minutes after," &c. Dr. Moore says, speaking of typhus, "on pressing the skin of the patient, a sensation of a peculiar penetrating heat remains on the hand for some minutes after; whereas the heat communicated by the skin of a patient *in an inflammatory fever, is more transient.*" Dr. Huxham, in his work on the ulcerous sore throat—(this disorder, as has been noticed, chap. i. sect. 1. in some respects resembles the spotted fever)—has also taken notice of this peculiarity of heat in typhus: "There is a peculiar biting heat," he observes, "in persons labouring under malignant fevers," &c. Dr. Wright also calls it a "biting heat." Annals of Med.

The impression made upon the author's mind, on his first acquaintance with this disease, seems to have been, that it was of an inflammatory nature: general blood-letting was ac-

cordingly used. This was pursued until the author saw so many cases in which it manifestly did harm, that he at length adopted the practice of bleeding "*from a small orifice in a recumbent posture;*" but this also did harm, for he says, "*I likewise saw several who were brought into a low comatose state by a small bleeding, which cases entirely baffled the power of medicine, and proved fatal.*" The next method was to open the veins of the hands or feet, and to suffer the blood "*to flow by drops.*" By this, he thinks, "*ease was procured.*" Were I to judge without reference to the author's opinion, I should doubt whether perceptible effects would be produced from the flowing of a few drops of blood in this manner.

The evidence before us seems to be, that bleeding, when it did not manifestly injure the patient, and to a great degree, in the opinion of the author, did good. Others may doubt the correctness of the author's opinion on this subject.

It appears even during this season, beside the use of venesection and cathartics in various forms, when the patient was manifestly sinking, whether in consequence of bleeding or purging, or from the nature of the disorder, that stimulants and tonics were used, and sometimes with success; for the author says, "*generally in this season, stimulants and tonics were the most successful.*" We are no where informed that these did harm; but the author expressly states, that "*when wine or ardent spirits were given in such*

quantities as to produce a degree of intoxication, it never appeared to do injury."

The circumstance of the abuse of stimulants never appearing "*to do injury*," strongly corroborates the idea of the typhoid nature of this disease; for every one I believe must allow, that if stimulants were given so "*as to produce a degree of intoxication*," in an inflammatory disease, the phrenitis for instance, incalculable mischief would be done.

It would seem that the author ultimately changed the opinion he first entertained, that this disease sometimes "*put on the inflammatory type;*" for from the commencement of the next section to the conclusion of his essay, he goes on to give us the following valuable information:—"Having no guide but experiment, bleeding, vomiting, purging, sweating and stimulating were all tried; sweating appeared to give the most relief." The author then details the method of sweating which he had adopted. After this he is usefully employed in recommending, in strong terms, stimulating and sweating remedies, and in cautioning against the use of bleeding and other evacuating remedies. Strong proof is produced from Winsted, &c. to show the baneful effects of evacuations. The author, however, thinks this disease has assumed, during this season, a milder aspect. But still he acknowledges that for the year past he has "*seen some very malignant cases.*" Yet he informs us, "*I have not bled a patient for a twelvemonth when labouring under that disease,*

unless accompanied with some other complaint which I thought required it." As "*some very malignant cases*" occurred, which probably resembled such as the author had seen in his first acquaintance with this disease, if his opinions had remained unchanged, it is rational to suppose that he would have bled some of these patients.

The author concludes with giving some excellent advice to the people at large. In giving this advice, being aware no doubt that the common people would be liable to mistake this disease for others, he observes, "if the disease should not prove to be spotted fever, the practice may give relief;" recognizing the idea, no doubt, that sweating may be good for many other diseases; "or, if the disease is *inflammatory*," he might have added the pleurisy for instance, "and the practice injurious, the mischief produced may easily be remedied." The term inflammatory, as here used, may be rather ambiguous; it is not certain whether it was used in the sense in which I have explained it, or whether it was meant to apply to the spotted fever when inflammatory: that it was used in its common acceptation is rendered probable from the circumstance of this expression, viz. "The mischief produced may easily be remedied," probably recognizing the idea known to all physicians, that inflammatory diseases are easily relieved by venesection; for I should judge the author could not have thought it so easy a matter to cure an inflammatory spotted

fever by venesection or other evacuating remedies, after having so often witnessed their effects in this disease.

N. B. I have caused the passages in the original essay, to which I more particularly refer, to be printed in the italic character.

CHAP. XIV.

History of the Typhus Petechialis, or the Malignant Petechial or Spotted Fever, as it appeared in Goshen, Connecticut, during the Winter of 1807-8; *with such Remarks as may tend to elucidate its Nature, and to establish the best Method of Cure. By* ELISHA NORTH.*

SECT. I.

Goshen, February 12*th,* 1809.

DEAR SIR,

AGREEABLY to your request, I will now communicate to you the result of the knowledge I have acquired respecting the epidemic which prevailed here last winter.

* This letter is taken from the Philadelphia Medical Museum, where it first appeared.

This epidemic first appeared in the town of Winchester (about eight miles distant), in the spring of 1807.

According to the best information I have been able to obtain, one-third of those who had it died: a great mortality.

The physicians, although some of them were skilful in other diseases, knew neither the nature of this, nor the method of cure, until, at length, one was cured by sweating.

Sweating was excited by exhibiting a warm tea made of the twigs of that species of pine called hemlock, and applying blocks of the same boiled in water, and wrapped in cloths, and laid into bed near the patient. This practice was first used by a Mrs. Hurlbert upon her own child, without the advice of a physician, or without the knowledge of the disease. Previous to this all had died. After the cure of Mrs. Hurlbert's child, she was active in introducing her method of practice, and some of the physicians readily adopted it. Afterwards fewer died.

From the inquiries I had made with respect to this disease at Winchester (for I had not had an opportunity of seeing it), I was unable to satisfy myself of it nature, or the best method of cure.

At length it appeared in this town. The three first patients died with it, and were buried in one grave. I saw neither of these. One of the first patients I saw was a young woman eighteen years old. She died within twenty-

four hours. She died in what I shall call, in the progress of this inquiry, the *sinking state of fever.* Immediately upon the death of this patient, I adopted the stimulating practice; with what success you will see in the sequel. At this time, patients beginning to thicken upon me, I happened to see a skilful physician, who had seen a few sick with this disease. I informed him of the plan I was pursuing. He cautioned me thus: "Beware of your stimulants, for the disease is an inflammation of the brain." I told him my remedies *appeared* to afford relief, and I should not alter my plan until I had further evidence. Soon after this I received your letter, which tended to confirm me in my plan, and for which I return you my most cordial thanks. Thus much by way of preface.

The symptoms are the following:

Pain of the head, more commonly the back side; slight chills; furred tongue; great prostration of strength early in the disease; loss of appetite, although less, I have thought, than in other fevers, especially in the lighter cases; sometimes vomiting and purging; distress about the precordia; pains of the limbs, frequently; sometimes a slight cough; pulse generally weak and quick, sometimes full, but never hard, as I have judged. In some cases the pulse is so little removed from health in quickness, although weak, that I have doubted whether such could fairly be said to have fever in the common acceptation of the term. These had,

apparently, little or no febrile heat: others had great heat, and apparently a high fever. Some had a sweating in the progress of the disease.

If I have not deceived myself, almost all had a kind of œdematous feel of the skin, especially about the hands and wrists. Dejection of countenance.

Upon inquiry, almost all would tell you that they had, in the commencement of the complaint, a slight sore-throat, although few would mention it of their own accord. In a few, but very few however, I have been able to discover aphthæ on the tonsils. In general they would tell me the soreness was a little lower down in the throat.

In the bad cases, the most distressing symptoms were pain of the head, and universal distress and agony, which would cause children to draw back their heads, and toss and throw about their limbs: these had a constant sighing and quickness of breathing. Some had delirium. It was sometimes low; in others it was a violent mania. Some were comatous.

With regard to the spots or petechiæ, from which the disease appears to take its name, they are by no means a constant or frequent symptom. When they do appear, they are of various sorts. Some have spots in the true skin (they seldom rise up into pimples like other eruptions) resembling flea-bites. One patient was covered all over with such spots for a number of days. But more commonly you

will find only a few scattered on different parts of the body. They are of different grades of colour, from a red to a dark colour. Some resemble a bruise; others appear as though the patient had been struck with a whip. One patient had a little spot upon her arm; she thought it occasioned by the bite of a spider: from this spot arose an erysipelatous inflammation, which extended over her whole fore-arm, of a dark red colour, which appeared on the point of a mortification. This symptom was removed within twenty-four hours, by the use of bark and wine.

Some have been attended with slight hemorrhages from the nose; others with symptoms resembling hysteria.

The length or duration of the disease has been very various, extending from one week to five or six. Indeed, many have been in a convalescent state much longer.

I have not often observed any thing like a regular crisis, so often observed in other fevers. In a few of the last cases, however, which occurred (in these the fever followed the measles), the fever attacked the patient like the spotted fever, but soon assumed the form of a common typhus, and terminated by a regular crisis. When these cases occurred, the sickly season had extended into the beginning of summer.

In the close of the same summer, the common typhus fever broke out among us, and has been very rife. This serves to corroborate Syden-

ham's opinion of the varying nature of epidemical diseases.

Although the typhus fever has been evidently very contagious, yet the spotted fever has appeared not to be communicated by contagion.

Death happens in the spotted fever many times suddenly and unexpectedly, and when there is apparently little danger, at least to common observers.

I shall omit describing the sinking state of this fever, until I come to treat of its cure.

Children and young persons are the most liable to this disease, although I have heard of one woman who was sixty years old who died with it. Those of a sanguine constitution and feeble habit, are more liable to it than others.

I have been of opinion, that such causes as had a tendency to produce a debilitated and scorbutic habit of body, must be considered as the predisposing. Of these may be reckoned a moist atmosphere, and less nutritious food than usual. Two seasons preceding this epidemic have been uncommonly wet; so much so that we have had very little corn, less garden vegetables, and bad grain.

An observing miller has told me, that he never ground so much bad rye in his life. This is the common bread-corn of the inhabitants.

The most frequent immediate exciting cause has been obstructed perspiration by cold.

SECT. II.

Method of Cure.

The indications of cure appear to be,

1. To evacuate the first passages.
2. To restore the obstructed perspiration.
3. To invigorate the solids.
4. To correct the scorbutic tendency of the humours.*
5. To obviate accidental death.

If I am called in the commencement of the complaint, and discover no symptoms immediately alarming, I first give an emetic, commonly of ipecacuanha, then a cathartic of senna, rheubarb, or some other mild purge. This I do to prepare the stomach and bowels the better to receive other medicines. While this is doing, I apply a blister on the nape of the neck: this will, in ordinary cases, remove the headache. I also direct elix. paregoric, or tinct. opii, in sufficient doses to ease pain and remove distress, to be taken two or three times a day, as long as the patient chooses; also gum camphor reduced to powder, with a little spirit and white sugar, four or five grains once in two or three hours. Elix. vitriol, and native acids, if they are to be had, are also used. Besides

* Petechiæ, and other symptoms of extreme debility, and these last existing to such a degree as sometimes to occasion sudden death, many times attend scurvy. In consequence of the recollection of these circumstances, the above indication was formed.

these, I direct wine, or spirit of wine, diluted; wine I have generally preferred: of this take from half a pint to a pint daily.

To the above I frequently add a tea of Virginia snake-root and Peruvian bark. Of this let the patient take, if he is an adult, two ounces once in three or four hours. Keep the bowels in order. I see that the patient has a supply of fresh air. Keep his feet warm, either with sinapisms or bottles of warm water. Apply blisters occasionally. Order for diet such as the patient's stomach will best bear.

I sometimes, to vary my medicine, order tinct. cort. Huxh. tinct. castor. com.—ess. menth. pip.—spt. lavend. com. &c.

For common drink I direct warm teas; such as sage, pennyroyal, hemlock, and rob of elder, diluted.

Such a kind of course, in ordinary cases, varying occasionally according to circumstances (keeping in mind my general indications), I have found to be sufficient, in time, to effect a cure.

I will now attend to my fifth indication, which is to obviate accidental death. Here I shall premise a few things, to explain what I mean by accidental death.

In this fever, in the malignant intermittent fever, in the yellow fever, in the angina maligna, in the plague, and other fevers, patients sometimes die suddenly and unexpectedly, at or near their commencement; sometimes in their progress. Now, the causes of death, in such cases, may be supposed different from

those in which death is produced by a long and violent course of fever; or, if the proximate cause is the same, it may reasonably be supposed, that the chance of obviating the proximate cause of death, by remedies, must be greater in the commencement of fever, than after fever has continued so long as to injure or destroy the organization of the body. That we are very much in the dark respecting the nature of fever, I readily acknowledge. I wish, therefore, to theorize no further than is necessary to convey to you a practical idea respecting the cure of fever. I am little solicitous whether the theory be true in fact, provided I succeed in communicating my thoughts so as to be understood so far as respects the method of cure.

Suppose a man, ninety years old, to die a natural death; would you not say that the excitability or irritability of his system had been so worn out by the reiterated application of stimuli, which had been applied during a long life, that it would be in vain to attempt to resuscitate him by the application of fresh stimuli?

Suppose another person, say a child, to have his excitability or irritability suddenly suspended by drowning, so as to be apparently dead; would you not attempt, in this case, to rouse the irritability by the application of fresh stimuli, and thereby restore life?

Suppose a person to have a fever which shall continue to progress so long as to destroy the organization of the body, and to wear out the

excitability of the system, and cause death: in this case it would be in vain to resuscitate him.

Suppose another suddenly attacked with fever, and, by the violence of the pain, or excessive fatigue, or other causes, the excitability or irritability is suddenly suspended, and apparent death produced; would there not be some chance, in this case, that the application of stimuli might resuscitate him? Dr. John Rush has given us one case in which this was actually done.

The first may be called the natural death of fever, the second accidental death.

That what is here called accidental death produced by fever, may be frequently prevented by the timely and thorough application of remedies, is a fact of which I have not the least doubt.

Having theorized thus much, I am prepared to proceed with my curative indication in the sinking state of fever.

If I am called to a patient attacked with spotted fever, and find him attended with violent pain of the head, drawing back of the head, tossing about the limbs, sighing, distress for breath, coldness of the extreme parts, sickness at stomach, great distress and agony, or comatous, with an involuntary running of the tears, lividness of the lips, or with delirium or mania, with a low and feeble pulse, or, perhaps, none at all, I conclude that there is no time to be lost; that he is in danger of dying

in a few hours, either by syncope or pulmonary convulsions, or otherwise.

I immediately set myself to work upon the patient with stimulants, externally and internally. I put the patient to bed, after having first bathed his feet in warm water, and then apply a blister to the nape of his neck; give tinct. opii, hot brandy sling, heated wine, warm teas. I also apply hot blocks or brands from the fire, quenched in water, and wrapped in cloths, near the patient, in his bed. Also bottles of warm water, or similar blocks, to his feet. In some of these cases I have given ol. peppermint, essence peppermint, tinct. castor. com.—camphor, &c. taking care not to crowd the stomach so as to excite vomiting. Generally, as soon as the patient grows warm, he is relieved; not always, however, until he sweats. I have known one case in which the patient sweated an hour without relief: in that case I gave a second dose of opium, and the patient soon became easy. In these patients (after this process had relieved them) the fever appears as in other cases, and is to be treated accordingly.

I have always been careful to direct the nurses, if any symptoms of sinking occurred at any stage of the fever, to give some stimulants at such times, as a little wine, &c. By such practice I have not lost a single patient since the one already mentioned. I have treated perhaps one hundred.

I do not suppose the cure depends upon the

mere flowing of the sweat, but upon the effect of the stimuli used for exciting the sweat. Still I consider the sweating as useful, it being a kind of medical thermometer, to enable us to know when the degree of stimuli has been carried sufficiently far in the bad cases.

In consequence of these opinions, I have not directed the sweating process in more than one-sixth part of my patients, and perhaps many of these might have done as well without. But, as I have observed no injury to arise from the practice, and knowing the liability of sudden death, I have considered myself as erring (if I have erred at all) on the safe side, when I directed the practice, provided the sweat was not allowed to flow too long.

I shall conclude with a few remarks upon the practice of others.

In Winchester, bleeding was tried. It was thought it hastened the death of some. In other places it has been tried, and with like success. And yet I find Sydenham bled once in his febris nova, which was a similar fever with this. He, however, cautions against repeated bleeding. His practice was a mixed practice: for he used blisters between the shoulders; also anodynes and acids; also bark, where he discovered aphthæ. Sweating he disapproves of. He sweated his patients twenty-four hours. This might do harm, by dissipating the caloric of the system, and weakening the patient. That he sweated his patients in this manner, appears from another part of

his book, viz. where he describes the utility of sweating in the epidemic fever which prevailed the year after the plague.

The physicians who adopted Mrs. Hurlbert's mode of sweating, applied it to every patient, not knowing but there might be some specific virtue in the hemlock tea. This is so far from being fact, that I do not think it so good as many other teas. It disagrees with some stomachs.

I am decidedly of opinion, this disease requires stimulating remedies: but by this I do not mean that in every case patients must take brandy by quarts, or wine by gallons; for I believe with you, Sir, that "it requires as much judgment in using stimulants, as it does in reducing the system."

I am, Sir, with much respect,
Your obedient and humble servant,
ELISHA NORTH.

Dr. ELIJAH MUNSON, *New-Haven.*

CHAP. XV.

Remarks by Mr. BABCOCK, *the Editor of the American Mercury, a Newspaper printed in Hartford, (Con.) on the neglect of Physicians in relation to Spotted Fever.*

WE happily have it in our power, this week, to present the public with a very interesting account concerning that new and most deplorable disorder, the *spotted fever.* The account alluded to may be found in our preceding columns, as certified by a clergyman and three physicians, in the town and neighbourhood of Petersham, in Massachusetts, where, for the course of the last and present month, this most tremendous scourge has been permitted to prevail. In what we have further to add, it is not proposed to be particular, as to the history of this disorder; we cannot forbear, however, indulging in a few reflections.

How is it possible that the physicians of this state have so long been silent on a subject so deeply interesting to the community?

Years have long since elapsed since the appearance of the spotted fever in Connecticut—its visitations too have been repeated, and its prevalence extensive, particularly in Hartford, Farmington, Wethersfield, Berlin, Bristol, Burlington, Canton, Simsbury, Torringford, Winchester, New-Hartford and Goshen; yet, with

the exception of one or two letters that have found their way to the press, it is believed that no one of the faculty has favoured the public with any dissertation on the nature and mode of treating the disorder.

Every gentleman is, to be sure, the master of his own time and talents, and we have no disposition to censure any one for his choice as to the mode of disposing of them; all we presume to do, is to regret that some one should not have relieved the public mind from that state of uncertainty and liability to misrepresentation and error under which it now labours.

This state of things is the more unaccountable, since a meeting of physicians, experienced in this disorder, was long since publicly requested, by a notification in our Gazettes, and, especially since, in pursuance of that notification, a meeting was actually held at Farmington, at which a considerable number, twelve or fifteen as we are informed, assembled and appointed a committee to draw up a report expressive of their united opinion in relation to the spotted fever. The committee appointed were physicians of eminence, of extensive experience in this disorder, and it is not understood that there prevailed amongst them the least difference of opinion on any material point. The report, however, has never appeared; and wherever the malady may chance to show itself, out of the circle in which it has been accustomed to range, the afflicted and astonished

people have to grope their way in the dark, unaided entirely by the result of the observations and experiments, for which there has been abundance of opportunity, in a part of the country where some thousands of patients have been visited.

It is difficult, indeed, to conceive how a disorder, frequently in the rapidity and fatality of its attack equalling all the horrors of the *plague*, and destined, perhaps, like the depopulating scourge of Russia, to leave at no distant period, whole districts of our country without an inhabitant, should, in the estimation of the medical faculty, have been esteemed deserving so little of their attention.

The inquiry instituted by the Medical Society of Massachusetts deserves applause; and ought to be aided by every gentleman who has it in his power to contribute to that end. Should a like inquiry be instituted, and vigorously pursued by those in Connecticut, whose endeavours might best tend to the developement of the true nature and history of this wonderful disease, they would, from the hitherto confined range of its attack, have an important advantage over the best efforts of their distant brethren in the profession, and in the result of their investigations the public might look for the most salutary conclusions.

For humanity's sake, it is to be hoped that past experience has not been unfruitful in the discovery of important antidotes to the mortal influence of the spotted fever, and it is the

knowledge of such antidotes with accompanying evidences of their efficacy, for which the public good is most importunate in its demands.

MASSACHUSETTS MEDICAL SOCIETY.

At a meeting of the Counsellors of the Massachusetts Medical Society, on the 7th of February, 1810,—

VOTED—That a committee be appointed to collect information respecting the history and treatment of a malignant disease, commonly called SPOTTED FEVER, which is now prevailing in the county of Worcester, and has prevailed, within five years past, in Hartford, Connecticut, and Providence, Rhode-Island, and report at the next meeting of the society, or counsellors.

Dr. FISKE, } *Committee.*
Dr. PAINE, }

From the Records,
JOHN C. WARREN, *Rec. Sec.*

N. B. Any communication upon the above subject to the committee, or to Dr. THOMAS WELCH, *Corresponding Secretary of the Medical Society*, at Boston, will be thankfully received.

March 1, 1810.

Letter from the Rev. FESTUS FOSTER *to the Editor of the Worcester Spy.*

Petersham, March 6, 1810.

SIR,

I hasten to give you a sketch of the *spotted fever* in this place. It made its first appearance about the beginning of January last; but the instances were few and distant from each other, until last week. Although it had proved fatal in most instances, seven only had died belonging to this town, previous to the 25th of February. Since that time the disorder has come upon us like a flood of mighty waters. We have buried eight persons within the last eight days. About twelve or fifteen new cases appeared on Thursday last; many of them very suddenly and violent. This was the most melancholy and alarming day ever witnessed in this place. Seven or eight physicians were continually engaged in the neighbourhood north of the meeting-house, and I believe not one half hour passed in the forenoon without presenting a new case. Pale fear and extreme anxiety were visible in every countenance. The faculty themselves felt their situation in being called to encounter an enemy with which they were little acquainted, and before which their late brother in this place had so suddenly fallen. They, however, manifested great skill

and presence of mind, and fortunately for us, adopted, and strenuously pursued, that mode of treating this disease, which, they since learn, has best succeeded in other parts of the country. By these means, most of the patients whom they seasonably visited, are, by the blessing of a merciful God, yet alive, and hopefully on the recovery. The number of cases which now require medical assistance in this town, is about twenty, most of which are nigh the centre. I know of no case which is considered desperate. It is with pleasure I inform you, that we *hope*, though we dare not *believe*, that means have been, or soon will be discovered, to prevent the mortal effects of this malignant and alarming disease. The faculty have been so incessantly occupied, and so anxiously watching the success of their experiments, that they have not found leisure to make any communications to the public. So soon as their experiments shall be matured, they will, we presume, publish the characteristics of the disease, and the most effectual method of cure. It seems to be very generally agreed, that there ought to be no evacuations, but by external applications produce free perspiration, and internally apply the most powerful stimulants.

From the same to the same.

Petersham, March 9, 1810.

SIR,

At the request of a number of persons in this town, the gentlemen who have attended as physicians in the epidemic now prevalent among us, have made a general account of the symptoms and treatment of that most formidable disease. The success which has attended their practice clearly evinces the general principles which they have embraced to be correct. Should the disease continue to prevail, a further investigation may, probably, much improve their general system. The internal application of powerful stimulants was adopted, not from any previous knowledge that they had been tried and found successful, but because other means which had been employed proved ineffectual. We have been happy since to learn, that the method here pursued has been found the best remedy to this disease in Connecticut, and distant parts of this state. Believing that if the epidemic should appear in other parts of the country, a knowledge of the method here pursued, and the consequent success, might be satisfactory, and possibly of the highest advantage to a distressed and afflicted people, you are requested to give publicity to the "account" which I herewith transmit to you.

Some Account of the Symptoms and Treatment of a singular and fatal Disease, commonly called the Spotted Fever, which has made its appearance, and now rages in Petersham, in the county of Worcester, and some other adjacent towns, particularly the town of Dana.

SECT. I.

The following are some of its characteristic marks, as it has fallen under our observation. It begins with shifting pains in different parts of the body, most frequently in some of the limbs, often in some of the larger joints, as the knee, the hip, or the shoulder, shifting from place to place, and frequently to the head or stomach, and often from the one to the other of these last-mentioned parts, with a sense of universal uneasiness or restlessness.

These symptoms are accompanied with cold shiverings, and other marks of fever, which are soon followed by a remarkable and general prostration of strength, and a depraved action of the sensitive organs. In some violent cases the sight is much impaired, and even totally, though temporarily, lost.

The eyes appear sometimes dead or glassy; but at other times, especially during the progress of the disease, they appear red or suffused. The pupil is frequently more or less dilated; but sometimes contracted to almost a

point; and sometimes these states alternate with each other. The tongue has been invariably covered with a whitish coat, and moist.

The pulse is generally a little increased in frequency, remarkably intermittent, and between the intermissions unequal both in strength and quickness; but in some few mild cases it is very little altered.

There is generally great distress at the stomach, with nausea, and for the most part some vomiting.

Respiration is in all cases much disordered; but the labour seems to arise rather from the difficulty of inflating, than from any infarction of the lungs, as there is no cough.

Petechiæ, or livid blotches, or a red fiery eruption, sometimes in clusters, and sometimes in large and distinct pustules, in most cases, appear on the surface of some parts of the body, and sometimes they are general. These pustules most commonly break, discharge a little thin watery fluid, and then dry up; but sometimes they maturate, forming ulcers, which may not heal till after recovering. But neither the spots nor the eruptions are inseparably connected with this disease. But when the eruptions do appear, they are attended with much itching.

Consciousness, especially in adult males, sometimes remains to the last unimpaired. But in females violent hysterical symptoms, with high delirium, have, within a few hours

from the attack, supervened. And in young children a stupor sometimes comes on soon after the vomiting, which announces the approach of the disease, and continues till death.

In regard to the prognostics in this disease, our observation enables us to state, that from those cases attended with petechiæ, few recover; whilst those accompanied by an early eruption, more generally and more safely get through the disease.

The duration of the disease is to us uncertain. Some have died within twelve hours, others within twenty-four from the time of the attack; while a large proportion of others have had the violence of it broken within forty-eight hours, when it run into the form of a mild typhus of uncertain duration.

SECT. II.

In the treatment of this most formidable, and too often fatal disease, the experience we have already had, warrants us in stating, that while its rapid progress, especially in its most violent forms, deprives us of all hopes of success, from the use of mild alterative medicines; so its peculiar nature forcibly interdicts the employment of all drastic remedies, which may produce any great degree of depletion of the system, and thereby sink the patient irrecoverably. An injection of milk and molasses, with a teaspoonful of common salt dissolved in it, has

induced strong spasms. An emetic of spruce, with a grain of tartrite of antimony, operating only once upwards, and once downwards; likewise a dose of sulphate of soda, producing only two moderate operations downwards, have each of them, in hale young men, reduced the pulse from an hundred down to forty-eight strokes in a minute. From these facts, it is easy to conceive how cautious we should be in the use of emetics and cathartics in this very singular disease. If, however, at the beginning of the disease, there be a troublesome puking, a few grains of ipecacuanha, or warm water, may be drank to clear the stomach, and check that symptom; but an opiate should immediately follow the operation.

The only safe and efficacious mode of treatment which has occurred to us, consists in the bold and liberal use of the diffusible stimuli, proportioned to the violence of the disease, together with the employment of the several means of powerfully determining to the surface, and in keeping up that determination in proportion to the exigency of the case, till relief shall have been obtained; and, at the same time, exciting the action of the brain, by blisters applied to the temples and nape of the neck, and by ether, and other stimulants, applied to the head.

The diffusible stimuli employed by us, have consisted chiefly of brandy, opium, ether, vo-

latile spirit, and camphor, and in some hysterical cases the pure oil of amber: and the means of determining to the surface, have been the employment of warm bath, followed by the assiduous application of stupes wrung out of a solution of salt in hot vinegar or water, and applied to the extremities and stomach, and kept warm by hot stones or bricks, or billets of wood, taken out of boiling water, and placed round the patient; together with a free use of an infusion of snake-root and saffron, or pennyroyal, with such of the above mentioned diffusible stimuli as appear best adapted to the case, and frequently supped warm. By these means, a gentle and universal sweating is induced, and should be continued until the disorder gives way.

To what extent the most powerful of these diffusible stimuli may be safely and necessarily employed, the following facts will show. A young woman, aged about twenty years, who recovered from the disorder, being very violently attacked, and a high delirium with great distress supervening, took more than a quart of brandy, and not less than twenty grains of good Turkey opium, aided by the above means of determining to the surface, in less than twelve hours, and before any material mitigation of her disorder could be obtained, and what is truly wonderful, without the least appearance of intoxication. Indeed, we have been obliged fre-

quently to exhibit ten grains of opium* for a dose in some of the most violent cases, attended with strong spasms, and have never known it to produce stupor in a single instance.

In one instance only have we employed the lancet. A man about twenty-eight years of age, having been violently attacked, and attended with strong spasms, on the third day, his spasms having been subdued, was exercised with extreme difficulty of breathing, and great oppression at the breast, and exhibiting at the same time a strangulated countenance, which

* It is well known that opium, when given in an appropriate dose, to a healthy person, produces a certain degree of excitement of the irritability or excitability of the system and causes exhilaration. It is also known, that if this, or a similar medicine, is given in a larger dose, in similar circumstances, it produces a torpor of the irritability of the system, occasioning stupefaction of the mental faculties, which continues for a longer or shorter time, cæteris paribus, according to the quantity given. It is equally well known, that if the quantity exhibited is still further increased, a complete prostration, or torpor of the irritability of the system, in its greatest degree, is produced, terminating in death. These laws of the irritability of the system while in health, appear to be varied in fever: for it is well ascertained, that a larger quantity of stimulus, in the torpid state of fever, is necessary to produce the same degree of excitement of the irritability of the system than in health.

But from this I think it would be rash to infer that the quantity might not be so great as to occasion, even in these circumstances, a complete prostration or torpor of the irritability of the system, terminating in death. What the proper quantities of stimulants are, which in the torpid state of fever should be used, it is difficult to determine. These ought, undoubtedly, to vary according to the degree of torpor, and other circumstances. But from the experiments which have been made in the spotted fever, the quantity of stimulants which may, in certain cases, be given, and without producing an entire prostration of the living powers, far exceeds, I believe, what physicians in general would have supposed could have been exhibited without producing this effect. I am not, however, prepared to say, because some of these patients have survived, that others may not have sunk under a similar mode of treatment, and where the patient might have been extricated from his torpid state, by stimulants more sparingly used.

symptoms appearing to arise from a surcharge of the vessels of the lungs, owing to their inaction, rather than their inflammation, sixteen ounces of blood were taken away, merely to restore the equilibrium. This had the happiest effect in relieving those distressing symptoms. But these symptoms returning on the fourth day, the operation was repeated, and with the same salutary effects. The blood did not exhibit the usual marks of an inflammatory diathesis, but on standing, remained destitute of the inflammatory buff, and its coagulum was of a loose texture and tender.

Out of twenty-five cases which have been subjected to the above mode of treatment, only three have as yet proved fatal, and those were patients under four years of age. The others are in a hopeful way of recovery.

Great alarm has been excited on account of the supposed infectious nature of this disease. But for the consolation of the people we can say, that from the most careful observation we have been able to make, we cannot discover a single instance in which it clearly appears that the disease has been communicated from one to another by contagion.

And as we are of the opinion, that none *can* be affected by this disease but those in whom a *certain change* in the state of the body, commonly called the state of *predisposition*, has been effected by the influence of a certain morbid quality in the atmosphere, which state of pre-

disposition disposes the moving powers, upon the application of any exciting morbid cause, to produce those specific morbid affections which characterize this particular disease; and as we are furthermore of the opinion, that the only rational means of checking the progress of this, or any other epidemic, consists in removing the state of predisposition; and as the strong impression made on the system by the application of cold water suddenly applied to the surface, appears to be one of the most probable means of destroying this state of predisposition, by dissevering the chain connecting those morbid affections; we cannot but strongly recommend the adoption of the practice of the cold bath,* either by plunging, showering, or effusion, which may be employed three successive mornings (the weather being fair), then omitting it three, and thus proceeding to the third time, as a most probable mean of arresting the progress of this malignant disease, and of preventing its extending its ravages.

ABRAHAM HASKELL,
MASON SPOONER,
JACOB HOLMES.

Petersham, March 9, 1810.

* If the causes which have been assigned (see chap. v.) are the true ones, the propriety of this direction may be doubted.

CHAP. XIV.

Dr. BESTOR's *Remarks on Spotted Fever, extracted from a Newspaper printed at Hartford, (Connecticut.)*

For the Mercury.

MR. BABCOCK,

SIR,

THE physicians of this state, who have had experience in the practice of spotted fever, having been repeatedly called on, through the medium of your paper, to give some information respecting that formidable disease, its symptoms, method of cure, &c. and several efforts having been made by the physicians in this vicinity to convene and confer on the subject, with a view to publish their united opinion; and those endeavours having failed of producing the wished for result—and being impressed with a belief, that such a conference too often effects nothing more than a neutralized opinion; I concluded, since reading the account of the prevalence of the disease in Worcester county, to make what little knowledge and experience I have had in it public.—The only apology I shall make for taking this method, is,

that I am convinced that the cause of humanity requires it of me and others. No wish can be farther from my heart, than a desire of precedence in this respect; and however eagerly I might wish distinction in this attempt, I am too sensible of the deficiency of my abilities, in an undertaking of this kind, to expect it. I sincerely hope that other gentlemen of the faculty will take the same freedom, that the public may be benefitted by their experience in the treatment of the disorder.

I can truly say, my heart is deeply affected in hearing of the distresses of the people in Worcester county. I do most sincerely sympathize with that afflicted people, and can imagine the heart-aching task which their physicians are called upon to perform.

If the few following observations should reach them through this channel, and should prove to be of the least service in mitigating the distresses of the sick, in that place, or elsewhere, I shall feel myself richly rewarded.

SPOTTED FEVER.

SECT. I.

I am at a loss where this disease ought to be placed in a system of nosology—but believe it compares nearly with Dr. Darwin's class of diseases of sensation. Species, *Febris Sensitiva inirritata*, or, Typhus Gravior. Yet, in many

respects, it must be considered a disease *sui generis*. I shall not, however, undertake to trouble myself with classing it systematically. It appears to me, that "the immediate cause of this disease, is the increase of the sensorial power of sensation, joined with the decrease of the sensorial power of irritation." Whence the sudden and alarming prostration of strength, and disturbance of natural, vital, and animal functions—the patient, sometimes at the onset, being instantly deprived of strength, and almost of motion—derangement of intellect, intense coldness, pulse extremely feeble, sometimes wholly wanting for an hour or two—deficient venous absorption, petechial, or livid spots, &c.

The symptoms of this disease are so numerous and variable, that it would be tedious to enumerate them in this publication: I shall confine myself by describing those only which are most constant and prominent.

The patient is, for the most part, attacked with a sense of extreme coldness, sometimes without shivering, at other times attended with rigors, accompanied with pain of the head, usually over one, or both eyes, severe pains in the extremities, sometimes in a toe or finger; but most commonly in the legs, knees, thighs and arms. There is, at the same time, an alarming prostration of strength, delirium, or coma; the eyes often red or suffused, pupils enlarged, double or tripple vision; in some, partial or total blindness for the first twelve or twenty-four

hours; difficult deglutition, distressing pain and anxiety at stomach, attended with nausea, and for the most part with vomiting.

The tongue has generally a whitish coat, but sometimes tinged with a bilious yellow; in a few cases without any coat, with a palish red, and prickly appearance; at other times clean, with rather a pale, parboiled, bloodless look.

The pulses are, in most cases, soft, weak, unequal, intermitting, and a little more frequent than the healthy state; sometimes they are wholly wanting; at other times there is but very little departure from the healthy standard, in respect to their frequency, force, or equality. The last mentioned state indicates a mild form of the disease.

There are, in many cases, spots, either black, blue, or yellowish, which have the appearance of bruises; in others, bright red ones, either permanent or transient; in some others, a pustular efflorescence, resembling measles, which, if early, is a favourable prognostic; at other times there is an extensive uniform redness on different parts of the body, like erysipelas.

Hysteric affections, in females, many times combine with the disease, and not unfrequently cause increasing alarm in the minds of the friends and relations of the sick.

There are some cases in which adult males are generally the subjects in which the disease commences with symptoms of violent insanity, and great muscular strength, the patient showing alternately signs of real madness and high

merry delirium: It is extremely difficult to manage such patients, or confine them in bed: I have known it require three or four smart men to take care of one of these maniacs—but they have always recovered, so far as I have had knowledge.

The bowels, at the onset, are generally costive; though, in a few cases, most commonly in children from two to six years of age, it commences in the form of cholera morbus, attended with great heat, the pulse soft, weak, and remarkably frequent, great thirst, with sunken and death-like countenances. In this state these little patients fall into a stupor and profound apoplexy, which announce the speedy approach of death; which sometimes happens in the short space of four, six, or eight hours from the attack, unless proper remedies are immediately administered.

Painful strangury attends some through the whole course of the disease, and I have known it in several instances precede the attack six or twelve hours. When this painful micturition had been a troublesome symptom for many days, I have founded my prognostic of recovery on relief being obtained from the distressing complaint, which was invariable in my practice.

Having enumerated the symptoms which most commonly occur in the disease, I shall endeavour candidly to give an opinion respecting the method of treatment, which, from my

own experience, has been found most successful.

A liberal use of the diffusible stimuli, with warm teas internally, combined with external warmth, so as to produce plentiful sweating; blisters applied to the nape of the neck, temples, or shaven head, and to any other pained part, is, in the beginning of the complaint, in most cases, the best, if not the only efficient method of cure.

But in this formidable disease, as in every other with which I am acquainted, no one particular set of remedies can be relied on as infallible specifics in every possible case; so, neither can any precise rules be given, in respect to the quantity, or extent to which they may, or ought to be employed in all cases; much must depend on the judgment of the physician at the bed-side of his patient, in discriminating judiciously between those cases which require a bold and liberal use of stimuli, and such as call only for a sparing administration of the same means; as well as some few mild cases, which may demand nothing more than good liquid nourishment, with a glass of wine occasionally, and gentle laxatives after the system is sufficiently excited into action to bear their operation.

SECT. II.

My practice has been, when I found a patient extremely cold, much pained, with symptoms of great debility, derangement of intellect, feeble pulse, nausea and retching, without any particular evidence of bilious predominancy, the tongue being covered with a white coat, which symptoms constitute one variety of the disorder, of which there are many cases—to immediately give, if an adult, from 40 to 60 drops of tincture of opium, in warm penny-royal, or hemlock tea, with half a gill of brandy; apply blisters to the nape of the neck, and pained extremities, sometimes to the stomach, if much pained; hot bricks or stones quenched, or billets of wood, taken out of hot water and wrapt in cloths, to be applied to the feet, legs, thighs, or sides of the patient. The warm teas repeated as the stomach will bear; a glass of brandy every hour; the tincture of opium to be repeated in doses of 20 drops every two hours, if the stomach can retain it; if not, a tea-spoonful is to be given by injection, every three or four hours, and continue the process, until sweat breaks out, and the patient is relieved. Within three or four hours from the attack, I usually give from eight to ten grains of sub-murias hydrargyri, not with a view to purge on the first day, but to act as a stimulus to the system, and prepare the bowels to be moved by injections the following day, if the

stimulant have the desired effect, and the excitement of the system is such as to admit of an evacuation. After the sweating has been pretty plentiful, if the patient complains of heat, and the burthen of the clothes, remove some of the clothing, but not so as suddenly to stop sweating. If thirsty, give a spoonful of cold water frequently, according to the exigency of the case, and a spoonful of good lively yeast hourly, until thirst is allayed. At this time, begin gradually to withdraw the stimuli, or if the patient is restored to reason, so far as to be a tolerable judge of his own wants, let him repeat them as he finds them agreeable, or their effects salutary. Good liquid nourishment ought at this time to be administered, to sustain the patient, such as fowl broth, tea or coffee, with biscuit soaked in it, and a glass of wine once in two or three hours; which at this time is to be preferred to ardent spirits.

For the most part the patient is very much relieved the following day, and the symptoms which succeed, are those of a mild typhus. The disease in some, is, however, apt to recur, and the same train of symptoms appearing as at the first, may call for recourse to the same method of stimulating and sweating.

I think these symptoms of recurrence most commonly happen where the patient has mostly depended on spirits, and neglected wine and suitable nutriments.

It has appeared to me, after sufficient excitement has been produced by the use of

brandy, or spirits, that such a degree of it as shall be found necessary, may be more conveniently and certainly maintained in the system, and less hazard of relapse, by the use of good wine administered *pro re nata*, than by persisting in the liberal potation of brandy.

After the most alarming appearances have subsided, I depend principally on the nutritious plan, with good wine, and tinct. opii, a sufficient quantity to procure rest, and allay any particular uneasiness which may attend the patient; good lively yeast occasionally, with small doses of calomel repeated once in four or six hours, and gentle movements of the bowels, with injections, or laxatives, once in twenty-four or forty-eight hours, until the fever subsides. Although any evacuations in the beginning of the disease are generally attended with pernicious, if not fatal effects; yet I have never known a prudent use of mild laxatives, such as rheubarb, or an infusion of rheubarb, senna, and manna, in this stage of the complaint, attended with any bad consequences, but for the most part with evident good effect.

The patient may take the cathartic in divided doses, until it operates, not neglecting nourishment while taking the physic, and a glass of wine at the time of its operation, and if necessary, a dose of tinct. opii may be given to prevent a repetition of the evacuation, if the patient seems unable to bear it. When the fever is considerably abated by the above method, and the patient's skin is for the most part moist,

the bark may take place to advantage. I have generally began the use of it in the form of beer, made with Peruvian bark an ounce, serpentaria virginia, and cortex aurantiorum, of each two drachms; a decoction of this in three pints of boiling water, afterwards strained off, and while warm, bottle, and add good lively yeast and molasses, of each four ounces; this will ferment sufficiently in six or eight hours, which may be taken, a glass at a time, once in two or three hours, and is generally agreeable to the patient. Afterward bark in substance. I have not seen the bark in any form serviceable, where the skin was dry, and heat great.

SECT. III.

Another variety of the disease, is where the patient is seized with shivering, soon succeeded by pretty great heat, with the pulse full and active; the tongue covered with a yellowish bilious coat; great pain of the head, and extreme parts of the body, sometimes attended with numbness, at other times with great soreness of the flesh; in other respects is similar to the case above mentioned. I have in such cases generally prescribed an emetic in the beginning, of fifteen grains of ipecacuanha, and two grains of tartrite of antimony, to be taken in a little warm water, and worked off with camomile tea. The patient is for the most part relieved by vomiting several times; after which, tinct. opii may be given, and some warm tea of penny-

royal or hemlock, to induce sweating, decoction of castor and Virginia snake root, gum camphor, &c. In such cases as this, I have not used the diffusible stimuli so liberally as in the former case; the strength of pulse and heat contra-indicating them to any very great extent. But on any appearance of sinking, or very great debility ensuing, they ought to be given; though, for the most part, the stimuli of wine, and opium in moderate quantities, is sufficient. Such patients too, generally bear evacuations to more advantage than those who are cold, with feeble pulses. In the summer of 1808, about one half of the sick in this town were similar to the last described case. The emetics frequently threw off large quantities of bile, and the evacuations downwards were very bilious. Though early in the spring of the same year, there was little or no bilious appearance; emetics were not serviceable, but prejudicial; all evacuations were strictly interdicted in the beginning, and the stimulant method, pursued in its fullest extent, had the happiest effect.

SECT. IV.

I will mention another variety of the disease, of which I have seen ten cases of adults, in which the disease fixes in the bowels in form of colic, though the patients are not bent forward in that complaint, but the bowels are very tender and swollen, sometimes largely; the other symptoms of coldness, feebleness of pulse,

&c. corresponding with the first variety. In these, the same practice was pursued as in the first case, except a large blister was applied to the abdomen, cloths wrung out of warm water were laid on over the blister, and an injection of three gills of yeast, with a glass of brandy, was administered, and an hour afterwards, a purging injection, which had the happiest effect. I saw one patient in this situation, where a young physician had given a large dose of calomel and jalap; the effect of which was as might have been predicted, he died in about twenty-four hours from the attack.

SECT. V.

I shall briefly state the treatment which I conceive to be most proper for children who are attacked in the form of cholera morbus, of which a particular description is given above, where I have endeavoured to describe the symptoms. Say the child is three years old. Injections of half a gill of yeast, or good lively emptyings, with twenty drops of tinct. opii are to be administered once in two or three hours, until the purging and vomiting abate; the body to be cooled with frequently sponging it over with a mixture of equal parts of vinegar and cold water; a mixture is prepared of carbonate of pot-ash half a drachm, with eighty or one hundred drops of essence peppermint, in about four ounces of water; this may be sweetened with a little loaf sugar to make it agreeable, of

which the child may take a tea-spoonful every twenty minutes, and a tea-spoonful of yeast once in half an hour. A little tea, coffee, or chicken tea may also be given frequently, and a little wine and water; Port wine is preferred. I have always applied a blister to the nape of the neck in these, as well as in other cases; whether essential or not, I shall leave it for others to determine. Several cases of this description, which have fallen to my care, have been treated in the above described manner, and all of them successfully; the fever putting on quite a mild form in the space of twenty-four hours. I have, however, to lament the loss of one, the first whom I saw attacked in this manner, and the case being new to me, I had not time to reflect upon it, as I have done since. It was treated with brandy, hot teas, &c. as I had been in the habit of treating other cases of the fever. The child died in eight hours from the commencement of the disease. Whether the practice which I have since adopted in similar cases, might have succeeded in the case of this child, is doubtful; but I very much regret that I did not think of trying it.

I had forgotten to mention above, that obstinate vomiting in spotted fever, is sometimes a very difficult symptom to control. In some cases, I have thought blisters to the region of the stomach efficacious; at other times laudanum injections seemed to do the most good; in others yeast allayed it. I have also given ether combined with spirit of lavender, sometimes

with good effect; but where the vomiting is bilious, emetics of ipecacuanha, repeated sundry times in the course of the disease, have had the best effect.

Respecting the different methods of treating this formidable disease in this vicinity, I have but little to observe. Those physicians who have had the most experience in the disorder, I believe universally adopted the stimulant plan. When it first made its appearance in the spring of 1807, in the parish of Wintonbury, adjoining this town, there were eight or ten cases, as I am informed, which were all treated upon the evacuant plan, and all proved fatal.

I took small bleedings from the two first patients which I saw, the bad effects of which, though not fatal, taught me afterwards extreme caution in the use of the lancet, or in making any other evacuation in the beginning of the disorder.

I believe bleeding at the commencement is generally prejudicial, and, if I am not misinformed, has, in some instances, proved suddenly fatal. I bled, in the summer of 1808, five only; their pulses were stronger than common, and the quantity of blood taken was small. I was not able to perceive that it did good or harm. In one case it ceased the pain of the head for a little time. The blood never showed any signs of inflammation. In one instance it remained perfectly fluid.

SECT. VI.

Dr. Solomon Everest, of Canton, a gentleman of the first respectability in his profession, informed me that he bled several, where stimulants had previously been given freely, with evident advantage. He did not, however, mention this as an objection to the propriety of the stimulant plan being in almost all cases the proper one. The blood, he said, was firm and buffy. I do not consider these exempt cases mentioned by the Doctor, where stimulants had preceded the use of the lancet, as forming any solid objection to the stimulant plan of practice; neither did he so consider it himself. It goes no farther than to show, that the best remedies may be given to excess.

I think I ought to mention another fact which the Doctor communicated to me, which was, that he had used embrocations of olive oil about the bodies of several of the last patients which he had sick of the disease; he thought with evident good effect. They were bathed all over the body and extremities with it, and kept warm in bed. A plentiful sweat, he said, ensued, which gave great relief. I think, as the practice must be safe, I should try it, if I were to see the disease make its appearance here again.

I have endeavoured, in giving the above account, to relate such as I conceive important facts, with that candour and impartiality which

the subject seriously demands. I have no reasons to influence me in the support of the method I have above recommended, but the public good, having never been opposed by any of my brethren in the practice, and a happy unanimity of sentiment having subsisted between me and my brethren in the profession, respecting the treatment of this new, and many times fatal malady.

There are some extraordinary cases which require such a bold and decided use of the diffusible stimuli, that to any one not acquainted with the disease, it might seem like presumption or falsehood to mention the practice.

CASE.

I will give a short history of one case, not, however, for an example to be followed in ordinary cases. A man, aged about twenty-eight years, was violently seized with the disease, in the spring of 1808. He was in extreme pain universally, totally deranged, very cold, eyes red and suffused, livid spots in various parts of the body, was totally blind, and deglutition very difficult. His symptoms very much resembled hydrophobia. He had about one quart of brandy got down him the first day, and his case appearing to grow worse, I ordered his attendants to give him that night (it being now about sunset) a quart of brandy and a quart of wine, with twenty drops of laudanum once in

two hours; he had blisters to the nape of his neck and head, and also on his extremities. I went to see him the next morning, found he had taken his quart of brandy and wine, with the laudanum as directed, before the sun rose; he could now see well, had his reason perfectly restored, was easy, and not the least symptoms of intoxication, any more than he would have had if he had drank nothing but cold water. He convalesced rapidly, and rode out in three days from this time.

In my first acquaintance with the disease, in the spring of 1807, after finding depletion of every kind hurtful in the beginning of the disorder, a glass of warm wine was directed to be given, as often as the symptoms of debility seemed to require, with six drops of arsenite of potash once in three or four hours, laudanum occasionally, essence of peppermint, &c. with blisters applied to the nape of the neck, and other pained parts, and warm applications to the cold extremities; which invariably produced sufficient excitement, and a proper moisture of the skin. In no instance was the sweating copious; neither did I wish it. My patients, six in number, all recovered under this mode of treatment. When the disease appeared again, and became epidemic, in the winter and spring of 1808, recollecting that my patients, the preceding spring, were evidently relieved as soon as they were got warm, and began to perspire; and being informed of the

success which attended plentiful sweating in the towns of Goshen and Winchester, where the disease then prevailed, I adopted the same method. I cannot, however, think profuse sweating, long continued, is beneficial, but injurious. If considered merely as an evacuation, the same objection may be made to it as to other means of depletion: but as it is perhaps the best evidence of a revivescence of the cutaneous capillaries, from their torpid and inactive state, I think the warm teas, and warm applications externally, ought to be pursued, until a pretty liberal perspiration takes place; after which the warm things about the patient ought to be gradually removed, and the bed-clothing lightened; yet not so suddenly as to check moderate perspiration. If I do not much mistake in judgment, I have seen great injury done by deluging the patient with sweat for many hours.

I have been called to three or four hundred sick of this disease within three years. Of those whom I have seen soon after the attack, and attended to through their sickness, I believe I may say in truth, that not more than one in fifty died. I would not, however, arrogate superior skill on this account. The disease might not have been attended with that malignancy in this town, which accompanied it in some other places—and one acknowledgment which justice requires of me is, that during its prevalence here, I never had so many patients

at any one time, but that, with a great deal of fatigue, I was able to attend to the sick as often as was needful, and observe the effects of the means used, which, in this disorder especially, is very necessary.

JOHN BESTOR.

Simsbury, 6th April, 1810.

CHAP. XVII.

Dr. FISKE'*s Sketch of Spotted Fever, from the Massachusetts Spy.*

To the Editor of the Spy.

SIR,

HAVING been named on a committee by the Counsellors of the Massachusetts Medical Society, to collect the history of the SPOTTED FEVER, which has lately excited such great and general alarm, I am daily receiving inquiries from medical gentlemen from various parts of the commonwealth, respecting the appearance and mode of treatment of this disease. I therefore send you for publication, the result of the observations which I have made upon this new and obstinate disorder, during

fourteen days of incessant attention to it at Rutland, Oakham, and in the borders of Barre and Paxton; being the substance of a letter to a gentleman of great medical reputation.

I was called by the inhabitants of Rutland to assist Dr. Frink, as it was feared that he would not be able to attend to all the sick, as they were fast multiplying upon them; and as Dr. M'Farland had suddenly become one of the number.

The mode of practice was the result of a consultation with Drs. Frink and Fobes, and sanctioned by Dr. Flint, of Leicester, and Dr. Stone, of Greenfield.

Yours, &c.
O. FISKE.

Worcester, April 9, 1810.

Observations on the Disease and Mode of Treatment.

SECT. I.

Upon the appearance of any new disorder, every reflecting physician will endeavour to class the non-descript with some disease which he has seen, and, by comparing its leading features, be enabled to adopt a mode of practice which gives some promise of success. How far it has been done in this disease, I know

not, as I have seen no treatise on the subject. If it has been attempted, the result I apprehend has proved fallacious. In a close attention to it of fourteen days continuance, at Rutland and elsewhere, I have been led to this opinion, —that although as a *species*, no class yet identified will claim the monster, yet under some *genus* it may find a settled affinity.

What *it is*, I will not pretend to say, but what *it is like*, I think must be obvious to all who have been conversant with it. From the season in which it is most prevalent, and from many of its symptoms, it appears to bear an affinity with the *scarlatina anginosa.*

It resembles it in the sudden and great prostration of strength, in the difficulty of breathing, in the great anxiety about the regions of the stomach, and the morbid affections of that organ, in the excitement of the brain, in the inflammation of the fauces, extending sometimes through the whole alimentary canal, in the eruption of the skin, and subsequent desquamation of the cuticle, and in the anasarcous swellings which sometimes ensue. It also resembles it in the indication of its cure, particularly in the injury experienced from bleeding and the use of cathartics, and in the advantage often derived from emetics, in full or nauseating doses, in the occasional and sometimes liberal use of stimulants, both permanent and diffusible, and the other applications which tend to bring about a mild and general perspiration.

These symptoms and indications, it is true, are not all clearly seen in the same patient, but they are common to both diseases. Their affinity may probably be traced in many other points; but these, if correct, are sufficient to establish the opinion which I have advanced.

This resemblance, it will be obvious, applies to the mild and more common appearance of the scarlatina and spotted fever. There are also distinct symptoms in each, and common to both, which bear a near resemblance to the *cynanche maligna.*

How far the affinity holds in respect to their *contagion*, I confess I am not prepared to say, as the experience I have had in the scarlatina has not been sufficient to establish the fact fully in my mind, that that disorder is contagious; but this I can affirm, that in all the cases of the spotted fever which I have seen, not one could be fairly traced to this source. Most of the patients had not seen the disease, and some aged or obscure, had for some weeks no intercourse with the world. The objects of attack, for the most part, differ in these two diseases. While children are the most liable to the scarlatina, this gigantic foe passes the helpless infant, and encounters more hardy subjects with increasing ardour, from the vigour of youth to settled manhood, seizing the athletic and robust as its common prey.

It is in some of the fainter lineaments of this disease that I have ventured to suggest this

analogy. Its bold and prominent features defy comparison. Some of these I shall now notice, with some others which less clearly mark the disease. In some, a pain resembling the sensation felt from the stinging of a bee, seizes the extremity of a finger or toe; from thence it darts to the foot or hand, or some other part of the limbs, sometimes in the joints and sometimes in the muscles, carrying a numbness, or prickling sensation in its progress. After traversing the extremities, generally on one side only, it seizes the head, and flies with the rapidity and sensation of electricity over the whole body, occasioning blindness, faintings, sickness at the stomach, with undescribable distress about the precordia; a numbness and partial loss of motion in one or both the limbs on one side, with great prostration of strength. The horrible sensation of this process, no patient has found language to describe. In some a complete hemiplegia is induced. This phenomenon sometimes continues until the other symptoms disappear. The erratic pains now concentrate in the head, producing distress almost to torture, particularly through the temples, with the various grades of nervous affections, from delirium to distraction. Through the whole of the disease the tongue is generally white and moist. When dark and dry, the disorder is more severe: this is generally the case where there is great delirium. In one case of mania, the tongue was dry, smooth and

florid. The pulse is generally feeble, sometimes intermitting and irregular, but often denotes more strength than the patient possesses. Thirst is seldom complained of in any stage of the disease. The eyes generally appear more brilliant, with a wild penetrating stare. This I have noticed some hours before the patient is aware of the attack. An eruption, which the name of this disease seems to imply, is not a constant attendant upon it. It generally, however, comes on in some form or other, according to the habit of the patient, or violence of the disorder. It sometimes is denoted only by a general itching—sometimes it appears like a miliary eruption over the whole body, in patches in the bend of the arm—on the breast and neck, without any discolouration at first, but followed with inflammation—sometimes in detached inflamed spots upon the face, arms, &c. sometimes like the nettled-rash, and sometimes in petechial blotches. This last appearance denotes a bad state of the disease. Bark, wine, &c. are now to be liberally used, with rich and stimulating food.

The indications of cure are as various and deceptive as the symptoms which accompany the disease. There is, however, one leading object which all who attempt it will have in view—*to restore the vital powers by bringing about a reaction of the system.*

How far the "bold and liberal use of *stimulants*," as a general practice, is necessary to

this purpose, will be best learnt from the experiments which have been tried. Suffice it to say, that I have seen but few cases where it seemed to be necessary to the extent recommended. It was not followed by any of the physicians with whom I associated. We found, at least, as successful a result from a different course, using stimulants only as auxiliaries in cases of extreme debility, or where perspiration could not otherwise readily be produced.

SECT. II.

If we were *bold* and *liberal* in the use of any thing, it was *calomel.* This, combined with *camphor* and *ipecacuanha*, with *opium* sufficient to prevent the cathartic effects of the medicine, was diligently administered to most patients, until a slight affection of the glands was obtained. At the same time we were intent upon keeping up a general and durable perspiration, by means of external heat, and drinking freely of hot aromatic teas, with laudanum joined to ardent spirits, where there was great prostration of strength, sickness of stomach, faintness or distress. Where there was a violent affection of the brain, attended with great heat, suffused eyes, dilated pupils, a wild and senseless stare, with violent throbbing of the temples, we found cold, constantly applied to the head, by means of snow or ice, of great use. In such cases stimulants were avoided.

If the strength of the patient keeps up, and the sickness at the stomach, which is often troublesome, seems to arise from a prior indisposition of that organ, rather than from a morbid affection induced by the disease, we administered a gentle emetic of ipecacuanha, followed by some anodyne medicine. In the hazardous stages of the disease, an evacuation of the bowels seems not to be required; when necessary, it is best promoted by a mild, but full injection. Blisters upon the neck, forehead, temples, and stomach, are often highly useful.

The great mortality attending the spotted fever in most places, in its first appearance, is in part to be ascribed to the general law of epidemics, that those most susceptible of disease, are liable not only to receive it the soonest, but with the most severity. It is also, no doubt, in part to be ascribed to the suddenness and novelty of the attack. This may have led to an injudicious selection and use of both the preventive and curative remedies.

The bold and liberal use of stimulants lately recommended for the cure of the spotted fever, could never have been intended as an authority for their liberal exhibition as a preservative against it. As *indirect debility* is a predisposing cause, the use of brandy and opium must be highly pernicious, prior to the disease, as they have lost their stimulating powers before they are required, and the foundation is destroyed on which we ought to build. From the obser-

vations which I have made on this subject, I am confident that a free use of stimulants, or any other extraordinary measures which have a tendency, directly or indirectly, to debilitate the system below its natural standard, instead of "dissevering the chain of morbid affections," serves as a powerful conductor to bring them into contact with the disease.

Another cause may be mentioned, which if it is not done away by the superior influence of the former—brandy and opium—has an inconceivable effect in predisposing the system to disease. I mean *fear*. After the evidence of the fatal and sudden termination of this malady, the mere imaginary symptoms of it excited great apprehensions; and those which were unequivocal, produced consternation and despondency, in some cases impossible to overcome. Witnessing these facts, my first object was to quiet the fears of my patient, and the alarm of his friends, and to prevent the hurry and confusion which it naturally occasioned. I was studious to appear not only composed, but cheerful, and was cautious to admit no more among the sick than were necessary to attend them, and those only who could discipline their feelings, and by a semblance at least, aid in this curative process. I was so attentive to this object, that where I was seen only with the sick, I obtained the reputation of being one *of the best natured men alive.*

In a disorder so novel, the indications of

which are so fallacious, and whose fatal progress is so rapid, it would be wonderful if the judgment of the physicians should not sometimes be misled. If the foregoing method of treating this new and formidable disorder has any superior merits,* it derives some considerable portion from a greater familiarity with it, and a knowledge of the errors which others less conversant with it, had innocently committed. So far as this is defective, the practice of others will correct it; and should this malady be again suffered to visit our country, it will be the less terrific as it is the more known.

* That great success has attended the above method of practice, will be evident, when it is known that of nearly one hundred patients who have been treated in this way, but one died, and that one was taken delirious on the eighth day, when in an apparent convalescent state, and died on the 11th from the attack.

CHAP. XVIII.

Observations on Anomalous and Irregular Diseases. By Dr. G. WILLIAMSON.

[From the Philadelphia Medical Museum.]

Baltimore, November 2, 1808.

AMONGST the many interesting medical essays which are presented us through the medium of the various periodical publications, we are rarely favoured with any account of those irregular diseases which all physicians of extensive practice must occasionally meet with. These diseases, when violent, are generally very perplexing; to the young practitioner they are inexpressibly so: to him they are new, and he is at a loss with what order, genera, or species of disease to class them; and, should he have even thrown off the shackles of nosologia, they are still very perplexing. At one visit the disease appears in one form, at the next in another. At one time one viscus seems principally affected, and at another some other. Diseases of this nature cannot be reduced to any systematic order; the doctrines of diagnosis and prognosis are here equally futile. Brown's system is too simple, and Darwin's too abstruse; each would admit them within their classifications, but

neither would enable us, in many cases, to speak intelligibly. When this is the case, I know nothing better that we can do, than, as Rush says, prescribe for symptoms, without being solicitous to give the disease a name. However, I think, if more attention were paid to these diseases, and they were faithfully detailed, it would be of singular service to the practitioners of medicine in general, and to the younger ones in particular.

Senac, in his invaluable Treatise of the Hidden Nature of Intermittent and Remittent Fevers, has given much very interesting information of those diseases under an irregular type. When I first read his work, it was neither interesting nor pleasing to me; but in the autumn of 1807, after the influenza, I met with many cases of disguised intermittents, and, as soon as they appeared, I remembered what Senac said, and was much gratified, that a perusal of his work had enabled me to recognize immediately the disease. We never know how to justly appreciate any thing until we experience the want of it. So it is with respect to information. Such was my situation in regard to Senac's treatise; and had I not read it, should, with many of my fellow-practitioners, have supposed this disease some other than it really was; and I do not believe that any practice would have been equally successful as that which I adopted, and which was suggested in consequence of the information derived from

the perusal of Senac's works. Every case which I met with was soon remedied by the medicines proper in regular intermittents.

The causes of intermittents are generally known. In addition to the most common causes of that disease, there were, in 1807, concomitant ones. Whatever the cause of this disease may be, whether marsh miasma or any thing else, we know that, previous to its attack, there is a deficient excitement, and that the disease is of an asthenic order. Every person whom I saw labouring under this disease had previously the influenza; and all who had been thus affected complained of great general debility. In this city the influenza was less inflammatory than I suppose it to have been in many parts of America; consequently there was less occasion for much depletion. On another occasion, I have given it as my sentiment, that the too free use of the lancet frequently predisposed to the disguised intermittent.

Symptoms. The symptoms of the disease in question were very irregular, both in their appearance and in their time of appearing. There were some exceptions to this general rule. It most generally commenced with a slight chill, succeeded by excruciating pain, and terminated with a perspiration. No part of the body was exempt from pain, but the head was most frequently affected. In some it was confined to the forehead, in others it ex-

tended over the whole head. In some the occiput, or back of the head, extending down the neck, and in others one or the other of the sides of the head were only affected. In others the extremities, the sides, or the breast, were the suffering parts. In some cases these pains only remitted; indeed, in a few cases, they were almost continual. At no stage of the paroxysms was there scarcely any increased arterial action, or other ordinary symptoms of fever; and that stage, which is generally termed the hot, should in this disease be termed the painful. From the disease frequently putting on a periodical type, although it was not very well marked, yet I was induced to suspect it a species of intermittent; and I was also induced to believe those of the same nature, whose prominent symptoms were analogous, even if they were less distinctively marked; and from there being little or no increased action in the pulse, from a perspiration succeeding when the pain either remitted or intermitted, and, finally, from the admirable success from the exhibition of bitters and tonics, I conceive my conclusion incontrovertible. Although the pain was in some cases so violent as to almost distract the sufferer, yet there seldom or never appeared in the parts affected, any thing like congestion or local inflammation.*

* This distemper, in Connecticut, would be called a light kind of spotted fever, and by physicians who have perused Senac's Treatise.

Treatment. Vesicatories were applied in a few cases, but their effect was very limited. Æther, laudanum, &c. as local applications, had also a temporary effect. Those diffusible stimulants which frequently break the chain of regular intermittents, were less efficacious in this disease; but bitters and tonics, when properly administered, never failed to cure.

CASES.

CASE I.

MISS —— BRADLY, aged twelve years, of a weakly constitution, was attacked, after eating her dinner as usual, on Friday, March 27, 1809, with a pain in her head and limbs. The warm pediluvium, it is said, relieved her so much, that she slept an hour immediately afterwards. She was attended, during the remaining part of the day and evening, with much thirst, vomiting and head-ache; she also was in universal distress. She drank, during this time, large quantities of cold water. At bed time a pitcher of cold drink was set within her reach, and she was then left alone during the remainder of the night. Next morning (Saturday, March 28th,) she was completely comatose. I was then called for the first time to visit her. Her neck, breast, and other parts of her body were thickly covered with dark-coloured petechiæ and vibices; she had no pulse in her wrist; her limbs were cold and stiff, like a corpse; she lay like a person in a most profound apoplexy. I made a vigorous effort to relieve her from this dreadful situation, but in vain; she died on this day before sunset. I however succeeded, by the

means which I had been in the habit of using (see chap. xiv. sect. 2.) for the sinking state of this fever, in restoring warmth to the surface, and pulse to the wrist; but her coma was never, in the least degree, relieved.

Had the proper remedies been used at the onset, and had the use of these been properly followed up in this case, I have believed that the petechiæ, coma, &c. would have been prevented, and a cure effected. The circumstance of the marked relief which was obtained by so simple a remedy as the warm pediluvium, tends much to strengthen this opinion.

CASE. II.*

Dr. Strong commences the history of this case by saying,—I have seen a delicate female take more than a quart of French brandy in the course of eight hours, accompanied by a grain and a half of opium every two hours. He goes on to state, that at eleven o'clock A. M. when this course was commenced, she lay in a comatous state, cold and senseless, her skin dry, and the action in the radial arteries so feeble, that it was difficult to say whether the pulse beat or not. A constant hiccup was supposed by every one to be the harbinger of approaching

* This case is taken from Dr. Strong's Inaugural Dissertation.

death. Wine and all the milder stimuli were rejected from her stomach as soon as they were taken; and each turn of puking seemed to bring her still nearer to the grave. Brandy, saturated with loaf sugar, was now resorted to. It staid upon the stomach—removed the hiccup—brought back the vital heat—unlocked the senses, and increased the energy of the pulse. And at sunset, after having taken the enormous quantity of brandy and opium above mentioned, she exhibited no signs of intoxication, was calm and rational, had a good pulse, and soft moist skin. To keep her in this state, however, a very liberal use of opium and brandy was found necessary for a number of days, and should we mention the quantity which she actually took, our account would hardly gain credit. It is more than eighteen months since her illness; she enjoys good health, and her constitution has been better since her sickness than it was before. This case is mentioned, not as a specimen of general practice, but as a very extreme case, and one which required extreme practice. The writer spent whole days and whole nights by the side of her bed, and he is fully satisfied, that great as was the quantity of stimuli which she took, she had not too much, and that under any other course of practice she must inevitably have gone down to the grave.

Clinical Remarks.

The external application of heat by means of the pediluvium, and warm applications to the stomach, would have been useful. Sydenham has observed, that warm stimulating things, applied to the stomach externally, have a wonderful effect in allaying vomiting. A blister to the head or nape of the neck would have been useful. Fewer remedies were used in this case than, as a general rule, would be proper in similar cases. Probably less brandy would have answered the purpose, had its exhibition been accompanied with the use of external stimulants.

CASE III.

Polly Wadhams, aged twenty-two years, was brought two miles on horseback to my house, May 8th, 1810. I was informed, that after doing a hard day's work at washing, (May 7th) and going without dinner, she sat down to tea, about five o'clock P. M. Immediately upon this she fell with her head upon the table, and raising herself up, said, what is the matter with me? She was helped on to the bed; she then was senseless; her eyes were wide open, and set in her head; her jaws were set; her face

was red, except around the mouth, which was pale; she continued, it is said, in this situation half an hour. Her friends think she was not faint. Although her jaws were so set that it was difficult to get down some elix. asthmat.* yet her limbs were not cramped. While she was in this situation, the warm pediluvium was used. After this, her stockings were put on, and she was helped on to the bed, when she soon came out of the fit, and appeared to have her reason. During this night, three teaspoonfuls of elix. asthmat. at three different times, were given: she complained in the night of much head-ache, and was delirious. It was not discovered until morning that her left hand and foot were paralytic. Previously to this, the complaint was thought to be an hysteric affection. She informed her sister, previously to her having the fit, that she was afraid she was about to have the sick head-ache. On the Sunday preceding, May 6th, she had a sore throat.

* A medicine known by the name of Elixir Asthmaticum, has long been in use as a popular anodyne, in Litchfield county, Connecticut, and is held in high estimation. It is more highly charged with opium than the Elix. Paregoric. of the dispensatories. It is thus prepared:

℞ Gum. Opii.	℥ ij.
Flor. Benzoin.	℥ j.
Gum. Camphor.	ʒ 6.
Ol. Anisi.	℥ ss.
Ext. Glycyrrhiza.	℔ss.
Proof Spirit.	2 cong.

Digere 10 vel 12 dies in a sun heat: strain.

Tuesday morning, between ten and eleven o'clock, when she arrived at my house, her appearance was the following: no aphthæ could be discovered in the throat, a small aphthous speck was discovered upon the inside of her lip; she was pale, her skin about the hands and arms very cold, and of a livid hue; the whole of one side was affected with a numbness and want of feeling, which was very disagreeable to her, and concerning which she appeared to be frightened.

Her right hand trembled when she attempted to move it: a kind of torpor of mind was apparent, although at this time there were no other signs of delirium; pain of the head; tongue but little furred if furred at all; her pulse was weak, otherwise natural; her feet were cold, and of a bluish or livid colour: notwithstanding her cold surface, her heat, when measured by the thermometer, was natural. Upon her arrival at my house, after sitting a few minutes, she requested to be helped on to the bed, and as soon as this was done she complained of being aguish; a glass of warm wine was immediately given her; after waiting half an hour, she still complaining of being very cold, another glass of warm wine, mixed with two-thirds of a teaspoonful of essence of peppermint, was given. She at length began to shake with the cold, and symptoms of derangement of mind began to appear. Blocks and

brands prepared* were now laid into her bed; two blisters were applied, one to the lame arm, the other to the lame leg; two-thirds of a glass of wine, mixed with two-thirds of a teaspoonful of aromatic ammoniated alkohol, was now exhibited. At length her face and eyes began to be red, and tears to run involuntarily. She now appeared to be quite delirious; she complained of the head-ache, and to relieve this symptom, one grain of opium was administered, and the hot blocks kept round her. She about this time began to grow warm. She constantly complained of distress of some kind or other; she said there was a piece of her head gone, and she wanted to have it put in again, to prevent, as she repeatedly said, the cold air from passing into her head. She also said there was a hole which let the cold air into her stomach. She talked incessantly, and amongst other things she said, Do people ever have four eyes and six fingers? All at once she appeared to be in a fright, and complained that she could not breathe, and wished to be raised up. Her breathing was, indeed, at this time laborious. She was raised up, fresh air was let into the room, and this symptom was soon better; she would bite her numb fingers, and wished to have her sister pinch, rub, and scratch them. At length she began to complain of the smarting of her blisters; but this, she frequently said of

* The manner in which these should be prepared has already been pointed out. (See chap. vii. sect. 3.)

her own accord, was much better than that dead numbness which she had experienced.

She has had symptoms like stranguary, which frightened her much: her urine was however clear and white, like hysteria. She was thirsty, and drank freely of aromatic teas.

After she became warm, and began to sweat, she was evidently relieved of her distress, and became more rational. This scene occupied the space of about four hours.

At four o'clock P. M. she was very comfortable, attended with a warm surface; the hot things were gradually removed from her bed.

At six o'clock her blisters were dressed; these were drawn well; she was now perfectly rational; her feet and ancles, her hand and arms, instead of a purplish or livid hue, were now beautifully white. Her left arm was quite lame, she could not move it without the assistance of the other; she said every joint in her was in pain; she had some head-ache; her pulse full and good.

At seven o'clock she called for a piece of fresh meat; it was allowed her. Heat, measured at this time, was found natural; pulse eighty; she was now red, and her skin had a kind of shining appearance; but one spot was discovered—this was red; her skin felt warm.

At eight o'clock her meat was found to suit her stomach; she was ordered part of a glass of wine; she rested well through the night. She continued to gain fast till Thursday, (May 10th) when she had so far recovered the use of her

arm and leg, as to be able to ride home in a chaise. She took, while at my house, one quart of Madeira wine, and part of a pint of Peruvian bark and Virginia snake-root tea, with the addition of an anodyne every night.

May 13th. At this time she began to do a little work. This patient had the spotted fever twenty-five months previous to this attack.

CASE IV.

HANNAH DRESSER, aged twenty years, a slender, feeble girl, had the spotted fever in August, 1808: she was again attacked on Sunday morning, May 13th, 1810.

She complained of head-ache, sore-throat, want of appetite, but kept about this day, and at night went to bed as usual. At eleven o'clock P. M. she was discovered to be in a violent delirium or mania; it required two men all night to hold her in bed. During this night she took one spoonful of elix. asthmat. and one hundred and fifty drops of tinct. opii; she also took about one pint of a tea made of castor and Virginia snake-root; also a little brandy sling: a blister was applied to the nape of the neck, which drew well by morning: external heat was applied by means of brands prepared. All this neither allayed her delirium nor caused much sweating: she however became warm. At nine o'clock Monday morn-

ing (May 14th) her heat, measured by the thermometer, in the axilla, was one degree above the natural temperature, her pulse one hundred. The tepid bath was now used, and appeared to afford some relief.

From this time until Wednesday noon, (May 16th) being a little more than twice twenty-four hours, her situation was as follows: she continued constantly delirious, but not so raving as she was the first night; and during this period, one woman was able to manage her in bed, by holding her hands, and frequently soothing her; she almost constantly complained of her head; Oh! my head—was a frequent exclamation; she rolled her eyes up; much of the time knew no person; had double vision; her eyes were red at times, and her tongue was much furred; she was very restless and uneasy, and at night slept but very little. She had no spots, but a shining skin, and prickled, and wanted to scratch much. Her heat, as often as it was measured, was found natural; pulse eighty.

During these two days she took about one quart of wine, also twice a day about thirty or forty drops of tinct. opii, mixed with twenty or thirty drops of ammoniated aromatic alkohol; she made use of aromatic sulphuric acid, and gum. camphor; the last of these three days she was ordered three-fourths of a wine-glass of a decoction of Peruvian bark and Virginia snake-root, to be given once in three hours; an enema was exhibited. This operated but lit-

tle: a blister was applied to her arm, which drew well.

At noon, Wednesday (May 16th), an important change took place, which may be considered as forming an era in the history of her complaint. Her reason was suddenly restored; she now thought she had been sick one night, (a long night, as she expressed it,) and one day, namely, Sunday; having completely lost two days and two nights.

This day (May 16th), four o'clock P. M. four hours after her reason was restored, her situation was as follows: pulse eighty-nine, and weak; she was extremely debilitated, had fainting turns frequently, especially if worried; her head felt very disagreeable; noise and light hurt her much; her tongue was becoming clean, and was red and sore; wine made her mouth smart. At this time I gave her five aloetic pills, nothing having passed her bowels since she was taken sick, except what little was brought off by the injection which was administered yesterday. I ordered her to continue the same medicines which she had used, except the aromatic sulphuric acid, which I thought would make her mouth smart. At this time I concluded she would do well in a few days. On the night of the 17th May, however, she had an ague-fit, and turns of syncope, slept some, and was somewhat delirious; her pills did not operate; an injection was given, which operated well. From the 17th to the 20th May, she did not gain so fast as expected; she had turns of fever

every night; her fainting turns were less frequent; she had turns of sweating; her appetite was poor. Her medicines were continued as usual, except the substitution of tinct. cort. com. in lieu of the decoction of the bark; she thought the tinct. suited best. May 20th, another injection was administered. May 21st, she was evidently gaining, and, on the 22d, sat up and was convalescent.

She began sometime between the 17th and 20th of May to take the tinct. cort. com. and has taken in the whole eight ounces; she has used from a pint to a quart of wine daily, besides as much food as she would take.

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The 8th of June I was again called to Hannah Dresser, who was said to be dying. I was now informed by her friends that she had been apparently gaining her health during the last fifteen days, and had been able to ride on horseback from place to place, &c. but on the day before she began to be more unwell, and at night she was deranged. Just before I was called she had, as I was informed, a kind of cataleptic fit: she lay in this fit half an hour or more, and when she came out of it, had convulsions of the limbs, and was somewhat delirious. She complained much of her head, and had turns of crying and laughing like hysteria. Ordered her a decoction of castor, Virginia snake-root, and rad. gentian, and wine pro re nata, and anodynes twice a day. From this time until June 11th, being three days, she

gained none; was very low; had double vision; was blind sometimes; had sinking turns, in which her jaws were set. During these low turns her pulse (I was told by the nurse) sometimes retreated from the wrist; she had spasms frequently, sometimes of the limbs, sometimes of the neck, drawing her head back like opisthotonos; she was attended with sickness at stomach; her tongue was furred; she had once in twenty-four hours paroxysms of heat; in these she appeared red; these continued from one to two hours, and occurred sometimes in the night, sometimes in the day time.

During these three days she took one pint and a half of the above decoction, one quart of wine, besides her anodynes and food. From the 11th to the 18th there was no essential alteration, except one day she had two convulsion fits: head-ache and sickness at stomach were predominant symptoms.

During this period she took one bottle of porter, three bottles of cider, three bottles of bark beer,* one quart of port wine, and tinct. opii twice a day; she took for food during this time (the nurse says) as much meat as one person's meal, four cups of tea daily, besides food of the bread kind, strawberries, &c. Her bowels were opened once in two or three days, by aloetic pills and injections. One of the last days she took three small doses of calomel;

* The manner in which this beer was prepared, may be seen by referring to chap. xvi. sect. 2.

this was the day on which she had her convulsion fits; she also complained on this day of pain in her bowels. Resolved to abandon the use of calomel and opium, and to depend more on food and exercise. Ordered her to be got into a chair and drawed about the room daily, &c.

June 21st, her appetite better; she fainted this day once in her chair. Ordered, notwithstanding, perseverance in exercising her. In a few days she was so well as to be able to be carried out in a chaise, &c. and is gradually gaining her strength; she however is, at this time, viz. July 18th, very miserable in her appearance.

Exercise and food are now the only means she uses.

Clinical Remarks.

I attended this patient the whole of the first night of her illness, (viz. May 13th) and was determined to allay her mania with opium, but was disappointed. Her deliriums leaving her at noon, May 16th, is not be attributed to any particular medicine, but to the nature of her disorder. Were I to treat her again, I think I should use less opium.

Her relapse was probably occasioned by a cold wet storm which occurred at the same time.

CASE V.*

Elizabeth L——, aged nearly two years, was seized, on the 7th of August, 1808, with the usual symptoms of cholera infantum. Nothing uncommon appeared for the first day, and the mother being sick at the same time, I was called at eleven o'clock on the morning of the 8th. After prescribing for the mother, I was informed of the child's illness. On examination, it appeared to have but little fever, and gave me a pleasant smile when I uncovered its face. The family informed me it had been extremely ill the preceding day and night, with a vomiting and purging, but had been better all the morning. I observed, that as the mother† had just taken an emetic, she would necessarily require all the attention the family, at that time, could bestow; and as the child was better, I should defer giving it any medicine until my return, which would be in about two hours.

About an hour after my departure, an exacerbation of fever came on, and the child had violent convulsions.

On my return I found the room crowded with attendants, who, seemingly in a fit of desperation, had given a dose of laudanum, and immersed the child in warm water.

* This case is taken from the Philadelphia Medical Museum, as related by Dr. John Stevenson, who considered it as a case of Hydrocephalus. It is thought to be a case of spotted fever. His letter is dated Newtown, Worcester county, Maryland, April 18th, 1809.

† Had not this patient a fever, perhaps the spotted fever also?

The fits were in a measure relieved, though they continued lightly through the afternoon, with longer intervals, and some permanent stiffness of all the extremities.

I was apprehensive the fits were occasioned by some acrimony in the primæ viæ that remained undischarged, and gave as a purge three grains of calomel,* mixed in syrup, and directed a large teaspoonful of ol. ricin. to be taken every two hours, until it should purge freely. Shortly after night, the fever seemed to increase, and, together with it, the convulsions returned at shorter intervals, and lasted longer; the abdomen hard and tumefied, and no evacuation had taken place from the bowels. I grew extremely solicitous for the fate of my patient, and now made an attempt, and succeeded, in obtaining about five ounces of blood from the arm. A strong stimulating injection was thrown in the rectum, which was shortly returned without any fæces; at length, however, a stool was procured, followed by two more in the course of the night, and considerable relief was obtained. There still remained some stiffness and a spasmodic contraction of the arms, so that it was seldom any accurate knowledge could be obtained of the pulse by

* I had lately been led to adopt an opinion, from actual observation, that calomel, in an *appropriate dose*, would operate more speedily as a cathartic than in a *large one*. I mentioned the circumstance to a medical friend, thinking I had discovered something not generally known. He informed me he had long ago observed the same.

feeling it at the wrist; I was, however, generally satisfied when I examined the feet.

The child remained tolerably quiet the remaining part of the night. Epispastics were applied to the extremities, which, by the morning of the 9th, were well drawn.

On my visit this morning, the dilated pupils of her eyes were the first thing that I noticed. I immediately mistrusted a diseased state of the brain, and, in order to produce a derivation from the head, gave two grains of calomel, and five of jalap, to be repeated every four hours, until it should produce copious evacuations from the bowels; but so insensible were the intestines to the impression of the medicine, that she relapsed into fits the succeeding night, more violent than ever, before a single evacuation was obtained from the medicine. Recourse was again had to ol. ricin. and strong enemata, which again relieved her, after being apparently in the act of dissolution, with every muscle composing her little system most tremendously agitated.

The bowels, after this, were not so obstinately constipated; cathartics now operated in their usual dose, and were freely used; and blisters were applied alternately to nearly all parts of the head. The fever was now completely subdued, but the pupils still remain dilated; no strabismus has at any time been observed; she has spoken but once since she first had fits, and that apparently in a great fright:

she called her papa who was near her. She continued to lie in a torpid, lethargic, insensible state, for near three weeks, with an incessant desultory motion of her arms, unaccompanied, I am free to say, with any consciousness whatever; for the MIND, strictly speaking, *was entirely obliterated.* The loudest noise would excite no impression; the handsomest toy would not produce a single effort to handle, or even look at it.

I felt rather in an awkward predicament; I never saw a case similar to the present. She was by this time much reduced; had been weaned from the breast a short time before taken down, and again put to it; would at times suck extremely hearty; appeared to be unconscious either of the quantity taken, or its feelings of hunger; would appear equally uneasy while at the breast as any other time. In this dilemma, nothing appeared better to be done than an adherence to the golden rule, of "prescribing according to the state of the system." Accordingly, tonics were most plainly indicated, and nothing seemed to promise so much as the cold bath. I never had tried it in a single case, therefore felt a diffidence. Electricity was out of our reach, neither did it appear so flattering. At length, after some days spent in deliberation, recourse was had to the advice of Dr. S. Ker, of the adjoining county, who recommended the bath in such terms, that it was begun with the very next day, being the 6th of September, and conti-

nued about four weeks, regularly once a day, with the most astonishing and encouraging effects.

The bath was composed of a large tub, set in the room, filled with water from the well; for the first few times made a little warmer. The child was entirely stripped, simply plunged, immediately received in a warm blanket, rubbed well with dry flannel, and wrapped warm.

It was highly pleasing to see the resuscitation of its mental faculties, and the gradual manner in which they were re-evolved. The bath was used about eight days before any effect was perceptible. The first effect observed was (what would most naturally be expected) signs of uneasiness on being stripped; some days afterwards she would look at the tub before being stripped. She, after a while, would follow with her eyes the other children about the room; and a while, still longer afterwards, began to attempt to support herself on her feet (for I ought to have observed before, that her feet have been as useless as her organs of speech, and have been idle as long), and finally she made an effort to speak, for the first time, wanting two days of seven weeks.

The exhibition of the martial tincture was begun at the same time the bath was used; but, having some constipating effect on the bowels, and the appetite sufficiently good, it was not long continued. The bath was in-

tended to have been continued somewhat longer, but an eruption (the psora) appeared generally over the skin, with such intolerable itching, that the bath was laid aside for frictions of sulphur. The child, however, continued to mend rapidly without any further use of it.

I have not observed her speech, or the use of her lower extremities, to improve any faster, in consequence of her having had a previous use of them, than is customary in other children.

She is now, though rather small of her age, in perfect health, lively, and active.

CASE. VI.*

Andrew Ellicott, a child, six years old, of a remarkably strong, robust constitution, and plethoric habit, endowed with an understanding much above his age, and accustomed to use much exercise, on the twelfth of December, 1807,† had fatigued himself much at play. In the evening he had an ague, which was soon succeeded by an ardent fever, violent pain in the head, restlessness and delirium;

* This case also is extracted from the Philadelphia Medical Museum, as related by Dr. Fleming Bates. It was thought to be a case of hydrocephalus internus. It is believed it might, with more propriety, be considered a case of bilious spotted fever. His letter is dated Occoquan, seventh month 19th, 1808.

† Same time that the spotted fever was epidemic in Goshen.

these symptoms continued till towards morning.

Dec. 13th. In the morning his fever in some degree remitted, but his pulse continued full and *tense:** his tongue was covered with white mucus, and his eyes appeared inflamed. On examination, his body was found covered with an eruption much resembling flea bites.† He took six grains of calomel and eight of jalap in the morning, but they did not operate on his bowels till late in the day, and he then had but two small discharges, which were of a very dark bilious appearance. Through the course of the day he was almost constantly delirious, and at eleven o'clock P. M. he was utterly insensible of external objects; his pulse seemed much oppressed, a glow of heat pervaded the whole system, his face was flushed and almost purple, and in breathing he much resembled a person labouring under apoplexy. From twelve to fourteen ounces of blood were taken from his arm, and an injection was administered, in which a scruple of nitre was dissolved. His breathing soon after became easier, the heat of his skin moderated, his pulse became more regular and free, and he rested without much disturbance till morning.

14th. At eight A. M. he became very rest-

* Doubtful.

† Eruptions, when they do occur, have been considered as good evidence that the fever is of that kind which has obtained the name of spotted.

less, and his fever rose: I gave him two or three nauseating doses of vin. antim. at short intervals. His restlessness and anxiety increased, his pulse became exceedingly languid and irregular, and he puked at times a considerable quantity of dark green bile. A saline draught was administered, which seemed to compose his stomach, and he then took nitre in all his drink; several injections also, in which nitre was dissolved, were administered in the course of the afternoon, which procured two or three small bilious discharges. His fever notwithstanding increased, and the delirium became more alarming. When aroused, he had a wild staring look, and his eyes were much inflamed, but he lay generally with them half closed, snd in this state large drops of tears were seen frequently to trickle down his cheeks.

At three o'clock P. M. he was bled, but not more than three ounces of blood could be obtained. The nitrous drink was continued, and in the evening a blistering plaster was applied to the back of the neck. I also administered two injections in the night. At eight P. M. he had an exacerbation; for half an hour afterwards he seemed insatiably thirsty, his cheeks then became flushed, his pulse full and strong, and he lay in a comatose state till near ten; he then became very restless, made almost incessant moan, and frequently applied his hand to his head. At eleven a sweat appeared, which,

extending to his extremities, seemed to afford relief, and he appeared more quiet till morning.

15th. At eight A. M. a strabismus is observed in his right eye, his face is much flushed, and he is almost constantly delirious: we gave him twenty-four grains of jalap, which operated but twice; the discharges were small in quantity, and of a very dark bilious appearance. About eight o'clock in the evening he appeared more rational, but his face was still flushed, and his pulse full and very quick. I had his head shaved, to which I applied a large blistering plaster; plasters were also applied to his legs, and sinapisms to the soles of his feet, and he took four grains of calomel; he was very restless during the night, but the symptoms did not essentially differ from those before noticed.

16th. His eyes this morning are highly inflamed; nay, blood-shot; the squinting is more remarkable; the pupils more dilated; head hot; face much flushed; extremities cold; pulse one hundred and twenty, and strong; very comatose. These alarming symptoms induced his father to send for Dr. Spence. He arrived at ten in the forenoon, and soon after his arrival opened the jugular vein. From this vein, and the arm, fourteen ounces of blood were drawn,* and a cathartic powder ordered, of jalap fifteen grains, gamboge two grains, and calomel four

* Were not the "*symptoms of extreme debility*," which soon after followed, owing to this evacuation of blood, &c.?

grains, to equalize the excitement. He also directed his feet and legs to be put in warm water, and afterwards well rubbed and wrapped in flannel: his head and shoulders to be elevated; the dressings removed from his head; a folded piece of cloth dipped in cold vinegar and water applied to it, and kept wet. Soon after this process was commenced the colour forsook his cheeks; he breathed quick; the pulse became languid, beat one hundred and thirty; he was restless, and his left arm in constant motion. When these *symptoms of extreme debility* first appeared, the wet cloth was removed from his head, when they became more alarming; a warm brick wrapt in flannel was applied to his feet, his abdomen was fomented with warm spirit, and he took now and then a spoonful of warm wine whey. He was restless till about eight in the evening, when his skin became soft and he slept. During this critical night Dr. Spence sat up with him, and carefully watched the varying symptoms of the disease, regulating his practice accordingly.

17th. A great change for the better. The strabismus and inflammation of the eyes are almost entirely removed; but the pupils still continue dilated;* he is capable however of distinguishing his attendants. He took half a portion of the cathartic powders prescribed yesterday, and in the evening he had several

* Such symptoms are not very unfrequent in spotted fever.

passages, and the violence of the symptoms seemed much abated; towards night, however, although he retained his reason, and the strabismus had entirely disappeared, he became extremely restless, screamed violently, and had strong spasms, by which his head was drawn backwards like a person affected with opisthotonos. The spasms were not of long duration, and did not appear to affect the muscles of his jaw or his arms, but they recurred frequently. In the intervals of relaxation he complained much of his blisters, he also rubbed his nose frequently, and said he wished to sneeze but could not. His pulse about this time beat ninety-five to the minute. After dressing his blisters and applying two others to his arms, he became more composed, and rested pretty well through the night; at one time he lay an hour and a half, and slept quietly.

18th. His pulse one hundred and six. He is still affected with spasms, by which his head is drawn backwards, but not so violently as it was last evening. He took the cathartic powder as prescribed on the seventeenth, and it was directed to give him frequently afterwards a draught of the infusion of senna and cream of tartar. In the evening he had several discharges, but they are still of a very dark colour. The violence of the symptoms however is much diminished.

19th. This morning the patient in every respect appears much better. He has an appetite

for food. There was a flushing of his cheeks early in the morning, but it was attributed to his fretting during the time of having his blisters dressed, which discharge freely, and of which he complains very much. The flushing disappeared in a few minutes after having a wet cloth laid on his head. He had last night a considerable discharge of hardened scybala. The use of the infusion of senna and crem. tart. was continued, which procured several discharges in the course of the day.

20th. Pulse one hundred and fifteen at eight A. M. The patient is restless, and often applies his hand to his head, exclaiming, O! my head, my head! his right eye is inflamed, and the pupils of both are much dilated. The admission of light excites pain so acute as to make him scream; he has a wild appearance, and the flushing of his cheeks is very considerable. It was directed to give him very freely of the infusion of senna and crem. tart. About two P. M. the cathartic operated; the discharges were more copious than any preceding since the accession of his disease; it appeared to afford relief, and he slept quietly an hour. Seven P. M. his blisters are much inflamed, and fret him exceedingly; he complains of pain in his eyes, and cannot bear the light; his face is flushed, and the temporal arteries throb strongly; his pulse beats at the wrist one hundred per minute. For several days past his urine has been very copious, clear as fountain

water, and deposits no sediment.* His tongue, which has been much furred from the commencement to this time, is becoming clean.

21st. Pulse at the wrist and temporal artery one hundred per minute, and much stronger than it has been since he was bled. His cheeks also are considerably flushed. It was directed to give him nitre dissolved in his drink in the morning, and the infusion of senna and crem. tart. in the afternoon. About three P. M. the patient had several copious discharges, which have a natural appearance. His pulse beats ninety to the minute, his skin feels cool, and there is but little flushing in his cheeks; the wet cloth has been applied to his head the greater part of the day. Nine P. M. he is quite mild and cheerful, has a good appetite, and sat up and eat a biscuit. The light is yet painful to his eyes, though they do not appear inflamed. We discover he is a little dull of hearing.

22d. Eight A. M. pulse ninety-five. Gave him the infusion of senna and crem. tart. which operated about twelve o'clock. He slept all the early part of the day. Seven o'clock P. M. the patient is very cheerful, appears free from fever, and has a good appetite. His blisters are healing.

23d and 24th. Symptoms appear favourable. The patient is able to set up, is nearly free from fever, and has a good appetite.

* This kind of urine is not uncommon in spotted fever.

25th. The symptoms of this day mark a distinct era in the history of this patient's case; and as their diurnal periods were preserved with remarkable regularity through all the subsequent stages of the disease till its termination, I conceive it unnecessary to follow the daily journal further. In this place I shall make a few general remarks, as they apply to both stages of the disease, and then proceed in a summary manner to give an account of the disease in its last stage.

The torpor of the patient's bowels from the commencement of his illness till the disease terminated, was very remarkable. From the 12th of December to the 21st of January, he had not, I am fully persuaded, a single passage that was not promoted by injections or the cathartic medicines he took.

It has been mentioned that the patient had copious discharges of limpid urine in the first stage of his illness. He continued to have such discharges till the disease terminated.

In the stage which I am now about to describe, the patient was generally cheerful in the morning, his pulse was full but irregular, varying sometimes in the course of an hour from ninety-five to one hundred and fifteen or more. His mental faculties were in full perfection; indeed, those who were acquainted with him before, and during his illness, observed, that his perceptions were more clear and distinct, and his ideas more sprightly than they had been while he was in perfect health.

A flushing of his cheeks was generally remarkable in the morning, the pupils of his eyes were dilated, and the admission of light continued to be painful to him.

*As evening advanced he became less cheerful. The flushing of his cheeks disappeared, a drowsiness came on, which soon increased to a profound sleep; a torpor now seemed to pervade his whole system, his extremities became cold, his pulse small and irregular, varying frequently in a short time from sixty-four to eighty. In this state he generally lay several hours:** he then began to move his lips, open his mouth, and thrust out his tongue, as if he was endeavouring to remove from the organ of taste something disagreeable. This symptom invariably announced an afflicting scene of human misery; starting suddenly from his lethargy, he was alive only to the most painful sensations. His head was the seat of all his sufferings, his head was the constant theme of the most heart-piercing lamentations. This scene of torture and crying distress generally continued about three hours; its most frequent period of accession was nine o'clock at night, but in the course of his illness it varied from four in the evening to two in the morning.

* Many spotted fever patients, before the utility of the stimulating sweating process was known, died in the cold or sinking state here described. The unassisted efforts of the constitution are often insufficient, in cases of spotted fever, to produce the salutary reaction of the system here described, and very properly considered as constituting the remaining part of the paroxysm,

His tortures uniformly continued till the increased excitability of the system overcame the torpor, and restored energy of action to the heart and arteries. Then he became easy, and the train of symptoms proceeded regularly to the accession of the next paroxysm as before related.

The torpor of his bowels rendered it necessary frequently to administer cathartics. Except when he was under the operation of these, he took alternately, once in four hours during the continuance of the febrile state, ten drops of the saturated tincture of digitalis, and one grain of calomel. *Blisters,* while they were drawing, appeared to be of eminent service in diminishing the violence of the nocturnal paroxysm*, but it was only while they were drawing that they appeared to be of service.

In the course of his illness he had not less than twenty blisters drawn on different parts of his system.

From the 25th of December to the 10th of January, the diurnal revolution of symptoms recurred with great regularity. On the 10th of January his bowels were in a constipated state, and he took a cathartic in the morning, which did not operate till the accession of the nocturnal paroxysm. The operation then was excessive, and he appeared in imminent danger of sinking under it.† During the continuance of

* Other stimulants are eminently useful in such cases.

† The operation of a cathartic has often been observed to have this effect in the sinking state of the spotted fever.

the febrile state which succeeded, the flushing of his cheeks was not so remarkable as it had been, his pulse was less tense and frequent than usual, the pupils of his eyes were more contracted, and he could better bear the admission of light. The small doses of calomel were now omitted, but the tincture of digitalis was given during the continuance of his fever. When the action of the arterial system began to abate, we gave him six drops of Fowler's mineral solution, with directions to repeat it three time a day, and also to administer in the intervals between giving these doses, a few spoonfuls of the decoction of red bark.

These medicines were given daily, from the 10th of January to the 17th of that month, without effecting any material change in the disease, little or nothing was gained, and the issue of the disease remained seriously to be dreaded. *On the 17th of January, at the approach of the evening paroxysm, he took an opiate in a large dose.** *This appeared to have a very salutary effect. The accession of the paroxysm was protracted much beyond the ordinary time, and the symptoms were much milder than usual.*

He continued to take Fowler's mineral solution, and the decoction of bark, and at the approach of each succeeding paroxysm, the opiate was given. The effect was uniformly salutary,

* Opium and other stimulants have often done wonders in spotted fever in such circumstances.

the violence of the symptoms was subdued, and the fits so far exceeded their usual periods of accession, that at the accession of the fourth fit, from the time the opiate was first given, the patient had gained a whole day, and he had no returns of them afterwards.

He was now much emaciated, and reduced to a state of extreme debility. By the use of tonic medicines he had regained so much strength by the 4th of February, as to be able to walk without support. On this day he was affected with an erysipelatous inflammation of his face and side of his head, which again deprived him of the use of his limbs, and confined him to his bed for about a week. When the fever attendant on this inflammation ceased, it was discovered that his faculty of hearing was materially impaired. The deafness continued about a month, or till the first week in March, when the erysipelas again appeared on his face and head; with this he was again confined a few days; but when he recovered from the fever, his hearing was perfectly restored.

From this time his strength was daily improved, till his health was perfectly re-established, in the full enjoyment of all his faculties.

CASE VII.

GROVE HINMAN, aged thirty-two, a healthy labouring man, was attacked, on the 17th day of July, 1810, with vomiting and diarrhœa, which recurred occasionally until five o'clock A. M. of the 18th, when I first saw him. He had taken no medicine except two doses of Hull's powder for cholic, which were immediately ejected from the stomach. At this time his pulse was sixty strokes in a minute, soft and flat. His skin livid, preternaturally cool, and feeling to the touch as if moderately œdematous. His stools were dysenteric, and the whole epigastric region was filled with an overwhelming distress. Gave thirty drops tinct. opii, with ess. menth. pip. mucilage of gum. arab. and chicken tea. The distress at stomach increasing, he soon requested me to give him a cathartic. Gave ol. ricini.

Eight o'clock, vomiting is checked, but the distress at stomach increases. He says that "something presses up his midriff, that the air is so light he cannot breathe," and gasps for breath. Coldness of the extremities, and of the whole surface increases. Friction is made use of, succeeded immediately by external heat and steams. Epispastics are applied to the extremities and to the back of the neck, and sinapisms to the feet. From this time the diffusible stimuli were freely administered. At this time his pulse was scarcely at all perceptible,

and the feeling of the artery was such as almost irresistibly to impress the mind with the idea of an almost total loss of tone and contractile force in the heart and arterial system. As yet he had the perfect exercise of his reason, and was able, as far as he could speak, to describe his feelings with accuracy. Together with coldness, he has numbness of his limbs. He says "the pain and numbness run in streaks up his neck to his head; he is numb all over; his tongue is numb; his jaws are almost fixed; and that he cannot see." Immediately upon this he became comatose; respiration was suspended for some time: when roused from this state by agitation and volatiles, he gasps and begs for air, that he may breathe. Previous to this time he had taken freely of camph. ess. menth. pip. infusion of rad. columb. and rad. serp. Virginianæ, and spt. c. c. vol. Having no wine, gave half a jill of brandy. Again gave thirty drops tinct. opii, with tinct. cort. Peruv. comp. ʒ ss. At half past eight o'clock, the wine arrived. From this time doses of from half a jill to a jill of warm wine were frequently given. Half past ten o'clock ol. ricini appeared in the stools. Symptoms unaltered—respiration is frequently suspended for a time, and the pulse remains as before. Gave forty drops tinct. opii —continued external heat, ess. menth. pip. tinct. and gum. camph. &c. gave frequent doses of tinct. cort. Peruv. comp. warm wine, and occasionally ʒ ss pulv. cort. Peruv. in substance. The vomiting having ceased upon the

first exhibition of the tinct. opii, the medicines were all retained upon the stomach.

Eleven o'clock, the pulse becomes more full and strong; he discovers more excitement and sensibility; weeps, grows delirious, laughs, points with his fingers, and talks wildly. His respiration is much relieved, and he is for several hours in what may perhaps be called the active or hot stage of fever, when compared with the low, cold, or torpid state which had preceded. Yet during what for the sake of distinction I have called the hot stage, it is believed that the heat of temperature was at no time above the standard of health. During this state the same medicines were continued, but the quantities were lessened. Directed to increase if inclined to sink.

Seven o'clock P. M. Vomited copiously of dark bilious matter. Medicines continued.

Evening. Sweats for the first time. Sleeps quietly six or eight minutes, and breathes freely. Respiration then becomes irregular, or is entirely suspended: when awaked he appears exhausted; but for the most part breathes freely, if not suffered to sleep too long.

19th, A. M. Sinking turn, but less severe than yesterday; distressing dysuria; troublesome flatulence; vomited once during the last night. Medicine continued. Pulv. cort. Peruv. from ℈ij. to ʒj. every two hours.

20th, three o'clock A. M. Appearance of increasing lowness several hours earlier than

before; dysuria continues;* flatulence; tongue is covered with matter, both in colour and consistence resembling molasses. His only food is chicken broth. For two days he has refused bread, and farinaceous substances in every form. Give bark every hour; other medicine as before. Calls for solid food; has eaten the wings of three small fowls.

21st. Last night took no solid food, and almost no nutriment of any kind. Skin too cool; tongue dry, and almost black; dysuria less; symptoms variable; pulse often varies from seventy to ninety-five pulsations in a minute; transient sweats; frequent dozing; restlessness and tossing when awake. Gave calom. ppt. grains 8—enema. These produced a copious evacuation by stool.

From this time the stomach and bowels were easily excited, and the system was easily affected by medicine. Ess. menth. pip. and bark in substance were now laid aside; tinct. opii, with small doses of the tinct. cort. comp. were continued; and weak sling and toddy were substituted for wine, which had now become disagreeable.

22d, A. M. Tongue almost clean; pulse and heat natural; appetite returning; has taken

* It ought to be remarked, that although this patient experienced pain from long retention of urine, and from voiding it when it was discharged; yet he discharged, on the whole, an unusual quantity of pale or straw coloured urine, during the most distressing and dangerous part of the disease.

considerable food during the night; has slept well, except being at times disturbed by the appearance of disagreeable objects when he first closed his eyes. P. M. Continues better; has had no sinking turn to-day; has relished and taken sufficient quantity of food, with apparent advantage; has no complaint but debility, except, in a few instances, pain of the stomach, and this is immediately removed upon taking something into his stomach.

23d. Convalescent. Tongue clean, appetite good, and he is free from complaint. The tinct. cort. Peruv. and tinct. opii continued; but the doses gradually lessened.

24th. Continues convalescent. Directions as yesterday. He now uses a little cider and wine.

25th. Continues convalescent. He sits up some, and begins to walk.

26th. Cured.

This patient, during the first three days and a half after I first visited him, took pulv. cort. Peruv. three and a half ounces; tinct. cort. Peruv. comp. one pound; ess. menth. pip. four and a half ounces; tinct. opii, about nine hundred drops; wine, six quarts.

After this, and during his convalescence, he took only tinct. cort. Peruv. comp. five ounces; tinct. opii, two hundred drops; wine, one quart, and a very little spirit diluted.

P. S. This man now enjoys good health.

ELIJAH LYMAN.

Farmington, October 13th, 1810.

CASE VIII.

WADSWORTH LOOMIS, aged five years, was suddenly attacked, on the 24th of May, 1810, with general debility, coldness of extremities, inability to walk, pain in the head, and vomiting: his eyes were shut, and he was constantly inclined to doze: his pulse was quick and weak, and within two hours from the attack his tongue was covered with a white fur.

Treatment. Immersed his feet in warm water, applied an epispastic to each leg, and made external applications of blocks boiled in water and wrapped in flannel, and gave a dose of calom. ppt. After this I gave ess. menth. pip. tinct. and gum. camph. and tinct. opii in small doses, frequently repeated. For drink gave pennyroyal tea. By these means, in about four hours, the coldness of the extremities was removed. The violence of the disease seemed in some degree lessened, when the action was increased, and a proper determination to the surface was restored. The succeeding heat was moderate, but greater than in health.

25th, A. M. There is a remission of all the symptoms—medicine continued. P. M. two o'clock. There is too much heat—lay aside tinct. opii, and other stimulants, and give spt. nitri dulc. small beer, and effervescing mixture. Nine o'clock. Excessive excitement, violent heat, active pulse, tossing, picking the bedclothes, delirium.

Take infusion of senna and rad. glycyrrhiz. in divided doses, and repeat every hour till it operates as a cathartic. Discontinue tinct. opii, camph. ess. menth. pip. and give spt. nitri dulc. crystals of tartar, effervescing mixture, and small beer. The symptoms last mentioned continued most of the night, but were followed by a remission in the morning.

26th, A. M. No delirium—skin moist and moderately warm. Omit crem. tart. give drinks as before, and vary the quantity of spt. nit. dulc. according as the fever shall be increased or diminished.

27th. Has had no exacerbation of fever. Give light drinks, and for food chicken broth.

28th. Has no fever; is free from complaint; has appetite for food, and is evidently convalescent. Continue the broth for food, and, if his appetite continues, let him gradually return to his usual diet.

29th. Cured.

APPENDIX II.

From the Massachusetts Medical Papers.

Account of an uncommon Disease, which appeared in Geneva, in the Winter and Spring of 1805.*

IT commenced suddenly by a prostration of strength, which was often extreme. The countenance collapsed, pulse weak, small and frequent, sometimes almost imperceptible; in a few cases hard and elevated. Violent pain in the head, especially the forehead; afterwards heart-burn, vomiting of green matters, pain along the spine, and, with infants, convulsions. In bad cases the loss of reason succeeded these symptoms. The course of the disease was rapid, whether its termination was by death or by cure. In the first case, the disease lasted from twelve hours to five days, but never more.

* Translated from the Paris Journal de Medicine, &c. This disease was not confined to any portion of Geneva; but extended through the city, and to the neighbouring country. It was called malignant cerebral fever, not contagious. From March 16th, to May 8th, about thirty died of it in the city, besides those in the country.

In the second, it was often as short in duration; but sometimes it seemed to take the course of a common bilious fever, and sometimes it assumed the type of an intermittent fever.

With the greater number of patients, who died in twenty-four hours, the body was covered with violet spots at the moment of death, or a little after, and sometimes before death. It is to be remarked, that these violet spots appear often in cases of sudden death; whether the disease be or be not of a peculiar malignity.

Under some circumstances, the invasion of the disease, properly so called, was preceded by head-ache, followed by a remission of uneasiness; but more commonly the disease came without a herald.

The complaint we describe affected children principally. Many young persons were also attacked; and but few above thirty.

On opening the bodies of the dead, no morbid alteration of the viscera was seen, excepting a turgidity of the cerebral blood-vessels.

The first patients perished suddenly; they were assisted too late. After this, emetics, the cinchona, and, rarely, blood-letting were the remedies which were generally adopted, and this method succeeded commonly, if resorted to on the invasion of the disease.

Account of the Spotted Fever, which lately prevailed in Orange County, (N. Y.) read at the last Anniversary Meeting of the Medical Society of said County. By Dr. D. R. ARNELL, *and communicated to Dr.* HOSACK, *M. D.**

THE appearance and prevalence of the spotted fever, or typhus petechialis, in this district of country, has been so considerable, and its progress, in many instances, so fatal, that it has arrested the attention of the most of our society, and induced me to write on that disease. Perhaps I shall not be able to throw any new light upon the subject after so much as has been written by the eastern physicians, who have been more acquainted with its progress, duration, extent, and termination. From what I have read of their writing, they have uniformly considered it a new disease: for my own part, I think it only a species of the typhus petechialis of Cullen; and in reading the Medicus Novissimus, which was published one hundred years ago, I find a fever there described, as prevailing about London at that time, partaking of all its most prominent symptoms. A short extract from that work, page

* This is taken from the American Medical and Philosophical Register, a periodical work published in New-York.

272, may be of service in establishing the analogy of the disease there described as the prevailing malignant fever, with the one which we are now considering.

" It is attended with very severe symptoms, as violent pains of the head and stomach, frequent shivering, and a sudden but very great weakness, without manifest cause, anxiety and pains in the back and loins, the breath smells strong; there is great thirst, continual waking, spots sometimes appear on the body, the pulse is unequal and very low; urine not so high coloured as in simple fevers. There are sometimes convulsions, delirium, &c. &c. It may be caused by an infectious air; by eating corrupt food, or drinking unwholesome liquors, as stinking water and the like. This is a very dangerous disease, and often kills in a very little time. An unequal, quick, and weak pulse is a bad sign. If the hands tremble much when the pulse is felt, the disease doth most commonly end in death, especially if there be a foul tongue, a ghastly countenance, and the eyes sunk in the head. The cure must be undertaken as soon as possible, for this disease admits of no delay." The medicines recommended for the cure consist of spirituous and heating remedies and alexipharmics, and when the spots appear on the surface of the body, they are to be promoted by sweating medicines; blistering plasters are to be applied to the legs and thighs, especially if the cuticular

eruptions advance but slowly, or seem to retract before the state of the disease.

I have omitted Dr. Woodman's theory of the coagulation and dissolution of the blood, as the proximate cause of this disease, and only taken the leading symptoms, to show that the spotted fever is one hundred years old. Nay, I believe the fever described by the celebrated Dr. Sydenham, under the title of "the new fever," and which prevailed in several parts of England, and began in February, 1684, to be the very same disease;* and I am inclined to believe that it has been frequently, and perhaps at regular periods, a visitant among the nations of the earth, in some, and perhaps distant parts of the world. No regular history of fevers, since the time of Sydenham, has been handed down to us, until the yellow fever made its appearance; since which time, until lately, the spotted or petechial fever has never made its appearance. The first cases of it which occurred were in Winchester, Litchfield county, Connecticut, about the 10th April, 1807. It has since prevailed in many places in that state, in Massachusetts, and in Vermont, as well as in this part of the state of New-York.

I shall now proceed to describe the symptoms of the disease as it appeared here. The patient is generally seized with a pain in some particular part, most frequently in one of the limbs,

* See Dr. Pechey's Translation of Sydenham, page 410.

the hip, or the shoulder, shifting from place to place, and often to the head or stomach, with great anxiety and restlessness. These symptoms are accompanied with cold shiverings, and other marks of fever, which are soon succeeded by sickness at the stomach, indescribable distress about the precordia, numbness of the extremities, a remarkable and general prostration of strength, and a depraved action of the sensitive organs. In some violent cases the sight is much impaired, and even totally, though temporarily lost. The pupil of the eyes is for the most part contracted in the beginning of the disease, though after its continuance for some time it becomes considerably dilated or enlarged. The tongue has been invariably covered with a whitish coat, and moist. The pulse is generally low, a little increased in frequency, remarkably intermittent, and unequal both in strength and weakness; but in some few mild cases it is very little altered. Respiration is in all cases much disordered. Petechiæ, or livid blotches, or a red, fiery eruption in most cases, appear on some part of the body, and sometimes they are general; though they are not always a constant attendant. There is in most cases a delirium attending from the attack through the whole course of the disease, though this was not universally the case. The duration of the disease has generally been from twenty-four to forty-eight hours, when the patient has either died, or the disorder run into

the form of a mild typhus of uncertain duration.

The indications of cure are as various and deceptive as the symptoms which accompany the disease. There is, however, one object to be kept constantly in view, and that is, to restore the vital powers by bringing about a reaction of the system; or, in other words, to reverse or overcome the prevailing morbid actions, and to force a new train of actions upon the system.

I have generally pursued the following method of cure with those whom I have attended. To an adult I have immediately given about twelve grains of calomel, and if the vomiting was considerable, a solution of volatile alkaline salts, until the vomiting had in some measure abated; then another dose of calomel, according to the age and strength of the patient: this has been followed with an injection. I have next given the compound powder of ipecacuanha, which, if it did not soon produce a pretty general and copious perspiration, I have made use of blocks boiled in water, and applied hot in the bed to the sides and extremities, together with a drink of tea made of the rad. serp. Virg. to which, if the pulse was low and sunk, I added spirits, diluted alcohol, or brandy. The blocks I have generally used were of hemlock; though I did not believe them better than any others, yet I generally found that my patients had more confidence in them than others; which confidence I was willing to increase by every means in my

power, and I have frequently found it to act like a cordial in very low and debilitated cases.

The stimulants which I have used were mostly of the diffusible kind, such as brandy, laudanum, æther, and whiskey, and always proportioned to the violence of the disease. In some cases I have given a quart of brandy in six or eight hours with the happiest effect; though I have not generally used stimulants to so great an extent. But frequently in the latter stages of the disease it has been found necessary to add wine, bark, and other durable stimuli, more effectually to invigorate and strengthen the system. Wherever I have found a considerable affection of the brain, (which was the case in several instances) I have omitted the stimulants altogether, and depended entirely upon calomel, together with the employment of the several means which tended most powerfully to the surface of the body. The sweating should always be continued until the disorder gives way, which will frequently take one, two, and sometimes three days. In the hazardous stages of this disease, when an evacuation from the bowels is necessary, it is better promoted by injections than cathartics, as the former do not debilitate so much as the latter.

This is the treatment which I have generally pursued, and, I am happy to add, that in about forty cases which I have attended, only two have proved fatal. I consider its mortality to

be ascribed to the general law of epidemics, that those most susceptible of disease are liable not only to receive it the soonest, but with the most severity; and that, on its first appearance, it is most mortal, when, after a certain period it becomes as much under the control of medicine, and as manageable as ordinary diseases.

As I know we have generally little time to spare on our anniversary meetings, I have endeavoured to make the history and treatment as concise as possible. I do not believe that this disease is contagious, for I cannot discover a single instance where it appears to have been communicated from one to another; neither have I ever known a single person who has had the cow-pock to have the spotted fever. As preventives, will not emetics be useful? And what will be the effect of mineral acid fumigations, made of oxygenated muriatic gas?

REMARKS.

AFTER the foregoing treatise was deposited with the printers, and Account of an uncommon Disease, which appeared in Geneva; likewise an Account of the Spotted Fever in Orange county, (N. Y.) and a Report* of considerable length and importance on the same subject to the Counsellors of the Massachusetts Medical Society, have fallen into my hands. As additional evidence of the correctness of the opinions which I have maintained, may be drawn from these publications, I have thought proper to republish the two first, and to make some remarks upon the last.

It appears, from the statement in this report, that the gentlemen from whom the authors re-

* This work is signed by three eminent physicians, Drs. Thomas Welsh, James Jackson, and John C. Warren, who were appionted a committee, by the Counsellors of the Massachusetts Medical Society, to make a report on the subject of the spotted fever. This committee, it appears, derived the information upon which the report is founded, principally from communications made to them from twelve physicians (who are fellows of the Medical Society), all residing in parts of the state in which the spotted fever has prevailed. I am disposed to regard this report as a valuable document, although a firm persuasion of the correctness of what I have advanced, must be my apology for varying in some respects from the opinions expressed in that work.

ceived communications, were deterred from the practice of frequent blood-letting, by the opinions which they entertained respecting the disease. " That cathartics were thought injurious till the third day of the disease"—that " in general emetics" were " also thought injurious on the first and second days," unless " sickness at stomach seemed to arise from a prior indisposition of that organ, rather than from a morbid affection induced by the disease," &c. We are, however, told " that some cases have occurred in which the lancet has been employed with benefit."

The remedies used were external and internal stimulants; such as external heat, opium and ipecacuanha combined, warm herb teas, wine or brandy more or less diluted, camphor, sulphuric æther, and opium. These remedies were used so as to produce long-continued diaphoresis. We are informed, that " under this treatment most commonly the violent symptoms, and not very rarely all the appearance of disease have subsided." The committee proceed to state, that " the administration of the articles mentioned has been regulated not merely with a view to promote diaphoresis. They are also thought necessary to excite the actions of the heart and large vessels, and to produce warmth. In proportion to the necessity of the case, the strength and quantity of these articles have been increased or diminished. In many cases very mild cordials, as-

sisted by external heat and clothing, have been found sufficient to effect the purposes desired; in others the most bold and liberal use of the strongest cordials have been thought necessary; they have been borne in very large quantities, and it is said that life has appeared to depend on their effects. In administering medicines of this description, the quantity has not been regarded; the practitioner has measured the use of them only by their effects. In cases of extreme coldness, great torpor, and frequent vomiting, ardent spirit has been given undiluted; and when it would not remain on the stomach if given cold, it has been made hot. Under such circumstances, a quart of brandy has been given in twelve hours. It should, however, be noticed, that some of our correspondents who have been very conversant with the disease, protest strongly against this liberal use of cordials; and believe that much injury has been produced by them." In the lethargic state, which is, it is said, "the death state of the disease, unless a speedy change be produced," tincture of opium has been thought eminently serviceable. In cases which have been thought desperate, fifty to a hundred drops of this tincture, administered every half hour, "have almost invariably removed the lethargy." When deglutition has been rendered impossible by paralysis, opium has been administered in enemas with the most salutary effects. In cases of spasm also, opium has been given in "large

doses with the most happy consequences." We are informed at this place in a note, that "in one case a scruple of opium was given in the course of three hours; in another forty-two grains in forty-eight hours." It is mentioned that arsenic, cinchona, iron, blisters, mercury, &c. have been used, and it is said with benefit. See the Report.

Previously to making any remarks upon the concluding part of this Report, I wish to be indulged in summing up the whole evidence which has been published respecting the mode of treating this epidemic.

1. When this disease first appeared at Winchester, it was conceived, partly from the symptoms of brain affection, and partly from the dissections at Medfield, in Massachusetts, that there was an inflammation of the encephalon. Hence venesection, and other depleting remedies were tried, until their baneful effects were thoroughly ascertained. See the remarks of Dr. Woodward and others. Similar experiments were made in other places with the same result. See Dr. Bestor's Essay. At length the hemlock practice was introduced by Mrs. Hurlbert, and proved successful. See Dr. Lyman's Letter to President Fitch. From that time to this, nineteen-twentieths of the physicians in Connecticut, who have been conversant with this malady, have, it is believed, been in the habit of the general use, not only of stimulating and alexipharmic, but of cordial

and tonic remedies. These have not, indeed, been used in all cases, *both liberally* and *indiscriminately*, as one might be led to expect from some expressions occurring in the Boston Report.

2. The epidemic (as appears by the Report of the committee at Boston) was treated in Worcester and Middlesex counties upon the stimulating plan, and generally with success.

3. In Orange county, (N. Y.) the stimulating alexipharmic practice proved successful, as stated by Dr. Arnell.

4. At Geneva, in Europe, after numbers had died, the remedies were found to be emetics, *cinchona*, and rarely blood-letting.

5. In Baltimore, tonics were found beneficial, as stated by Dr. Williamson.

6. I regret I am not able to state the modes of treatment which have been resorted to in the western parts of the state of Pennsylvania, and other places where this epidemic has prevailed. It is hoped the physicians in those places will, in due season, give to the public the result of their experience in this malady.

There are those who seem disposed to resist all this weight of testimony in favour of stimulants and tonics,* and merely because the use of the remedies may have been sometimes

* Such, so far as I have known, have had few opportunities of forming an acquaintance with the distemper from actual observation. Even the respectable authors of the Boston Report say, that they have themselves seen but few cases of it; and I cannot but apprehend, that this circumstance, and perhaps some misinformation from Connecticut, will account for the errors which they have committed.

in the hands of the unskilful misapplied. Upon similar principles we might discard the whole medical art.

As too much evidence cannot be produced on this subject, if it is calculated to convince the sceptical of an important truth, I will again resort to the inquiry, how other malignant, or (as others with more propriety perhaps express it) ataxic fevers have been treated. Hoffman, Huxham, Tissot, Buchan, and others, and the physicians generally in Sydenham's time, used cordials, alexipharmics, or stimulants in such fevers; and they are now used in cynanche maligna, and in common typhus. Some of these physicians, at times, tried the lancet; but Dr. Wilson has shown, even from their own testimony, that its use, in typhus fever, was much too frequent. Dr. Sydenham, I am aware, as has been noticed before, opposed the physicians of his time in the use of alexipharmic remedies; but does not the result of the experiments in the spotted fever incontrovertibly prove, that Sydenham was in an error, when he applied his improvement in the treatment of small-pox to all fevers? And does it not also prove, that his opponents were the most correct in their mode of treating malignant fevers?

The authors of the Boston Report have found, upon dissection, in those who have died with the spotted fever, congestion, turgescence, effusions, slight traces of inflammation in the internal parts, lividness of the ex-

ternal parts, &c. &c. Hence they have concluded, that "*this disease is fever combined with internal inflammation; and the inflammation is erysipelatous.*" At other times they suppose this is phlegmonous, or approaching to it.

To me it seems that most of the appearances after death in spotted fever, which they have so accurately described, are such as might be expected in those who die suddenly in the torpid state of fever. These are neither evidence that putrefaction, as was once believed, or, that inflammation, as is now thought, exists for any length of time previous to the death of the patient: For similar appearances have been noticed in persons who have died torpid from other causes besides fever, such as lightning, and violent passions of the mind. And no one, it is presumed, would contend that inflammation, in such cases, had preceded. Every one will recollect that Dr. Rush, when speaking of the prostrate state of fever, has produced these facts to show that putrefaction in the blood in fever, as was once taught, is improbable: for he says, "similar appearances with those which have been ascribed to putrefaction, have been produced by lightning, by violent commotions of the mind, by extreme pain, and by every thing else which produces sudden and universal disorganization in the fluids and solids of the body."

The gentlemen of this committee proceed to give us their own opinions respecting the proper mode of treating this epidemic; and, under

the influence of the belief, that there is congestion or inflammation in the brain, recommend that blood be drawn from the jugular vein. As the directions for venesection appear to be founded more on theoretical reasons than facts, and, as their directions apply to the comatose or lethargic state, which is undoubtedly the death state of the disorder, it becomes a matter of great consequence to investigate the correctness of this doctrine. In the present state of medical knowledge, every one will allow that it must be extremely difficult to designate, by means of the symptoms, the cases in which inflammation or congestion may exist, if such cases do occur: For coma or delirium by no means always indicates this state of brain. These symptoms sometimes occur in diseases which are very opposite in their nature. And they frequently take place in diseases in which there is at least no reason to suspect inflammation; as in the cold stage of the paroxysm of intermittent fever, the death state produced by the long-continued application of intense cold, in cynanche maligna, in measles. "Coma so frequently attends the eruptive fever of measles," says Dr. Wilson, "that by some it is regarded as one of its diagnostic symptoms." "This symptom indeed is not to be overlooked," Dr. Wilson continues to observe, "in forming the diagnosis of any eruptive fever; in all of which it is more apt to supervene than in fevers properly so called." Is not this symptom one of the cold stage symptoms of many

febrile disorders? Does not the comatose state produced in those who perish by cold corroborate such an opinion? And is not restoring the heat by external warmth one of the best means of removing this symptom?

Have not experiments been made in the spotted fever, which militate strongly against the propriety of venesection in the comatose state of this distemper? Dr. Woodward has informed us "that he has seen patients roused by external heat, and internal stimulants, from the comatose state, and afterwards cured." On the other hand he informs us, that "he has seen patients brought into a low comatose state by a small bleeding, which cases entirely baffled the power of medicine, and proved fatal." Indeed, the authors of the Report have, notwithstanding their own theory, informed us, upon the authority of their correspondents, that in cases which have been thought desperate, fifty to a hundred drops of tincture of opium, administered every half hour, "have almost invariably removed the lethargy." Dr. Bestor and others have removed the coma by stimulants, and afterwards cured their patient. I have myself seen comatose patients cured by the use of external heat and other stimulants. I have however seen but few cases of this description; but have believed, that I have many times prevented this deplorable state by the seasonable and proper use of cordials, in conjunction with external warmth. On the other hand, almost all, as well as Dr. Woodward,

who have tried bleeding, and other depleting remedies, during the first stage of the disorder, bear testimony against the practice. Venesection is pernicious in the cold stage of a paroxysm of ague and fever. It is also hurtful in cynanche maligna, and in scarlatina, especially when attended with ataxic symptoms. In malignant fevers it is generally improper. By all this I do not mean to be understood, that there may not be cases in which it may be proper to draw blood in the epidemic of which I am treating. But I believe these cases are rare, and not very well ascertained. And, notwithstanding the deference due to the authors of the Boston Report, I must think that they were peculiarly unfortunate in their choice of the comatose state in the cold stage of the spotted fever for venesection. But their directions are, that blood must be drawn, by a large orifice, from the jugular vein, and cordials administered at the same time, to prevent the mischief which might otherwise ensue. But since we have satisfactory evidence that general blood-letting alone has often proved detrimental, and sometimes fatal, and also of the salutary effects produced merely by the use of stimulants, I should be cautious in admitting the conclusion derived from any other source than experiment, that stimulants would have their customary effects after the loss of so much of the vital fluid, even if it should be taken from the jugular vein. Though the patient should be relieved by the proposed mode of

practice, it would be difficult to say whether the bleeding contributed, in conjunction with the cordials, to produce this change, or whether it should be attributed to the cordials alone.

The next remedy which the committee particularly recommend is mercury. They however say, that "in cases where life is immediately threatened, this remedy cannot be relied on to avert the danger. But in cases of less severity, or where the more urgent symptoms are removed, this is of great value."

I have seldom used this medicine, because, in the aggravated circumstances, which the gentlemen of this committee have first mentioned, I have believed, as they state, that it cannot be relied on to avert the danger. And, in the more favourable circumstances, I have generally found milder means sufficient to cure the disease.

Respecting cordials we are informed, "that there is a popular bias in their favour." This, one would think, was strong evidence of their utility. Yet we are immediately told, "that when liberally and indiscriminately administered in this disease, they are very injurious, by increasing the force with which the blood is thrown in the head, or other parts in which there exists inflammation or congestion." I entirely concur with the gentlemen in the sentiment, *in the latitude it is here expressed*, respecting the use of cordials. No prudent physician, I believe, is in favour of a liberal use of cordials, administered *indiscriminately*,

and to the same degree, in every case of spotted fever. In some cases a liberal use of cordials is absolutely necessary, and in others a very moderate use of the same remedies is preferable; and it requires the attention and skill of the physician, properly to discriminate these cases, and to proportion the remedies to the circumstances of each particular case.

As to the fears entertained by these gentlemen, that mischief may be effected by increasing the force with which the blood is thrown on the head, it may be observed that these are magnified. For the external hot applications, (in the utility of which every one is agreed) which have been so generally and so liberally used, must produce effects similar to those of the *hot bath*, and this is well known to determine powerfully to the head.

Again; the Report states, " that the very liberal use of cordials has been fully tried during the last three years in Connecticut, also during the early part of the spring in the county of Worcester. The committee have reason to believe, that a considerable proportion of the most judicious practitioners in those places are now fully convinced that this practice is highly injurious," &c.

If from this we are to infer, that cordials, and stimulants, and tonics, of one kind or other, are not the general remedies employed by much the greater part of the most judicious practitioners in Connecticut, such inference would be clearly incorrect. But no ju-

dicious physician would advocate their use in ordinary cases, to a degree which might perhaps be termed by some *very liberal*, much less in any case to an excessive or extravagant degree. The quantities, however, as has already been observed, have varied exceedingly, according to the circumstances of the patient; and yet the above remedies are almost universally relied upon for the cure of spotted fever. And if the gentlemen at Boston have received information different from this, I have no hesitation in pronouncing it incorrect. That the use of cordials may not have been sometimes abused in Connecticut, either through inadvertence or want of skill, it might be presumptuous to deny; and yet that their judicious administration has been attended with the most cheering success, the voice of the medical faculty, and that of the public in general, will, I think, bear united and ample attestation.

THE END.

ERRATA.

In page 23, line 7, for " stupor" read stertor.
24, 3, for " incited" read excited.
37, 13, for " patient's" read patient.
45, 25, for " hamlock" read hemlock.
69, 23, for " reduced" read induced.
109, 17, for " perods" read periods.
154, for " CHAP. XIV." read CHAP. XVI.
200, 21, for " deliriums" read delirium.
223, last line, for " Farmington" read Torrington.

In page 80 there should have been a Note, informing the reader that Dr. Lyman gave these medicines to Grove Hinman, and referring him to page 219, where the case is detailed.

In page 108 there should also have been a Note, giving the information, that the case of Grove Hinman and Wadsworth Loomis, referred to by Dr. Lyman in his remarks, may be found detailed in pages 219 and 224.

At the bottom of page 225 the words " Elijah Lyman" might have been added.

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