

Practical observations on diseases of the heart, lungs, stomach, liver, etc., etc, occasioned by spinal irritation : and on the nervous system in general as a source of organic disease / by John Marshall.

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Henry W. Kennedy
1842

PRACTICAL OBSERVATIONS

ON

DISEASES

OF

THE HEART, LUNGS, STOMACH, LIVER,

ETC., ETC.,

OCCASIONED BY SPINAL IRRITATION:

AND ON

THE NERVOUS SYSTEM IN GENERAL,

AS A SOURCE OF ORGANIC DISEASE.

Illustrated by Cases.



"It is a knowledge of the nerves of respiration, distributed on the neck, throat, and thorax, that will enlighten the Physician in distinguishing symptoms of disease."—SIR C. BELL *On the Nerves*.

Surgeon General's Office
11580

BY JOHN MARSHALL, M. D.

PHILADELPHIA:

HASWELL, BARRINGTON, AND HASWELL.

1837.

[Faint, illegible handwritten text or markings in the top left corner.]

TO

ROBERT BURT, ESQ., M. D.,

EDINBURGH,

THIS LITTLE VOLUME IS INSCRIBED,

AS A MARK OF GRATEFUL RESPECT,

BY HIS FORMER PUPIL,

AND NOW ATTACHED FRIEND,

THE AUTHOR.

ST. PETER'S-SQUARE, MANCHESTER,
12TH SEPT., 1835.

CASES.

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P R E F A C E .

FOR upwards of ten years I have entertained the idea of laying before the public a few facts and observations connected with the subject of spinal irritation; but various causes combined to delay the fulfilment of my intention.

In the first place, the toils and fatigues of country practice leave a medical man little time, and often far less inclination, for literary composition; added to which, as it was a perfectly new subject, I wished previously (perhaps it will be said with *true national caution!*) to collect such a body of fact and evidence as it would be impossible for others either to overlook or gainsay.

The following pages will show, that for nearly eighteen years I have devoted myself to the study of diseases of the spine and spinal nerves, and I believe little has been published on the subject which I have not read; but in preparing these sheets for the public, I came to the resolution of avoiding, consistently and entirely, all quotations and reference to authorities, whether for or against my own system and opinions. Had I quoted one, I must, in common courtesy, have quoted all. Had I quoted for, I must in common fairness have quoted against, my opinions, and thus have swelled my little volume into one of those *wordy* and ponderous octavos which load our library shelves, but which no man in active practice can possibly find time to read, or ever does more than glance at, here and there, so as to catch the general tenor and object. Moreover, if I am right in my deductions from the facts I have stated, they do not require, and could not be benefitted by, any effort on my part to bolster them up with the opinions of others; if, on the contrary, I am wrong in these deductions, then no labour I could have bestowed, in this way, could maintain them against the influence of time and experience, whose operation as surely increases the stability of truth, as it invades and destroys that of error.

I had made considerable progress in preparing the following sheets, indeed part of them were in the hands of my publishers, ere I observed the announcement of the Messrs. Griffin's work on the same subject; but though I hailed its appearance with very sincere pleasure, as a proof of increasing attention on the part of the profession to a long neglected subject, yet I resolved not to read it till my own was entirely out of my hands; not from any disrespect to these gentlemen, but because I conceived it would be at once useful and interesting to observe what were the coincidences, and what the discrepancies, of opinion between persons who, quite unknown to each other, had at the same time been engaged in endeavours to elucidate a very perplexing and obscure branch of our science, upon principles new and hitherto untried.

Since the last sheets of the present volume went to my publishers, I have read, with no less attention than pleasure, the excellent work of the Messrs. Griffin; and I must candidly own that the coincidences I find are no less satisfactory, than the discrepancies are, *at first sight*, startling.

The most prominent of the latter is the vast dissimilarity of time occupied in the cures—"a few days" being the general term of theirs, while never in any case did I effect a cure in so short a period. Also, of their

cases the very large proportion are among women, and of a decidedly hysterical type. Whereas, of the forty I have given here, sixteen are males, and there is not one of hysteria, though in one or two there were slight hysterical symptoms. They say, page 216, that "any serious irritation of the cord can hardly exist in young girls without hysterical symptoms." I do not find this borne out by my own observation. Again, "The young, under the age of puberty, are least of all liable to be attacked by spinal irritation." And page 107, "Spinal irritation seldom affects men or children, but is continually met with in women."

Now, in the forty cases I have given, there are fourteen under seventeen years of age; but were I to take the average of *my whole experience*, the proportion of persons under this age to that of adults would be *fully* a half. I now regret that, proceeding too much upon the plan of presenting only those cases which appeared to me to possess some new and peculiar interest, I have given so few of children. This error I shall endeavour to remedy hereafter, perhaps, in a subsequent edition.

Such discrepancies are, as I have already said, startling at first sight, yet I think, on candid consideration, it is easy to account for them all. In the first place, the very circumstance of the Messrs. Griffin's cases being chiefly hysterical, accounts for the rapidity of cure. The rare occurrence of hysteria in Scotland, compared with England and Ireland, I have frequently heard remarked, and I have very good reasons for knowing the remark to be just. In twenty years' practice, I did not meet with a dozen cases in Scotland: but that this *afflicting* complaint proceeds entirely from spinal irritation, more or less transient, I have not the slightest doubt, and I should in most cases anticipate a speedy and very effectual cure from *dermal* irritation. I have always found it a great matter in such cases to give the patient something to *think about*.

With regard to the other disagreements in opinion between the Messrs. Griffin and myself.—It appears that the observations of these gentlemen on this subject have been made principally in a hospital and dispensary, the patients in which are furnished from a population of a peculiarly mobile nervous temperament, of passions no less keen than ill regulated, whose political and religious feelings are, unfortunately, in a state of extreme exasperation, and who are but too often compelled to the use of a diet the most unlikely to promote a healthy tone of the nervous system. My practice has been, on the contrary, entirely private, and among a people proverbial for their sedate steadiness of character, cool passions, and, generally speaking, regular habits; added to which, in all but one of the cases given, the *comforts*, if not the luxuries of life, were within reach of the subjects.

Allowing for the general preponderance of disease among the female sex to that which prevails among men, I cannot admit from my own experience that there is a greater tendency to spinal irritation in the one sex than in the other. I entirely agree with Messrs. Griffin, that the whole rationale of symptoms, in hysteria and many other painful uterine affections, will yet be found in spinal or ganglionic debility or irritation; but I no less confidently anticipate that the same will occur with regard to hypochondriasis, gout, renal debility, and many other diseases peculiar to our own sex, as well as all that widely diffused tribe of maladies to which both sexes are equally liable, viz. those arising from the poison of malaria, and those acute diseases ushered in by rigors and pains in the spinal column.

If I might here be permitted to make a remark, I would say, that I

think the Messrs. Griffin have greatly encumbered themselves, by the attempt to divide the pathology of the nervous system according to the arbitrary anatomical divisions of the osseous structure of the spinal column. We have only to recollect how closely united and interwoven is every part of that system, to be convinced how inevitably morbid action, to any extent, in one part, must influence every other; but more especially those which stand most closely connected with the diseased portion: and if, because in cases of spasmodic croup, asthma, or dyspnoea, we find no tenderness in the cervical vertebræ, we refrain from examining the dorsal and lumbar, I fear we shall often miss what we are in search of, even where it exists in a very high degree. To illustrate this point,—I was about two years ago consulted by letter upon the case of a young lady, of high rank and great accomplishments, who had for several years been a martyr to severe headaches, latterly accompanied by pain and sickness of stomach, frequent vomiting, loss of appetite, and impaired vision. I recommended an examination of the spine, but the medical attendant, proceeding upon the principle against which I contend, carried the examination no further than the *upper dorsal*, which, with the cervical, were found all sound, and free from any tenderness.

After the lapse of several months, the case becoming more and more distressing, I was summoned to see it, and give my opinion. On a full examination I found that though there was no tenderness of the cervical or *upper dorsal* vertebræ, *yet the four lower and the whole lumbar were in a state of acute tenderness to touch*, pressure on this portion of the column increasing the pain of head and stomach, and producing a tendency to syncope, with tinnitus aurium, gasping, and pains in the soles of the feet.

I am tempted to add another case, because from the rank and situation of the party, there is scarcely one medical man of any eminence in this country who has not been consulted, at one time or other, upon it, and many will recognize it here.

Miss R., ætat. 28, was at fourteen years of age a very stout girl, though occasionally troubled with bilious attacks. This year she became delicate, in consequence of overgrowth, having in twelve months grown about eight inches: she was seized with "a nervous fever," which confined her to bed for a month, and left behind it a palpitation of the heart, so violent as to make the bed or couch on which she lay quiver in unison with the stroke of the heart. In six weeks she had another attack of "nervous fever," which confined her to bed for five months. The palpitation of the heart continued to annoy her, and she also suffered from nervous startings, somewhat analogous to those of chorea. In rather more than a year the palpitation gradually left her, but the unpleasant startings continued. About the end of her sixteenth year, and be it remarked soon after the subsidence of this violent throbbing of the heart, she began to feel drawing, writing, or intense reading, excite a most painful sensation of oppression on the top of the head, accompanied with throbbing in the throat, and a sense of tightness, as if there had been a silk handkerchief closely tied round it. At these times red blotches frequently appeared transiently on the neck, face, and hands, and she had constantly a sense of weariness and debility. These symptoms continued gradually to increase for the next four years, so that in her twenty-first year she was entirely precluded by their severity from every employment or amusement, and confined almost entirely to a horizontal posture. No application to the head, or mode of treatment that medical ingenuity could devise, was omitted, but with little effect, further than that she recovered

the power of reading and writing, at intervals, while lying on the couch. In addition to all her other sufferings, she was almost constantly afflicted with inflammation of the fauces and tonsils.

I was frequently consulted by letter on the case, and in her twenty-third year I suggested that it had its origin in spinal irritation; but absence of all pain in the back, or of reference to it as a source of suffering by the patient herself, prevented my opinion being entertained, or any examination being made.

In 1833, I again more urgently stated my conviction that the whole phenomena arose from the spine, and begged that it might be examined; but this was done *only to the cervical and upper dorsal, where no tenderness was found.*

In the spring of 1834, I was summoned to Edinburgh to see this distressing case, when I found the interesting patient, in addition to all I have mentioned above, labouring under frequent attacks of sickness and pain of stomach, total loss of appetite, and extreme debility. A few months previous to my seeing her, she had, after the exertion of singing, been seized with acute, tearing pain in the left side of the chest, "as if," in her own words, "rusty nails were running into it;" and this seemed, perhaps because the most recent, to distress her more than any other symptom.

I found, on examination, the *whole dorsal and lumbar vertebræ acutely tender to touch*; and over the lumbar there was, what I have rarely observed, a very distinct pinkishness of the skin. There was no tenderness of the sacrum; but the os coccygis was so painful, on even the *most gentle pressure*, as to occasion the patient to wear a small cushion of soft cotton, to obviate in some degree the pain experienced at this spot when she assumed a sitting posture.

I have elsewhere remarked, that we are as yet but on the threshold of this deeply interesting subject of spinal and nervous irritation; and the observers must be many and acute, ere we can hope fully to explain such circumstances as that which we have under discussion; but there are few things against which we should more anxiously guard, than being trammelled in our path of inquiry by *a priori* reasonings or arbitrary conclusions.

Before taking leave of the truly valuable work of the Messrs. Griffin, I wish to state my entire concurrence in their opinion as to the non-identity of spasmodic and inflammatory croup. To me it would appear quite as reasonable to insist on the identity of cramp and inflammation *in the stomach*; complaints which resemble each other only in this—that they occur in the same organ, and that the first-mentioned may, and not unfrequently does, terminate in the latter, which I have also found to occur in spasmodic croup, in cases where no immediate attention has been paid to relieving the affected nerves from morbid influence.

As to the difference between Messrs. Griffin's remedial treatment and mine, I make no remark. It is for the profession to test and to judge on this point.

Finally, I unite most cordially in the sentiment expressed in the concluding paragraph of their preface.—Were I indeed "to write from the time the sun rises till it sets," I feel most truly that I could not express half the sense I entertain of the vast importance, and hitherto unexplored extent, of the pathology of the nervous system.

THE NERVOUS SYSTEM

AS A

SOURCE OF ORGANIC DISEASE.

I TRUST it will not be considered obtrusive, or unnecessary, if, before entering on this subject, I very slightly glance at the causes which led me to adopt particular views upon it;—the more so, as what I have to say will show that these views were not the result of any preconceived theory, but of practical experience and observation.

It is now twenty years since I entered on the active practice of my profession; all the studies connected with which I prosecuted with the keenest enthusiasm. Of these, morbid anatomy appeared to me by far the most important. I became impressed with an idea that it was the grand key to all the difficulties which meet the physician; that it would unfold the true causes of all the perplexing symptoms that had appeared during life; in short, that it would explain the whole rationale of disease. To morbid anatomy I therefore applied myself with unceasing assiduity.

In 1815 and 1816 I had ample opportunities of studying, on a large scale, the phenomena of disease and morbid structure connected with it, in the British Military Hospitals in France.

On our troops going into cantonments, the General Hospitals became the depôts for the worst cases belonging to the Regimental Hospitals. Thus, as might have been expected, a great variety of bad cases were brought under review in a narrow compass; and every variety and shade of disease incident to a camp were to be found, at one and the same time, under the same roof. At this epoch I was appointed to a medical charge in the Hospital St. Louis at Paris, under the late Dr. Banks, and that truly scientific physician, Dr. Theodore Gordon, now of London. I am happy to take this public opportunity of expressing my obligations to both these gentlemen, more particularly to the latter. His attention was unremitting, in communicating to the junior officers the rich stores of his previous knowledge, which he brought to bear upon cases before us with a lucidness, tempered with perfect modesty and gentleness, which excited confidence in the timid, and enthusiasm in the ambitious.

The deaths amongst the hospital cases at this period were frequent; and the rules of the service imperatively requiring a *post mortem* examination, and a report of the morbid appearances, in every such case, I had here unceasing opportunities of devoting myself to my favourite pursuit; with the additional advantage of hearing the symptoms during life, and the diseased structure found after death, compared and illustrated by the distinguished individual I have named.

On retiring into private practice in 1817, I continued to cultivate the study with the same ardour; never in any instance neglecting a *post mortem* examination where it was possible to obtain it. The more assiduously I pursued it, however, the more fully did I become aware of the truth, that morbid anatomy, however indispensable to the scientific practice of our profession, never could be to me, or any other physician, the *infallible* guide to diagnostics I had so fondly hoped to find it.

Constantly did cases in private, as they formerly had in hospital practice, come under my observation, where, on *post mortem* examination, no lesion or structural disease was found adequate to account for the symptoms during life: and again, not a few presented themselves, where severe lesion and structural disease had actually existed, and no complaint had ever been made during life which could have led to the suspicion that such was the case.

Thus the mortifying conviction forced itself upon my mind, that there was a yet undiscovered source of morbid action in the human frame—a *terra incognita* of disease—a region on entering which our practice is at best but “a happy guess!”—yet I sincerely hope it only requires ardent perseverance in scientific investigation, minute and *unbiassed* observation, to explore and lay open this region as distinctly as any other department of the healing art.

That the Nervous System is the seat of this, reflection and subsequent experience have led me most decidedly to conclude. Let us here pause for one moment, and consider what that nervous system is, and from whence it springs. Let the uninitiated lay before them a plate, a *map* as it were, of the human frame—that which rises unbidden to the mental vision of every anatomist the moment the subject is alluded to. Let us observe the wonderful and close succession of nerves springing from the brain, and its continuation, the medulla spinalis. Let us remark, that the whole of these multitudinous nerves, intended to supply with nervous energy not only the whole vascular system, but the most remote and apparently independent organs, are yet with such astonishing art anastomosed with one another, by means of the sympathetic and par vagum, and the ganglionic system, that scarcely can one be injured or diseased, but, in a greater or lesser degree, the whole system must vibrate in sympathy.

It is an extraordinary, and, as far as I am aware, a hitherto almost unnoticed, law of the nervous system, that pain excited by severe pressure or other morbid action at the root or origin of a nerve, or

in any of the ganglions, is referred not to the point where the cause exists, but to the distal extremity of the offended nerve.*

A very familiar example of this law is, that of a blow or pressure of the ulnar nerve at the elbow, or of the ischiatic nerve at the nates, causing a most painful sensation, not at the seat of injury, but in the ulnar side of the hand and little finger, and in the sole of the foot; that is to say, at the distal extremities of the offended nerves. Another example, equally familiar to medical men, of this curious reference of pain to the distal extremity of the nerves, is that of persons who have suffered amputation, even at the shoulder or thigh, referring the pain they afterwards suffer in the stump to the fingers or toes, which no longer exist.

Slight and familiar as these examples may seem, they yet lead, in my mind, to the most important deductions; namely, that many diseases which we have been in the habit of calling idiopathic, meaning by this term that they originate, and have their causes, in the organ where they are developed, may not only be *simulated* by nervous irritation or debility, but that that nervous irritation or debility, continued, will of itself cause structural disease, and disorganization, at the extremities of the nerves so affected.

It has been too much the fashion to consider the vascular system as the *arcanum vitæ*, and the nervous system as a subordinate agent in the human economy. A blind adherence to this theory has cramped and misled some of our most celebrated practitioners. As far as my own observation and investigations lead, I am decidedly inclined to attribute the superiority of agency and importance to the nervous system.

I scarcely see how it can be denied that the vascular is the subordinate, since to the nervous alone it is indebted for energy and vitality, and without it would be no more than a watch without a spring—a beautiful, but useless, piece of mechanism. Such controversies, however, are better avoided, as they tend little to the practical improvement of our science. It is sufficient for my present purpose to consider the two systems as agents perfectly equal in their dependence upon each other, and so closely united in their functions, that the slightest derangement in the one cannot exist without more or less exciting morbid action in the other; and it often happens that this, by reacting upon the primary derangement, increases it in a very high degree. This view leads me to consider nervous debility as the most frequent, if not sole cause of vascular turgescence.

* “*Inflammation of a nerve does not give perception of pain in the proper seat of the disease, but in the parts to which the extremity of the nerve is distributed.*”—Sir Charles Bell on the Nervous System. Appendix, page 78.

It is but a few days ago that, for the first time, I observed this passage in the works of this truly eminent medical philosopher. And with another, which I shall quote hereafter, it forms the one solitary instance in which a fact, bearing so very strongly upon the scientific practice of our profession, has been noticed by any of our innumerable medical writers and observers. So much has the pathology of the nervous system been overlooked and neglected by the great body of the profession.

Vascular energy is wholly derived from the nervous system. If by any means the nerves destined to supply any vessel, or set of vessels, with this energy, become debilitated or destroyed, then these vessels cease to be capable of duty performing the function of propelling the fluids to and from the heart; and therefore it inevitably follows that turgescence, more or less severe, takes place, and results in disease, depending upon the organ affected for its particular character. Thus a sudden temporary suspension of nervous energy in the vessels of the brain, rendering them for the moment incapable of propelling forward the blood, may occasion giddiness, dimness or distortion of vision, loss or faltering of speech, and all the other well known symptoms of approaching apoplexy; and if these symptoms are neglected, this temporary becomes a lasting loss of energy, producing either immediate death, or a total suspension of vital power in the parts dependent upon the debilitated nerves.

It is well known that in many cases of apoplexy suddenly terminating in death, no morbid appearance whatever can be detected in the brain. From analogy, I am inclined to believe that there are cases, where the interruption in the flow of nervous energy has been so sudden and complete as to arrest the circulation, without giving time for any visible turgescence to take place; and from minute and careful investigation of all that can be collected from surviving friends of the circumstances preceding such cases of sudden extinction of life, I am strongly inclined to believe that such never occur without previous warnings, however these may have been disregarded by the ignorance, heedlessness, or fool-hardiness of the individual. It must be obvious that, the vessels having once become turgid, if the nervous energy be not revived with force sufficient to restore perfectly the balance of the circulation, congestion, and in most cases effusion on the brain, must finally ensue.

If I am here asked—From what cause or causes do such sudden and violent interruptions in the flow of nervous energy take place?—I answer, simply and directly, *I do not know*. Were I to venture a conjecture, I should say, from pressure, or long-continued tension; but I confess it *merely* a conjecture; and I have little hope that our knowledge on the subject will ever be very accurate; so extremely delicate is the nervous tissue, so inscrutable its utmost influences and dependencies, that they seem, in the present state of our knowledge, as it were to mock and elude our most ardent and anxious researches.

I remember, at this moment, an instance of the minute causes which will debilitate a nerve, and thereby produce local disturbance of the circulation, so as even to threaten life itself. A young lady, of a very delicate and highly irritable nervous temperament, while in the act of gathering raspberries, felt that she very slightly pricked her fore-finger; the pain almost immediately ceased, and she thought no more about it, till some hours afterwards, in lifting a heavy weight, she felt a sudden rush of sharp pain in the same finger, darting up the arm, and continuing to thrill for some time. Swelling and inflammation of the finger almost instantly followed; upon

which I was consulted. I could not, by the most minute inspection, discover any thorn, or mark of pricking. I recommended a powerful poultice to be applied, and an anodyne to be taken. Next morning I very carefully removed the epidermis, and, *with the assistance of a microscope*, I detected a very minute spicula sticking erect in the flesh of the finger. On this being removed, the swelling of the hand and arm subsided, and all painful sensations vanished.

If, then, all this disturbance could arise at the distal extremity of a nerve, from the pressure of an offending substance so small as completely to elude the naked eye, is it not fair analogy to conclude that causes equally, or more, imperceptible to our visual organs, occurring at the origin, or in the course of the nerves, may occasion similar, or greater, disturbance at the extremities, and consequently in the circulation depending upon the offended nerves—disturbance, terminating, as this no doubt would have done if neglected, in congestion, inflammation, or local disease of some organ, probably very distant, from the real seat of injury?

That such cases do occur, the familiar instances I have already adduced, of pressure on the ulnar and ischiatic nerves producing pain, not at the point of pressure, but in the terminating branches of these nerves, sufficiently evidence. I have seen continued pressure of these nerves produce both swelling and inflammation of the hand and foot, which subsided immediately on the pressure being removed. But what should we say to the professor of the healing art, who, in such a case, instead of addressing himself to remove that pressure, productive of the symptomatic swelling and inflammation, directed his whole curative measures to these symptoms, treating them as in themselves idiopathic? Yet what would this be, but that which we see done every day, in cases differing in no respect from what I have named, except in their localities? Let the "Anomalous Cases," which crowd our Medical Literature, answer this question. Cases, in which the unhappy patients have been subjected to the most tiresome, often, alas! agonizing succession of experimental remedies, applied to the seat of pain, without its ever once seeming to occur to the minds of those who practise them, that the thousandth part of all this trouble, applied to the origin of the nerve, where that is attainable, or to its ganglionic junctions, would be more likely to effect the end proposed—if that be to produce a cure.

We have in our own day seen a *medical man* submit to be hacked in pieces by successive amputations of his hand and arm, in the vain and fruitless hope of obtaining relief from agony evidently arising from morbid action at the origin of the brachial nerves, and which, therefore, no repetition of amputation could ever tend even to alleviate*!

What I particularly contend for is this—That irritation, or debility consequent upon irritation, of the nerves, at their origin or ganglionic junctions, will, in time, and occasionally in a very short time, pro-

* See note A.

duce actual disease of the organs dependent upon these nerves for vital energy. Whereas this disease might have been completely prevented, or a speedy cure effected, by active treatment timeously applied to the seat of morbid action. And I hold that this is more particularly the case with the nerves which ramify upon the vascular system and larger viscera.

To explain more distinctly what I mean, I shall use the liberty of giving here an abstract of a case lately submitted to me, in which, to use the words of the practitioner, "a disease of the kidneys simulated spinal irritation;" a mode of phraseology which brought to my mind the old adage about "putting the cart before the horse."

A gentleman, while skating, fell upon the ice, and received a contusion in the lumbar region, from which he did not at first perceive any great inconvenience. He shortly afterwards, however, began to find himself affected with alarming weakness of the lower extremities, and with retention of urine. The weakness rapidly increasing, almost to paralysis, the back was examined, and "tenderness to touch being found present, the case was treated as a spinal one." The remedial treatment is not condescended upon; but it is said that considerable amendment in the weakness of the lower extremities took place; in the functions of the bladder, however, no such amendment occurred. Incontinence supervened upon retention of urine, and in six weeks after the patient came under medical treatment, he expired*.

On a *post mortem* examination, the whole viscera were found in a healthy state, except the kidneys, which were "gorged with very dark blood," and several small abscesses formed in them. No morbid appearance could be detected in the spinal column; and "the spinal marrow being found to all appearance perfectly healthy," "*proves,*" says my Correspondent, "that there could be no real morbid action of the spine nerves. Therefore I conceive that this forms a very curious example of *diseased kidneys simulating spinal irritation.*"

From this diagnosis I beg leave completely and entirely to dissent. I conceive the *ratio symptomatum* in this case to be, that, at the period the patient fell upon the ice, the renal nerves received an injury or concussion so severe as shortly afterwards to produce paralysis of them.

The blood-vessels of the kidneys, and those organs themselves, being thus deprived of nervous energy, became incapable of duly performing their functions. Hence the engorgement of "dark

* As the mode of treatment is not condescended upon, we cannot judge whether it was judicious or not, and, indeed, it appears probable that disease in the kidneys had made considerable progress before medical advice was taken.

In such a case, I should have been inclined to exhibit leeches very freely over the whole lumbar region, and also frequent and long-continued frictions, with some stimulating liniment. At the same time, if the patient's constitution could stand it, I would have resorted to general depletion, with a view to relieve the system.

blood," and the breach of structure, found after death. The assertion that the spinal chord being found "to all appearance healthy," is an irrefragable proof that no real spinal irritation could have existed, is not borne out by fact.

The spinal marrow, destined to be the grand channel through which vitality and energy flow from the brain to the system in general, and any lesion of it being followed by the most lamentable effects upon the frame, has, like its source the brain, been guarded by our benevolent Creator with a jealous care, bestowed upon no other tissue of the body. Not only is it lodged in an osseous yet flexible covering, adapted with the most beautiful and divine skill to protect it from injury, but it is endued with a power, almost peculiar to itself, of resisting the attacks of morbid action going on in its neighbourhood, and continues to perform its functions, and retain "a healthy appearance," when all around it is destruction and disorganization.

I might produce many cases to support me in this assertion ; but I select the two following, because they not only bear very strongly on the point under discussion, but equally so upon another fact I have stated above—namely, that the seat of suffering is frequently at the distal extremities of nerves, while the real and only seat of morbid action is at their origin or ganglionic junctions.

C. E——, Esq. returned to this country in 1818, from Guyana, where he had resided for thirty-seven years. Having a very great taste for the study of Natural History, and delighting, like the ornithologists Wilson and Audubon, to follow the objects of his admiration into their native haunts, and there study their habits, and enrich his collection with their spoils, he frequently spent months at a time in the woods of Guyana, living almost in a state of nature. He was tall—must have been a strikingly fine looking man in his youth ; still retaining, even in advanced life, marks of a robust and vigorous frame and constitution. When I first became acquainted with him, in 1819, his health could not be called decidedly *bad*, yet it was far from being good. About fifteen years previous to his leaving Guyana, while engaged in subduing an insurrection of the runaway Negroes, he received several slugs in his body ; two of which he alleged remained unextracted ; and to the presence of these he ascribed all his subsequent sufferings and bad health. One of them was lodged in the left lumbar region, and could be felt by the finger, though lying considerably under the surface. The other, he insisted, had entered the left side, and, following the course of the rib, finally lodged near the spine, close to the seventh dorsal vertebræ. In this idea I have great reason to suppose he was deceived, and that the uneasy feelings which he ascribed to the presence of this foreign body, were in fact the commencement of the fatal malady which at length terminated his life. I am the more inclined to entertain this opinion, from having learned from himself that, at the very period when the wound was received, he underwent the most extreme fatigue of body and anxiety of mind, as to the result of the insurrection. At all events,

he never afterwards enjoyed the same unbroken health he previously had done. He frequently complained of head-ache, nausea, and want of appetite ; and he began to experience attacks, which gradually increased in frequency and severity, of numbness, cramp, and tremors of the lower extremities, especially of the left. Sometimes these assumed the character of violent spasm, attacking him so suddenly as more than once to occasion his falling to the ground. At the same time the agony of pain darting down the limb was so great, that when attacked, as he frequently was, while seated in company, or walking with a friend, it was with the utmost difficulty he suppressed a scream. The only relief he had was to grasp the muscles of the thigh as tight as possible with both hands, and in a few minutes it passed away as if it had never been. At these times the voice became tremulous, and the speech faltering, and continued so for a longer period than the cause lasted : for the last five years of his life, this symptom became constant, and so severe as to make it difficult to understand what he said.

Another form of suffering, evidently springing from the same source, was, that suddenly, while perfectly free from pain of any sort, often when enjoying himself with the utmost hilarity, he felt as if suddenly struck on the left side of the chest, over the sternal extremities of the fifth, sixth, and seventh ribs, by the fist of a strong man, or sometimes more as it were by electricity, occasionally producing most acute anguish, and leaving, as it subsided, a sense of burning—to use his own words—“as if the part had been seared with a red-hot iron.” At times this attack in the chest, and in the limb, were simultaneous ; and nothing was more deplorable than the sight of the patient at such moments. Whatever action he was engaged in was arrested—whatever his hands held was dropped to the ground, and the hands passed with rapidity, and every expression of agony, from the chest to the limb, and back again.

These attacks, at first momentary, and occurring at distant intervals, at length increased in frequency and severity, so as to make life itself a burthen to this excellent and amiable man.

In 1823, by his own urgent request, but with little hope on my part of affording any permanent relief, I extracted the slug from the lumbar region. He also wished me, at the same time, to attempt the removal of the one he supposed to be lodged near the dorsal portion of the spine ; but this I positively declined, for reasons which the sequel of the case will show.

He certainly did experience considerable temporary relief from the removal of the one in the lumbar region—relief which made him the more impatient of enduring the supposed presence of the other. Being this year in London, and passing home through Birmingham, he there consulted a surgeon recommended to him by some of his friends. This person subjected him to what he described as a very minute examination, and manipulation so rough, that Mr. E. felt the effects of it for weeks after. The surgeon announced, as the result of this examination, that he distinctly felt a foreign body, the immediate removal of which he recommended.

I too had very distinctly felt this "foreign body," if it was to be called so, at the period I operated on the other, but I did not conceive it a substance to the removal of which the knife could be prudently applied. On Mr. E.'s return home, he was more than ever urgent I would attempt the operation. With a view to satisfy him, I made another examination, and greatly to my surprise I found it had completely disappeared, a circumstance for which I frankly confess I never was able to account, even on my own theory. Mr. E. himself supposed that the Birmingham surgeon had by his rough treatment pushed the slug into the interior of the chest, during his manipulation: but though I bore this in mind during the subsequent *post mortem* examination, no such body could be discovered.

Not very long after his return home, he was seized with one of the spasms described, while in the act of mounting his horse, and was in consequence thrown upon his back with great violence. On recovering from the shock, he did not appear to have sustained any material injury; but from this time forward there was a rapid increase of suffering. The spasms of the limbs, and the sensation of receiving violent blows on the anterior part of the thorax, became much more frequent. The burning pain in the chest became permanent; and so severe, that the poor sufferer often awoke from sleep screaming for assistance, from the idea that he was struggling through a house on fire, or was from some cause enveloped in scorching flames. His sufferings were sometimes—not always—mitigated by the application of leeches, of anodyne, and cooling lotions, and the habitual use of the Black Drop; but no remedial measures employed gave more than a temporary relief. In 1824 his sufferings were aggravated, and his general health greatly reduced, by a carbuncle between the scapulæ. It ran its course, and was opened in the usual manner; but though it healed kindly, his constitution never again rallied; and the sufferings I have described above continued to increase. Something less than two years after the formation of the first carbuncle, he told me he feared that another was about to form, as he had lately felt an indescribable, but severe uneasiness, and strong pulsation, in the upper part of the back, as often as he leant it upon his chair when seated. This pulsation he had occasionally complained of from the time of the first carbuncle, and he supposed that it arose from some effect left by it; but, coupled with an increasing irregularity of pulse, and the other symptoms detailed, it confirmed the impression long since made upon my mind that my patient laboured under diseased heart—probably ossification of the valvular apparatus. In examining the back, with a view to discover if any carbuncle was in progress, I now, however, discovered a small pulsating tumour, situated at the dorsal and sacral angle of the left scapula: the pulsations of this tumour were simultaneous with those of the heart and radial arteries;—too evidently indicating the existence of aneurism of the thoracic portion of the aorta.

By my own desire, I had, soon after, a consultation with my friend Dr. Burns, of Glasgow, upon the case. He entirely coincided in my

view of it: but while we were examining the patient, we observed a circumstance which seems curious enough to deserve mention. On drawing a silk handkerchief along the left side of the thorax (over the spot where the burning sensation was complained of,) from the dorsal to the sternal aspect, no unpleasant sensation whatever was produced; but the moment this movement was reversed, by drawing the handkerchief from the sternal to the dorsal aspect, it elicited a scream of agony from the patient, and caused him to start from one side of the bed to the other: however lightly the handkerchief was applied, the effect was the same; causing such intolerable pain and irritation as made the sufferer intreat us to desist.

Minutely to detail the progress of this melancholy case, from this period to its fatal termination, would but be to repeat what I have already said. The tumour gradually increased greatly in size, as did the sufferings of the patient both in constancy and intensity. Yet I would here wish to press upon the attention of my reader, that many of the symptoms were such as could not be supposed to arise from simple aneurism of the aorta. The spasmodic agony in the limbs became nearly permanent; the feet were constantly cold, accompanied with obtuseness of sensation; the same twitching pains, accompanied with severe tremors, extended to the arms and hands; and, as I have already mentioned, the voice was almost inarticulate. Severe pain across the brow, occasionally extending over the whole head, was almost constantly present. Indigestion, and constant loathing of food, filled up this catalogue of complicated ills, under which his powerful constitution languished till November, 1827.

During the life-time of this amiable man, he had exacted of me a solemn promise that I would, after his death, make a most minute examination of his body, with a view to throw light upon the cause, or causes, of his extraordinary and protracted sufferings; and thus tend to the advancement of medical science. In complying with this request, I must here acknowledge my obligations to Mr. Buchanan, of Dumbarton, for his able assistance, being myself unable to perform the dissection, owing to an attack of erysipelas in my left arm.

On examining the viscera of the abdomen, we found them all perfectly sound. The lungs were healthy, but the left was pressed almost flat between the pleura costalis and the aneurismal tumour, which nearly filled the left cavity of the thorax, occupying the arch, and the greater portion of the thoracic aorta.

On removing the tumour from the thorax, we found that the vertebral extremities of the ribs, from the 4th to the 7th, were entirely obliterated; as also were the sinistral portion of the bodies of the 5th, 6th, and 7th vertebræ, laying the theca vertebralis entirely bare along the whole body of the 6th vertebræ; so that at this point the medulla spinalis must have been directly pressed upon by the tumour, and constantly exposed to its pulsations; yet it exhibited no morbid appearance whatever.

The tumour itself was chiefly composed of a light grayish substance, easily divisible into layers, which greatly resembled half-

dressed leather in appearance and toughness. In the body of it we found several detached portions of the ribs, lying in irregular positions. The whole internal coat of the aorta was ossified, exhibiting an appearance as if covered with fish-scales. Considerable portions of it were so involved in the tumour, and so altered in structure, that but for this quantity of ossific matter, we should have been unable to trace it. The heart was enlarged, and pushed almost wholly under the sternum, and its walls thicker and firmer than usual; but no portion of ossific matter was discoverable in it, save at the tips of the tricuspid valves. The columnæ carnæ were remarkably firm.

Though examined with most particular attention, no morbid appearance could be detected, not even the slightest blush of inflammation, at the anterior part of the thorax, where the acute and agonizing sensation of burning pain had been experienced for so long a period during life.

John Thomas, a Negro; his age could not be exactly ascertained, but it must have been very great, as he mentioned that when taken prisoner of war, and sold into slavery, from his native country of Foulah to the West Indies, he was a grown man; yet some of his recollections of circumstances in the history of the West Indies went as far back as seventy or eighty years. He applied to me a few months after the death of Mr. E., and the striking coincidence of the symptoms he laboured under, and the sufferings which he described, with those I had so recently witnessed, in that gentleman's case, led me at once to the conclusion that his disease was aneurism of the descending aorta; and that the aneurismal tumour was pressing extensively upon the spine, though on a lower portion of it than in the preceding case.

He complained of severe burning pain on the left side of the linea alba, from the umbilicus to the ensiform cartilage; covering a very considerable portion of the left, but never at any time extending to the right, side of the mezial plane; and also of the sensation of receiving sudden and violent blows upon the region of the stomach, where the sense of burning most prevailed. The same peculiar irritation was produced as in Mr. E.'s case, by drawing a silk handkerchief from the sternal to the left dorsal aspect.

At the time he first applied to me, I could not, on the most careful examination, detect any tumour externally; but in the course of the summer, one which pulsated simultaneously with the heart and radial arteries, gradually developed itself in the upper part of the left hypochondriac region, immediately under the short ribs, and extending from the spine. It increased with amazing rapidity, and in a short time occupied the whole left side of the abdomen, reaching below the crest of the ilium. From this time till he expired, which was about six months afterwards, the agonies this wretched man endured were such as to baffle all description. Pains, resembling those of the most acute rheumatism, but alternating with cramps and spasmodic twitchings, racked his limbs; the shrivelled and palsied

looking extremities of which were at all times deadly cold. Severe head-ache was constantly present, which he vainly strove to relieve by a tight bandage round the brow.

I have already mentioned that Mr. E., from the most enlightened and benevolent motives, gave me his dying injunctions to examine his body; and it is remarkable that this poor uninstructed Negro did the same—"Ah, Massa, Massa!" he often repeated to me, "when ever poor John dead, you open him's inside, and you see what dis terrible ting is, and you know how cure other body."—About thirty hours after death had released him, I accordingly examined his body. On laying open the cavity of the abdomen, the viscera were found upon the whole healthy, but pushed over to the right side, and the aneurismal tumour occupying the left hypogastric, lumbar, and iliac regions. The tumour consisted of solid matter, of a buff colour, which could be separated into distinct layers resembling wet leather. A small quantity of coagulated blood was found at the inferior or sacral aspect of the tumour; and in that part of it which had occupied the cavity of the ilium, detached pieces of the cartilaginous parts of the short ribs were found imbedded. As far as I was able to trace the aorta, it was ossified throughout. On prosecuting the examination into the thorax, the ravages were found to be very great. The pulmonary vessels contained a considerable quantity of dark blood. The heart was pushed completely under the sternum; was small, but in no other way remarkable. The left lung was pressed flat against the mediastinum, and anterior part of the chest, by the enlarged aorta, which occupied the whole left cavity of the thorax; and, in descending into the abdomen, had carried the short ribs along with it, dislocating them at their heads, where they join with the dorsal vertebræ; and, by its perpetual pulsations, it had extensively absorbed the bodies of the dorsal vertebræ themselves; at one part, along the whole length of the 7th: the medulla spinalis was denuded even of the theca, and lay perfectly exposed; but, as far as we could ascertain, there was no breach of continuity in the medulla itself, nor did it appear otherwise than healthy.

Mr. E. had exacted a promise from me that I would faithfully commit to the grave every part and portion of his body after I had examined it; but the poor Negro felt no such refinement, and I therefore felt myself committing no breach of trust when I secured and preserved a part of the spinal column, including the diseased vertebræ, and also a part of the tumour, to show its curious laminated structure. These preparations I left in the possession of a medical friend in Scotland*.

In the foregoing pages I have so much anticipated all that can be said on these two cases, that little remains for me to remark here. I introduced them, as I have already said, for the purpose of showing that, since the spinal marrow was found perfect, and free from any morbid appearance, in a situation where it was not only surrounded

* Mr. Morgan, of Port Glasgow.

by structural disease, but actually exposed, denuded of its natural coverings, to the constant action of the tumour, which appeared to have been the agent in destroying these structures, it follows, that no such argument as my Correspondent adduces can be fairly drawn, from the same circumstance occurring in less severe cases. For my own part, I am most fully convinced that irritation of the nervous tissues can exist in a very high degree, without the medulla showing, in any way perceptible to the visual organs, that it has at all participated in the disturbance.

I must also be permitted here to call particular attention to other points in these two cases, where there prevails a no less remarkable discrepancy between the symptoms during life, and the morbid appearances found after death.

Could any one, judging *à priori*, have anticipated that, where no pain whatever was complained of in the dorsal or lumbar regions, until a very short period preceding death, that there would be found destruction and disorganization as complete and violent as if it had been the work of a hatchet, or a gouge and mallet; while in the sternal region, so long the seat of agonies which none who witnessed can even yet recollect without a shudder, no trace whatever of morbid action was discernible?

In the lower extremities, too, where both patients experienced the most excruciating torments, no morbid appearance existed, if we except that the flesh was shrivelled, and the circulation languid. If these cases are not considered corroborate of the theory I have ventured to advance, I have little to hope from those I now proceed to lay before the reader.

ON
DISEASES OF THE HEART

AND

LARGE BLOOD-VESSELS SIMULATED BY NERVOUS
IRRITATION.

IT is now several years since the two greatest anatomists of the present, or of any age, gave to the world the beautiful results of their laborious investigations of the Nervous System;—investigations whereby they have brought order out of confusion—light and simplicity out of perplexity and contradiction; and demonstrated that in this, as in all the other departments of creation, there prevails the most admirable adaptation of means to the end proposed.

It will be remarked, from the dates of the cases now to be detailed, that Sir Charles Bell and I were, nearly about the same time, engaged in developing similar ideas; but while he has been pursuing his brilliant career as an anatomist, I have, in a far more humble sphere, been following out the practical results of these views, by a careful and unremitting attention to the phenomena of disease, as it occurred in my daily practice; and I have, I venture to hope, not been altogether unsuccessful in opening that path of usefulness towards which, he justly laments, in his last publication on the subject, that his medical brethren have been so slow to perceive his labours tended.

My views on the subject of the nervous system were in no degree the result of Sir Charles Bell's or Signor Bellengeri's; but when I became acquainted with the works of these distinguished men, it was most cheering and satisfactory for me to find that the inferences I had drawn, from practical experience, were so completely confirmed and elucidated by the anatomical discoveries made, and so luminously detailed, by them. I am ashamed to say at how late a period it was that, amid the laborious occupation and fatigues inseparable from country practice, I became acquainted with their works, the immense practical value of which appears to me as yet very inadequately appreciated by our profession in general.*

* See Note B.

To enter here upon any discussion or description of the origin of nerves ramified upon the heart and larger blood-vessels, would be superfluous. I have already repeatedly expressed my conviction, that morbid action at the root or ganglionic junctions of a nerve excites pain, disturbance in the circulation, and, ultimately, disease in the structures upon which the extremities of that nerve are ramified; and it is therefore obvious that to the primary seat of morbid action, as nearly as that is approachable, our remedial treatment ought to be applied. These views and opinions on pathology led me in all doubtful cases, to examine the spine, and the seat of the principal nervous tissues; and apply such external remedies as seemed adapted to remove from thence any cause of morbid action, as far as that was attainable.

So far from finding the spine, or spinal nerves, uniformly the seat of this, I have very frequently met with cases, as Case third, where a very high degree of organic disturbance existed, yet there was present little or no irritation of the spine; no complaint of pain there having ever been made, and manipulation causing no distress: nevertheless a careful and persevering application of local remedial treatment, terminating in a perfect cure, gave irrefragable evidence that the source of disease had been rightly apprehended; but that the sympathetic,* *par vagum*, or phrenic nerves and not the spinal, had been the primary seat of morbid action.

It has been most successfully demonstrated by Bichat and Sir Charles Bell, that the system of sympathetic nerves* (as if in scorn of their name,) is incapable of conveying the sensation of pain. "They may," says Sir Charles, "be cut or pinched in the living body without causing pain;" but it does not follow that they are therefore incapable of being irritated, debilitated, or diseased, so as to impair their energies, and render them a certain source of disease in the organs dependent upon their influence for health and vitality.

To the uninitiated it must sound strange to be told, that were those nerves, through which alone all the delicate and delightful perceptions of external nature are conveyed to the brain, viz., the optic and acoustic, drawn like fiddle-strings through the finger and thumb of the operator, it would cause no pain whatever to the individual to whose eye or ear these nerves were attached.

He who has felt the intense agony caused by a minute atom of dust in the eye, or the presence of a tiny insect in the ear, will be apt to exclaim, "Impossible!" till told that a wise and beneficent Providence has assigned to these two orders of sensation separate and appropriate channels of communication, one or other of which may be diseased, or even destroyed, without in the least affecting the other. And let it ever be remembered, that the same systematic arrangement pervades the whole economy of the human frame, no nerve or nervous filament performing more than a single office.

Even the heart—on every motion of which hangs life itself—

* See Note B.

which vibrates in the bosom to every passing current of feeling, like the aspen leaf to the summer air—even the heart is insensible to pain, in the common acceptation of the word. It may be handled, pressed, or even have pins pushed into its substance, without the individual to whose body it belongs being informed, by any other sense than that of sight, that such is the case. Yet there is, as it were, a net-work of nerves ramified upon the heart and large blood-vessels proceeding from it: and as we every day see irritation of the optic and acoustic nerves take place, why should we have any difficulty in understanding or believing that the same may occur in those nerves destined to supply the heart and its appendages with health and energy for the due performance of their own peculiar functions; and that disturbance in these functions, and finally disease of the organ itself, must result from such causes! And if it be acknowledged that such can be the case, does it not follow that nothing can cure that irritation or debility in the nerves, and prevent its terminating in actual organic disease, but remedies, adapted to subdue it, applied to the nervous tissues as nearly as we can obtain any communication with them?

Although the spinal nerves be not the uniform, or only, seat of morbid action, they certainly are so in a great majority of cases; and even when not so primarily, they seldom fail to sympathize, as might naturally be expected from their frequent junctions with the sympathetic. This holds more particularly true in the case of young persons.

It will be remarked that, of the following cases of pseudo disease of the heart, five out of eight were under twenty years of age; and that rapid growth took place during and after the progress of the case.

It is admitted that the growth of all young animals, particularly when it is very rapid, is accompanied more or less with an inflammatory diathesis; and previous to the osseous deposit, so urgently required by nature, acquiring the firmness of bone, it is in fact but a cartilaginous substance, sufficiently ductile to receive, and retain, any prolonged impression made upon it. Hence arise the numerous cases of incipient distortion of the spine, which come under the notice of the physician at the present day.

The evil case of our female children, closely confined by the inexorable demands of the modern school-room, for many hours each successive day, to the same unvarying attitude, is aggravated by the weakening and distorting effect of tight-laced and much-boned stays, and all the other inhuman inventions of a female school,—not to mention the misdirected efforts of mothers and governesses to repress the health-giving exuberance of childish romping and frolic, because modern refinement has ordained that even for a child to be *natural* is to be *vulgar*!—The half-formed and irritable vertebral column, thus tasked beyond its strength, and worn out by the painful exertion of continuing so long in one attitude, swings to one side or other (since to stoop forward is forbidden), most commonly to

the left side; the interosseous cartilages at some point, generally at the dorsal or lumbar, yield to the pressure on that side, and, as the bone hardens, the twist in the figure becomes permanent.

Frequently, by dint of scolding, the poor child is compelled to straight itself by a painful effort over weakness, and the spine then swinging to the other side, a similar pressure of the cartilages takes place there, and a double curvature of the column occurs, the whole length of the spine exhibiting, when viewed from behind, the figure of an Italic *f*. In most cases it happens, all the while mischief of such magnitude is going on, that mothers or schoolmistresses merely wonder why the poor darling is "*so languid*," and why "*her dress will always hang off one shoulder*;" and the tailor frets in vain at finding that one side of little master's new surtout is, "*all in wrinkles*," while the other "*sits quite smooth*," though both were cut exactly alike.

Were personal deformity the only result of such occurrences, it would be, comparatively, of less importance; but, in the majority of such cases, if not met by early and judicious treatment, lasting ill health, or premature decay, are the disastrous consequences.

When we recollect that a succession of nerves, as close and regular as the threads forming the web of a web, spring from the spinal marrow, and pass out through the vertebral column, on their way to animate every part of the human frame; it must, one would think, become obvious to the most stupid or most ignorant, that the smallest degree of permanent curvature in the spine, no matter in what direction, must occasion pressure, and hence debility or irritation, of the nerves at that particular spot, rendering them incapable of conveying to the organ, or, it may be, part of the vascular system, they are destined to supply, the quantity of energy requisite to maintain it in a state of perfect health and activity.

As the curvature increases, the osseous frame of the body becomes twisted. The ribs attached to the vertebræ are bent downwards, till they may be felt pressing upon the crest of the ilium on one side; and before this can happen, the scapulæ and clavicle on the same side are also pulled awry. Thus the large viscera of the thorax and abdomen are displaced, and pressed upon; and irritation is extended to those nerves more immediately ramified upon the lungs and heart, the stomach, diaphragm, and liver. In some cases, only one or more of these viscera may be involved in the morbid action; but in many of the cases which follow, the reader will observe that they were all more or less affected; and that even amaurosis, and impaired vision, were present; which, I entertain no doubt, arose from sympathetic irritation of the branch of the par vagum which goes to the eye, thus connecting it very intimately with structural derangement in the stomach, heart, and lungs.

It requires no argument to convince the *true* anatomist, that hardly can one of the larger viscera of the thorax or abdomen experience a high degree of irritation, without the rest more or less participating in the disturbance. For instance, if the diaphragm is deranged in

the regularity of its functions, the heart and lungs cannot escape; not only from the nervous bonds which so closely unite them, but from their functional dependence upon each other. Still more decidedly may we say the same of functional derangement of the stomach, liver, or uterus.

Hence arises a great difficulty in forming a correct diagnosis, as to what particular sets of nerves are the primary seat of irritation, and what others are merely sympathetically affected.

I have found, however, that this difficulty yields in a great degree to persevering study of the subject, to an intimate knowledge of the anatomy of the nerves, and to increasing attention to the veriest minutiae of symptoms; besides which, we have this consolation, that if we are not at first successful in applying our remedies exactly to the seat of the diseased nerves, they are yet all so closely united by their ganglionic junctions, that they derive a secondary degree of benefit from remedial treatment directly influencing tissues which are only sympathetically affected. In fact, in the present state of our professional knowledge, secondary influences are what we lean upon in a large proportion of the cases which come under treatment. It is a melancholy fact, that the stomachs of our patients are daily and hourly made the receptacles for loads of medicine, of which the effect can only be secondary; and even that in a very obscure degree.

That I have not been biassed in my views of disease by any fondness for a particular theory, the following cases will abundantly testify. In fact, on the contrary, I have often felt biassed the other way: as an instance of which I may remark, that the first and second cases were under my care at the same time; but in the first, I was blinded by a persuasion that organic disease of the heart was not only a natural, but almost inevitable, consequence of the previous circumstances. Therefore, had the patient been mine alone, I would, in all probability, have allowed the nervous irritation to go on unchecked, till it terminated in structural disease. In the second case, no such bias existed in my mind—I saw the case as it really stood, and acted accordingly. Often, in reading over my notes after the cases were closed, I have marvelled how it had happened that I was for one moment at a loss how to decide on their exact nature when first called to them.

CASE FIRST.

1821.

— — — — —, æt. 21, a young lady of a small, well-formed figure, and florid complexion. Until her 18th year, she enjoyed the most robust and unbroken health. At that period she caught cold, and her complaint assumed somewhat of a phthisical tendency. She underwent a variety of treatment, and ultimately recovered, and has enjoyed very good health during the summer. In September, however, she was suddenly attacked with inflammation of the bowels

and pleura; in a few hours the brain also sympathized, and strong delirium came on. The disease was with great difficulty subdued; but her convalescence was by no means satisfactory; and in the end of October she was again attacked with phrenitis. Weak as she was, it became necessary to adopt the most active treatment. The head was repeatedly blistered and leeches, but apparently with little effect. On the 28th of October I saw her, as I then thought, for the last time. She was, to all appearance, dying; and nothing more could be done, as depletion had been carried to the very utmost pitch that prudence would warrant, and every other remedy was exhausted. I afterwards learned from a medical friend, that a few hours after I left her, a profuse, cold, clammy perspiration, the usual precursor of dissolution in such cases, came on, and in about half an hour she sunk into a state of insensibility; which all around her, save one individual, looked upon as death. The features wore all the peculiar characters of death—the breath and pulse were gone—not even the faintest throb of the heart could be felt—the whole surface of the body was cold and clammy; the jaw dropped, and the joints of the upper extremities stiffened—yet no argument would convince this individual that the cherished object of her fondest affection had indeed expired—and she persevered in using every means of resuscitation. For more than an hour these were wholly unsuccessful; but at length a very slight twitch in one of the fingers of the left hand was observed. Symptoms of re-animation gradually increased, and at the end of six hours, respiration and the motion of the heart were fully re-established; but the prostration of strength was so great that the eyes remained shut for several days. The power of speech was gone, and that of deglutition during the same period so imperfect, that only liquids in very small quantities, could be got over. The emaciation was so great, that more than one medical gentleman who saw her at this period pronounced, that from *that cause alone* it was impossible she could recover.

• Convalescence was, however, by slow degrees,—and, I must add, by care and attention on the part of her friends, enthusiastic beyond all I have ever witnessed,—satisfactorily established; so that by the end of December she could sit up for some hours at a time, and even walk across her room with a little assistance.

In this favourable state of the case, a new and formidable disease seemed now to develop itself. While the patient was perfectly quiet and at rest, the pulse was regular, from 56 to 60 in the minute; but motion or exertion of any kind, even speaking a few words, raised it to 100 and 140. If the cause of agitation was great or continued, it exceeded counting, and frequently intermitted; the patient complaining, at these times, that she felt “as if the heart filled the whole cavity of the chest, and beat against the sides of it all round;” when the hand was placed above the right clavicle, the scapula, or the right side of the thorax, the throbbing of the heart could be more distinctly felt than on the left side of a person in ordinary health. I have frequently, at these times, observed that the

pulsations of the carotids could be counted from the opposite side of a table. The face became flushed, the eyes prominent, the temporal arteries enlarged, and the patient complained of a distressing sense of suffocation, "as if she had run till she was quite out of breath." On the subsidence of these attacks, she was left weak and exhausted. She was unable to lie upon the back, as this position instantly produced palpitation, and a sense of suffocation, which she described as resembling the feelings caused by nightmare. While in bed, she was supported in a half sitting posture; and so great was her dread of the recumbent position, that she was in the habit of entreating those around her to watch, while she slept, that she did not slide into it.

Auscultation only served to confirm my opinion that some organic disease of the heart, or large blood-vessels, was present. The father of the patient, a most observant and talented physician, who had the experience of more than half a century, at first agreed in this view of the case; but shortly afterwards informed me, that, having most attentively watched the patient for some weeks, he was inclined to think that there was no organic disease of the heart, but rather that the symptoms I have detailed arose "from peccant matter pressing upon the nerves of the heart and larger blood-vessels," and that he was resolved to subject the whole of the dorsal and cervical vertebræ to friction with the antimonial ointment, till a very copious eruption was produced; which he confidently anticipated would soon mitigate the urgent symptoms, and finally produce a cure.

It is notorious that young physicians and old ones are apt to differ in their views. I was no convert to the doctrine of "peccant matter;" and I most candidly acknowledge, that I was inclined to think my venerable friend had, in forming this opinion, listened more to the affection of the father, than the acuteness of the physician! The patient was, however, immediately subjected to the application of ointment of the Tartrate of Antimony, of more than usual strength, three times a day. She suffered greatly from pain in the parts, and severe sickness at stomach; but in the evening of the second day, the eruption made its appearance very copiously, attended with a plentiful discharge of *purulent matter*. The urgent symptoms, from this time forward, gradually subsided, and at the end of three weeks had entirely disappeared. The patient finally recovered her health; and it is satisfactory to state, that she is still alive—married—and the mother of a family.

CASE SECOND.

July, 1821.

P. H., ætat 21.—Previous to his present illness had always enjoyed excellent health. About ten months ago, he went to Liverpool, as a clerk in the employ of Messrs. Matthie & Co., of that town. Not long after he entered on this situation, he began to complain of great weakness, difficulty of breathing, and violent pal-

pitiation of the heart on taking any fatigue. The appetite for food gradually declined, the digestive powers became impaired, and his flesh fell away rapidly. By the advice of his employers, he consulted the late Dr. M., of Liverpool, who, on hearing his statement, advised that he should immediately return to his friends, as he was evidently labouring under an organic disease of the heart, which being in its own nature incurable, he could only be expected to become very rapidly worse. Such was the report made to me by the patient and his brother, when they waited upon me a few days after his return to Port Glasgow.

I was, at that time, requested occasionally to visit the patient; not with any hope that he could be cured, but simply to see if any thing could be done to alleviate his sufferings, and "smooth the passage to the grave." Previous to my seeing him at all, I was told, that on his way home he had consulted my friend Dr. Burns, of Glasgow, who gave no decided opinion on the case, but ordered a blister to be applied to the back.

His appearance, at this time, was ghastly in the extreme. He was much emaciated; the skin was sallow and shrivelled; the features sharp, and the expression of countenance anxious and disturbed; debility very great. He had severe pain of chest; frequent short dry cough; no appetite; the bowels torpid; the urine of a most peculiar and fœtid odour, depositing red sand on cooling. He was languid, and extremely disinclined to exertion of any kind, as it occasioned great increase of suffering; walking quick, ascending a stair, or any acclivity, occasioned such violent palpitation at the heart, and such a sense of instant suffocation, as compelled him to sit down every few minutes when engaged in any such exercise. From the first time I saw him, I was not quite satisfied of the correctness of Dr. M.'s diagnosis; and being struck with something in the air and attitudes of the patient, which gave an impression of deformity, I made a very thorough examination of the chest and spine. The action of the heart was very strong; so much so that the pulsations were distinctly visible to the eye through the dress; to the ear, the strokes gave a sound not easy to describe—as if they were made upon a very hard substance, yet not so sonorous as metal. Neither percussion, nor any other mode of examination, detected any disease of the lungs. On examining the spine, I found about five inches of it, in the dorsal portion, extremely tender to the touch, and exhibiting a posterior curve. On observing this, I felt fully persuaded that all the pseudo-symptoms of diseased heart had their origin in irritation of the spinal and great sympathetic nerves, and therefore applied my whole attention to this point; and I had the satisfaction of finding that, by proper applications to the spine itself, and at the same time by a course of medicine suited to restore the debilitated functions of the stomach and bowels, I succeeded in restoring my patient to perfect health; not suddenly or rapidly, but by slow and steady progress, till, at the end of a twelvemonth from my first attendance, he

was able to return to his original employment as a clerk in a counting-house in Glasgow ; and he has, during the fourteen years that have since elapsed, continued to enjoy excellent health.

CASE THIRD.

October 1st, 1830.

W. E., ætat 12.—I was this day requested to visit this patient, and received the following history of the case from his mother. Until his ninth year he had enjoyed very good health, having experienced none but the complaints incident to childhood. Soon after this period, however, he began to complain of weakness, of palpitation at the heart, and loss of appetite ; became dispirited, and “unlike himself.” She called in her ordinary medical attendant, who, after attending the patient for some time, informed her that he was labouring under enlargement of the heart, and that therefore all that could be done was to alleviate symptoms. Dr. S., of Greenock, and Dr. B., of Glasgow, had subsequently been consulted, and coincided in this opinion. Dr. B. had however recommended the application of a blister between the shoulders ; but his advice was not complied with, the ordinary medical attendant having decided that it could have no effect but that of needlessly torturing the patient.

The boy had, for two successive summers, been carried to the sea-side, where he uniformly recovered flesh and vigour ; but immediately on his return home fell off, and experienced a recurrence of all the painful symptoms. Mrs. E. added, that he was now worse than he had ever been, and was, in fact, in so alarming a state as to cause the greatest apprehension of immediate danger. On inquiring what mode of treatment had been pursued, I found from Mrs. E.’s reply, that the medical gentleman above-named had most rigidly pursued the starving system of Valsalva for the cure of aneurism ; but instead of Valsalva’s bleedings, this boy’s bowels had been kept in a constant state of purgation, with calomel, jalap, and castor oil, daily repeated.

On being introduced to the bed-room of the youth, I could scarcely have believed that the spectre before me was the once blooming, vigorous boy I recollected. He lay in bed emaciated in the extreme ; his eyes glistening and restless, moving constantly, with an uneasy and timorous rapidity, as if he was unable to fix them for any length of time on the same object. The pulse was sharp, and remarkably quick—140 ; the tongue moist—apex florid, but yellow towards the root. The respiration was hurried. The heat of skin rather more than natural. The voice strikingly weak. The expression of the countenance most deplorably anxious. On raising him upon his breech in bed, with a view to examine the chest and spine, I found that the slightest motion increased the rapidity of action of the heart to a most extraordinary degree ; and that, as I have before mentioned in *Case First*, it seemed to beat in every part of the thorax at the same moment. I found the chest remarkably well formed ; and could

not, by the most careful manipulation and percussion, detect the slightest local cause of irritation there. On turning to the spine, I was disappointed to find much less irritation, or tenderness to the touch, than I had anticipated. Allowing for the extreme debility of the patient, the column was perfectly straight; but the shoulders were pulled up in that peculiar manner which we observe in the latter stages of phthisis. Drawing the hand down the column gave little or no pain, but caused a thrilling sensation to pass through and over the thorax; this particularly occurred when the hand was passed rapidly down the cervical and dorsal portion of the spine; and at the same time the velocity of the heart's motion was increased far beyond counting; and the patient panted like one who has ran beyond his strength. Drawing the hand gently along the course of the ribs, from the dorsal to the sternal aspect, produced an agreeable and soothing sensation.

Slight as these indications may appear, they yet left on my mind the strongest impression that the case was one of nervous irritation, not of organic disease, of the heart. Still, with an opposite opinion before me, from three medical men (for one of whom, viz. Dr. B., I felt the highest respect), I was very cautious in stating my sentiments, and requested a few days to form a more decided opinion.

The patient being put entirely under my management, I used the liberty of altering the treatment completely. I ordered a light, but nutritious diet, to be cautiously substituted for the starving system. The daily purgation to be given up; the bowels to be regulated by a Compound Rhubarb Pill, given at bed-time, *only when required*. The gastric irritation, from which he had suffered so severely, to be treated by the use of bitters and alkalies. Friction, along the whole course of the spine, and over the thorax, with a strong stimulating liniment, to be used morning and evening, as long at each period as he could bear it.

In the course of a very few days I had the satisfaction to see a marked improvement arise from this mode of treatment. The friction very soon produced an ample inflammation on the surface, which was quickly followed by a copious eruption, causing great irritation of the parts; but exactly in proportion as the external irritation along the course of the spine and intercostal nerves increased, the morbid action of the heart and arteries subsided; and the restlessness of the eye, and anxious expression of countenance, disappeared. By a well-regulated diet, and by the use of the sulphates of iron and quinine, "the bare bones" became quickly covered with a most comfortable quantity of flesh, his strength and spirits returned, and every symptom of "*enlarged heart*" most completely vanished.

My personal attendance ceased on the 26th of October, as I did not see it was any longer required; but the boy continued occasionally to take tonic medicine till the following February, by which time he was restored to most perfect health, having grown greatly both in height and breadth during the winter. His health, I am happy to say, still continues; and the last time I saw him he was a very fine looking, and strikingly athletic, young man.

CASE FOURTH.

James M^cAra, ætat 17.—This young man first applied to me in the winter of 1832. The history of his case, as I received it from himself and his mother, who accompanied him, was this.—He had always, as a child, enjoyed good health, and in his fifteenth year was bound apprentice in a merchant vessel from Greenock to the West Indies; in this vessel he made two voyages. Soon after leaving port on a third voyage, he was affected with the most unaccountable weakness, particularly of the lower extremities, accompanied with difficulty of breathing, asthma, and palpitation of the heart on the slightest attempt at exertion. By degrees these symptoms increased so much, that, on the homeward voyage, he was for the most part entirely confined to his hammock.

On his arrival at Greenock, his anxious parents immediately consulted Dr. S., and subsequently Dr. M., and Mr. M., of that place, as to his case. All these gentlemen, drawing their diagnosis from the use of the stethoscope, pronounced the boy's disease to be hypertrophia of the heart; and candidly enough informed the parents that nothing could be done for his case; that the disease was an incurable one, and must terminate fatally—probably would do so very suddenly, and at no distant period.—In fact, one of them went so far as to say he would not live three weeks.

I have omitted to note what time elapsed between this opinion being given and my first seeing him; but I should think some weeks at least intervened. At that time his appearance was sufficiently deplorable. Though reported to be seventeen years of age, no one could have conjectured that he was more than ten or eleven. He was short in stature; his shoulders was drawn up to his ears; the chest was hollow; and his arms hung in that peculiar manner which denotes either deformity or extreme tenderness in the spinal column; his step also, by its insecurity and hesitation, denoted the same; his face, apparently intended to be handsome, was sunk and emaciated; the eyes languid and glazed—the pupils much dilated; the expression of countenance, that of extreme anxiety and suffering. On any exertion, such as walking for a little distance, or ascending a stair, the face became swollen and purpled; the lips tumefied; the colour livid; the nostrils dilated; and the respiration so laborious that it might have been heard at some distance; at the same time the pulse became so accelerated as to defy counting. The appetite was very feeble and capricious; the functions of the stomach disordered; the bowels torpid; the urine turbid, depositing a reddish sediment on cooling.

On desiring the boy to strip, I found that the apparent deformity of chest merely arose from the attitude into which he drew himself in the effort to obtain easy respiration; for the frame-work was in all respects well formed; but the motion of the heart was so violent as to be distinctly perceptible to the eye at some distance, and to the

ear when three inches from the surface. There was also great irregularity in its movements. Notwithstanding all this, however, I was very decidedly of opinion that hypertrophia of the heart was *not* present; neither did I find, by the most minute investigation, by percussion and otherwise, that any disease of the lungs was in existence.

On turning to the spine, I instantly detected a lateral curvature, including the lower cervical and dorsal vertebræ. At this part, pressure occasioned a deep, involuntary sigh or sob, and an uneasy sensation, with increased action of the heart. Satisfied that I had discovered the source of all the lad's sufferings, I ordered each side of the dorsal and cervical portions of the spine to be freely leeches, and then blistered; requesting that the blister might be kept open as long as possible. I also ordered laxative medicine, to keep the bowels gently open, and a combination of bitter tinctures with alkalis, to correct the gastric irritation and acidity. The diet to be light and nourishing. Friction of the spine and chest to be duly practised.

In three weeks the patient returned to me, very considerably relieved in urgent symptoms, but still very far from what I hoped to see him. The blister having been allowed to heal, I ordered it to be again applied, and kept open; the other remedies to be continued as before directed.

The progress of the case from this time forward, though extremely slow, was highly satisfactory. In twelve months from the period I first saw him, he was restored to perfect health. At the time I left Port Glasgow, I never saw any lad of his age a more complete picture of youthful, blooming health, than he was. He had grown tall, and the shrunk face, and contracted chest, had assumed their natural and becoming proportions; while the muscular strength and vigour were in like proportion developed and improved.

CASE FIFTH.

October, 1833.

— —, ætat 14, has been for four months gradually drooping. Complains of great weakness of the lower extremities; pain across the loins; palpitation at the heart, and difficulty of breathing on taking any fatigue, as going up stairs, or even a slight ascent; constant headache; acidity of stomach to a most annoying degree; dull heavy pain across the chest, with hard clinking cough. The appetite is completely gone; the bowels torpid; the urine turbid, and emitting a most peculiar fœtid odour; the tongue foul; the pulse quick, and very variable, the slightest exertion raising it in a very remarkable degree; heat of skin very variable. Her appearance is greatly altered; the complexion is sickly and sallow; the eyes glassy, and pupils dilated, the vision much weakened; the lips colourless; the whole aspect expressive of the most extreme languor and debility. In walking, the step is slow; she raises the shoulders, and stoops,

like a very old person. There is slight inflammation and rawness of the posterior fauces, which has more or less annoyed her for some time past.

These symptoms I at first conceived to arise entirely from the constitutional irritation incident to the establishment of the catamenia in a delicate growing girl. Acting upon this view of the case, I merely recommended that her school hours and exercises should be abridged, or for a time altogether discontinued. Rest to be allowed; a course of tonics to be pursued; and the bowels regulated by the use of Magnesia and Comp. Rhei Pill.

Finding, after some weeks perseverance in this plan, that, so far from any improvement taking place, every symptom was aggravated, the debility increasing, and emaciation becoming alarming, I felt convinced that my diagnosis of the case had been more or less incorrect. Watching my young patient with the keenest attention, I observed that her dress constantly hung awry upon the bust, drooping off the left shoulder; and the idea immediately followed in my mind that this could only arise from great weakness or decided curvature of the spinal column. Examination proved this opinion correct. There existed a double lateral curvature, giving to the spinal column the form of an italic *f*. It was painful to the touch throughout the whole length; but more particularly so at the upper and middle portion of the dorsal vertebræ. When gently pressed at this part, a disagreeable tingling sensation was produced along the whole length of the lower extremities, even to the toes. Increased pressure aggravated this into the sensation vulgarly known by the name of a *sleeping foot*, and at the same time occasioned a sudden gasp, and sense of suffocation in the chest. So great was the irritability of the spinal nerves at this time, that though I conducted the examination with the utmost gentleness, and endeavoured to avoid giving unnecessary pain, yet the patient winced at every touch, and afterwards complained of increased pain in the head, and sickness at stomach. This appears the more remarkable, as she never had previously complained of any tenderness or pain in the back, if we except the above-mentioned dull, dragging uneasiness across the loins.

In addition to the plan of treatment already adopted, I now ordered constant rest upon the inclined plane, quietness, and careful avoidance of all excitement; and, notwithstanding the extreme debility of the patient, a very free application of leeches to the pained part of the spine. Friction, for an hour at a time, twice a day, with anodyne and stimulating liniments, along the spine, and over the thorax; this she was at first scarcely able to endure without screaming; but on perseverance it produced very pleasing and soothing sensations. It was most curious to observe, that after almost every application of the leeches, the pain shifted to a different place, and when pursued there with the leeches, frequently returned back to the place it had just left; and thus it was chased up and down the spine, till, ere it was finally expelled, there was scarcely one vertebra, from the upper

cervical to the lower lumbar, that did not bear marks that leeches had been there.

Exactly as the pain and tenderness of the spine declined, so did the urgent symptoms above stated. The distressing head-ache, and the amaurotic appearance of the eyes, gradually disappeared; so did the gastric irritation; and the appetite, hitherto capricious, and for some time so entirely gone, began to return, and I had the pleasure of seeing my young friend contemplate her breakfast and dinner with feelings far from akin to disgust or loathing. The strength also increased, and the general appearance became more satisfactory.

When I left Port Glasgow in the beginning of May 1834, I considered this case to be progressing in a very favourable manner. The young lady was then able to walk out into the garden, where she greatly enjoyed a little gentle exercise. In the month of June she passed through Manchester on her way to Buxton: she had come by the steamboat to Liverpool, and bore the journey from Liverpool to Manchester, with little inconvenience or fatigue.

Her general appearance and state of health were greatly improved: the spine was perfectly straight, and the tenderness quite gone. It is a circumstance highly worthy of remark, that from the time of my first attendance she had grown at an average one half-inch every month.

She remained six weeks at Buxton, using the baths and drinking the chalybeate waters, from which she certainly derived great benefit to the general health. On her way back to Scotland, I was delighted to observe that she had gained both flesh and colour, and placed her foot to the ground, in walking, with that firmness that is so decided a proof of health and nervous energy. I have since had the pleasure of hearing that she continues to enjoy good health.

CASE SIXTH.

Oct. 1832.

James Baillie, island of Cambray; aged 14.—Is reported to have been a very stout child till his fifth year, when he had hooping-cough. From this period he never recovered his health or strength. Was afflicted with breathlessness, palpitation of the heart, and general debility, particularly in the lower extremities; is very small of his age, and has a vacant expression of countenance.

On examination I found the chest gibbous and ill developed, the spine forming a posterior curve from the cervical to the bottom of the dorsal vertebræ; the whole length of the column slightly painful to touch. The poor boy is extremely asthmatic, and the palpitation of the heart on taking exercise becomes so violent as to make the head vibrate in unison with its throbbing: bowels torpid; appetite poor; is neither emaciated nor sallow.

From the urgency of the symptoms, and the great length of time they had been in existence, I felt but little hope of being successful in this case, as it was hardly possible to suppose but that actual organic

disease must have taken place. I mentioned this opinion to the parents; but, to give the boy a chance, I suggested that a blister should be put upon the back, and kept open as an issue for a length of time. This was done, and the issue continued for five months: it was then healed, and again in two months was renewed, as his general health seemed to have derived some slight advantage from the former one, and he had grown considerably in the interval. It was kept open for four or five months, but no attention was paid to the other and more important part of the treatment, that of keeping the patient in a recumbent attitude, and preventing his making any undue exertion.

At the end of a year, when he was once more brought to me, I could not observe any change to the better upon him, except that he walked with less difficulty. The irritability of the heart was in no way abated, neither was the asthma less severe. I advised that a mild palliative system should be adopted, and the poor boy allowed to die in peace. This he did in a few months after, without any increase of illness, except that for a day previously he complained of sickness. His death was sudden, and, from what was reported to me, appeared to have taken place in a convulsion. I greatly desired a *post mortem* examination, as it might have elicited some curious facts; but the distance (thirty miles) from my residence, and the season of the year, rendered it impossible.

CASE SEVENTH.

1833.

Mr. A., aged 34, a tall, fine-looking man.—Previous to his present ailment accustomed to take a great deal of exercise; passionately fond of field sports. While at Buxton for the benefit of my own health, in the autumn of this year, I met with this gentleman. Living at the same hotel, we frequently entered into conversation; and he mentioned to me that he had been sent to Buxton by his medical friends, in hopes of palliating (for little expectation could be entertained of curing) a very painful complaint with which for eighteen months or two years he had been afflicted,—which some of these gentlemen considered disease of the heart, and others as a flying gout. His general health was very tolerable, and there was no apparent emaciation. The bowels were regular, and the appetite good. Frequently, however, when in the act of swallowing, deglutition was suddenly interrupted, as if a foreign body had interposed to prevent the morsel from going more than half down the throat; and this always produced a most agonising sense of suffocation; at the same time the heart palpitated violently. Nor was this the most distressing form of his complaint. He scarcely ever went to bed that he did not, just when falling asleep, start up with the same sense of sudden suffocation. The face flushed, the temporal arteries throbbing, the heart palpitating most violently, and the whole frame convulsed, as it were, with the pangs of immediate dissolution. This very

painful scene was frequently repeated during the night, and had made so deeply gloomy an impression on Mr. A.'s mind, that he said to me he never now went to bed without the feeling that ere the morning he would most probably be a corpse. He had consulted various medical gentlemen both in Liverpool and London, had tried a variety of remedies, but without deriving any sensible benefit. As this was mentioned to me merely in the way of conversation, not of a consultation, I felt a certain delicacy in giving an opinion; but from all I could observe I was very much inclined to consider this a case of spinal irritation, not only from symptoms, but from a peculiar bend, or rather jerk, backwards of the shoulders, with which Mr. A. walked, and which his lady informed me was not formerly a characteristic of his gait.

The day previous to my leaving Buxton, I was seated upon one of the benches in the Crescent with Mr. A. and a number of other invalids; when something was said which caused us all to laugh very heartily. Mr. A., suddenly pressing his hands upon his chest, begged we would not make him laugh, as it was "like to kill him," adding something about "disease of the heart." I said at the moment, "I do not believe, Mr. A., there is any disease of the heart about you." He shortly afterwards took an opportunity of asking what I meant, and I then told him what my opinion of his complaint was, and that as it did not agree with that of his medical advisers, it had better be put at rest by an examination of the spine: to this he immediately assented, and I found the whole upper part of the spine extremely tender to the touch, the third, fourth, and fifth dorsal vertebræ displaced so as to form a sharp curve anteriorly, thus pressing upon the œsophagus, impeding the circulation, and causing the uneasiness and sense of suffocation in the act of swallowing, and on the recumbent posture being assumed.

I left Buxton next morning several hours earlier than I had contemplated when I parted with Mr. A. the night before, and long ere invalids were stirring. Unfortunately we thus had not exchanged our address, and I lost sight of the case completely, greatly to my regret. If ever this page should meet his eye, or that of any of his friends, I beg leave to say that I shall be most happy to hear from him, as I have never ceased to feel the deepest interest in his case.

CASE EIGHTH.

1834.

Master —, aged 13.—Has always been a thin spare-made child, but has hitherto enjoyed excellent health, and an uncommonly large share of animal spirits and activity. For some weeks past he has been drooping, become languid and sluggish, every movement seeming a trouble to him; complaining of head-ache, acidity of stomach, loss of appetite, spasms in the limbs, violent palpitation of the heart, and short dry cough.

I have been requested to visit him, in consequence of his having

APRIL, 1837.

fainted in school, where his anxiety to keep up with his young class-fellows induced him to persevere in going, when, as it appears, he was ill able for the exertion.

I found him extremely languid; the eyes dim and staring; complexion pallid; lips colourless. Pulse quick, weak, and variable; respiration hurried; tongue white; bowels torpid; urine deposits red sand on cooling.

I found on examination that there was a double lateral curvature of the spine, with great tenderness, particularly at the dorsal portion. Pressure there aggravating the palpitation of the heart to a most extraordinary degree, at the same time increasing the general uneasiness.

The treatment in this case was very similar to that which I have already detailed in others. I requested that all severe studies might for the time be suspended, and that, as the boy had an active and intelligent mind, he should be supplied with light reading; the recumbent attitude to be kept as much as possible: gentle exercise in the open air when the strength should permit, with frequent change of air, and occasional sea-bathing, for which the situation of his family afforded every facility. In a few months his health was perfectly restored. His growth during the progress of the case was most extraordinary.

ON
DISEASES OF THE LUNGS
OCCASIONED BY
NERVOUS IRRITATION.

AMONG all the diseases which afflict human nature, there is, I believe, not one on which so much has been, and still continues to be written, or which commands so intense an interest, as Consumption of the Lungs. This feeling is not confined to the profession—it extends to society at large; nor can we wonder that it does so, when we consider the insidious manner in which this disease makes its first approaches; the various, and often mysterious ways in which it runs its course; its frequent resistance of all medical treatment, even in its earliest stages; and its confessed incurability when advanced beyond; joined to the sad fact, that of its numerous victims the greater number are selected from the young, the fair, the most interesting of our race; the very beings we would most wish to res-

cue from an early grave :—all these causes united tend, I say, to invest consumption with a strange and mournful interest ; and tend in the same proportion to make every light which can be thrown upon its origin and history, a benefit to suffering humanity ; and hence it has arisen that consumption has proved such a wide field, and rich harvest, to the boldest imposition, and most boundless cupidity, of empiricism.

Adhering to the plan I have laid down for myself in writing these pages, I refrain from here noticing any of the innumerable theories which exist in the medical world as to the causes and cure of phthisis.

It is my own opinion, founded on practical observation, that the original seat of morbid action, in this malady, is in the nervous system. I have already adverted to the undeniable fact, that it is from the nervous system alone the vascular derives the vital energy by which it performs its functions ; and that hence debility or irritation at the root, or in the course of a nerve, or set of nerves, must inevitably produce morbid action in the tissues on which they are ramified ; whether that be the heart and blood-vessels, the lymphatics, absorbents, or any of the viscera, the effect will be the same, though the particular character of the disease developed will depend upon the seat of it, as well as upon many collateral circumstances.

When a vessel, larger or smaller, is deprived of the power by which it performs its functions, it must become either turgescient or collapsed—most commonly the former ; and as it is impossible for it quietly to continue in this state, congestion follows more or less rapidly. If, on the contrary, collapse takes place, the consequences will be very different, but ultimately not less destructive of health and life.

Let us now apply this reasoning, and these facts, to diseases of the lungs ; glancing in the first place at what occurs in the incipient stage of that malady. Neglected catarrh, usually denominated “ a slight cold,” sudden alternations of temperature ; grief, disappointment, and anxiety of mind, especially when preying on it in secret ; imprudent over exertion of either the mental or bodily powers, are among the principal causes to which we generally hear consumptive patients, or their friends, ascribe the commencement of their complaints. I do not at this moment recollect a single instance in which the patient did not mention, or readily admit, that among the first unpleasant sensations he could recollect, was that of coldness over the whole body, but *more particularly down the back*. Nothing is more common than to hear them compare this to the sensation of cold water suddenly dashed upon the shoulders, or a wet cloth closely applied to them ; and the remark follow, that “ no application of external heat, or even active exercise, tended to remove this sensation ;” evidently proving that it arose from sudden and serious diminution of nervous energy. If, at this period, nothing is done,

and successfully done, to rouse the system,* and bring it up to a healthy tone, morbid action in some viscus must be the result; and, owing to their peculiarly delicate structure, and varied functions, this too often occurs in the lungs. This is above all the case amongst the young of both sexes, at the important period of life when the constitution is passing from the state of childhood into the full development of its powers; and when of course the nervous system is in a most peculiar degree irritable, and open to morbid impressions. And I must here beg leave to remark, that to the mania for OVER-EDUCATING our children, very, very many fatal cases of consumption can in the present day be traced. In male, but still more in female seminaries for education, a medical man is tempted to believe the system has been devised with a view to produce consumption. The bodily powers are weakened by want of due exercise, and by being stinted in the quantity of sleep nature so imperiously demands for all growing animals; while the health of the nervous system is directly assailed by undue excitement, and over-tasking of the mental powers.

Why is it that we number among the victims of consumption so many of the most promising and most highly gifted of the youth of both sexes?—why but because, by the misjudging, blindfold vanity of parents and teachers, or the no less unthinking and headlong ambition of the youthful victims themselves, the powers of life are over-tasked, and a mental excitement is kept up, which, while it burns, consumes the vital, that is, the nervous energies of the constitution; till nothing is left but wasted ashes—over which blasted ambition mourns in vain—and blighted hope and affection shed their holiest and bitterest tears.

The most minute and laborious researches have in the present day been made, by various eminent members of our profession, into the nature of the changes and appearances which take place in the lungs after morbid action is fully established in them. In the results of these investigations I find nothing hostile to my opinion, that the producing cause of that morbid action is deficiency of nervous energy; and that therefore, until we can restore that energy, we labour in vain to remove the effects produced by its absence; and that if we do succeed in removing it, the affection of the lungs will disappear synchronically, provided it has not advanced so far as to incapacitate these organs for their office of oxygenizing the blood.

* How very easily this may be done at the first moment of danger, is shown by the fact, that a small quantity of spirits, taken into the stomach of those who can swallow such a prescription, or a like quantity rubbed warm upon the spine and chest of those who cannot, will in most cases prevent any bad effect from even a very severe chill; more certainly so if followed by gentle exercise. In like manner, if the feet and ankles be well rubbed with spirits before and after exposure to damp, as in angling and in field-sports, the danger will be found in a great degree obviated, simply from this cause, that the previous friction, and absorption of the spirits, having raised the tone of the nervous energy an *octave or two* above the natural, prevents it sinking so much under it, on the subsequent exposure, as to produce a morbid effect.

That St. John Long, of famous memory, acted upon this principle, I am most fully convinced. Whether he understood it or not, is another matter. That St. John Long did restore persons to health, who had been pronounced to be labouring under incurable diseases of the lungs by men of no mean name in the world of medicine, is a fact so notoriously true, that nothing but self-interest or blind prejudice can induce any one to deny it. The circumstance that he undertook, with equally unblushing confidence, cases which decidedly were, and proved incurable, as well as his pretensions to having a *preventive* of the disease, shows either utter ignorance of the first principles of what he practised, or the most irresistible cupidity.

What his nostrum was, I do not pretend to know; nor do I believe he confined himself to one, because I knew instances in which persons under his care were subjected for a length of time to frictions, three or four times each day, without either vesication or excoriation being produced; while in others this took place at the first or second application. He perhaps had had sagacity enough to discover that the length and regularity of the mere friction was of quite as much importance as the nature of the rubefacient; and he showed his tact by acting in such a manner as to secure *this point*, by obliging his patients to remain under his own immediate surveillance while undergoing this process. Nor is it to be denied that in his cures a good deal was owing to the strongly excited imagination and superstitious confidence of his patients.* This discussion, however, belongs more properly to the section on remedial treatment.

It is the opinion of most of our respectable medical authorities, that after lesion of the lungs has taken place, no restoration to even comparative health is to be hoped for. It must be admitted that, when they have become diseased, the lungs have less chance for recovery than any other viscus. Their functions are varied and laborious, their employment absolutely incessant; in addition to which, when ulceration takes place, the continual irritation produced by their constant action, and the contact of the air respired, render the difficulties of a cure serious and manifold. Still, from experience I am inclined to adopt the opinion of absolute incurability only under considerable limitations.

It is now too much the fashion with a certain class of our profession, when they find or fancy, by stethoscopic examination of the chest, that lesion of the lungs is present, to condemn the patient to inevitable death; and thenceforth, abandoning all active measures for his recovery, adopt a mere palliative mode of treatment, under which time never to be regained is lost, and the patient glides into that incurable stage in which they had at first pronounced him to be.

In the hands of a Laennec, or of any man of acute sensations and long experience, and who has served an apprenticeship to its free

* I say *superstitious*, because what is it but a form or modification of superstition that renders human beings (especially in England,) so prone to commit their dearest interests, whether in medicine or religion, to the boldest pretender, in preference to the most thoroughly versed but unvaunting professor?

and unrestrained use in a large hospital, the stethoscope forms a most excellent auxiliary in diagnostics; but in the hands of the ignorant, the inexperienced, but above all the presumptuous, it becomes, from the very simplicity, yet imposingness, of its application, a most deceitful and fallacious guide.

In many cases which have come under my own observation, such persons have persuaded themselves that they discerned the sounds indicative of extensive disorganization of the lungs, and therefore brought a verdict, "guilty of incurable consumption," against persons who have lived to laugh at them and their stethoscope. Such things are deeply injurious to the respectability of our profession at large, as well as to the interests of our science; for it is in this way that many excellent discoveries do, after a time, fall into undeserved disgrace and disrepute.

To resume the subject, let it never be forgotten, that even where lesion of the lungs (more especially if it has its origin in the tubercular form of consumption,) does actually exist, very many collateral circumstances ought to be most maturely inquired into and weighed, ere we act upon or emit a sentence of condemnation.

M. Bayle asserts he has known persons live forty years under consumption; and the accurate Laennec gives many instances of persons making a perfect recovery, whose lungs he acknowledges to have been at one time diseased; and of others who, if not cured, at least enjoyed for many years a very supportable degree of health. I was myself told, by an old and most respectable member of our profession, (the late Dr. Carmichael,) that he personally knew a gentleman who lived for five-and-thirty years under constant treatment for tubercular consumption, yet this individual enjoyed very tolerable comfort, and was at last carried off by an attack of enteritis! On a *post mortem* examination, there was scarcely a portion of the lungs that did not exhibit traces of disease more or less recent.

The fact is, that where the nervous energy is restored by judicious medical treatment, or by the rebound of a powerful constitution, the efforts which Nature makes to repair the devastations of disease are most truly astonishing. Who is there, in the habit of pursuing morbid anatomy, that is not made aware of this? How often do we find in the lungs of persons who never during life complained to us of their respiratory organs, or at least said no more than that formerly they were "liable to bad colds," not only cicatrices indicative of former lesion, but substances varying from the size of a millet-seed to that of an egg,—sometimes resembling cheese, sometimes chalk, and contained in what evidently had been the sacs of tubercles that had run their course, discharged their contents, and then, in spite of this new deposit, been forcibly closed up by the curative efforts of Nature!* And do we not, in all the viscera, meet with similar instances of this wonderful power of adaptation to existing circumstances in the animal economy?

* Note C.

Why, then, let me ask, do we resign our patients to "a palliative treatment," while a shadow of hope remains, or any plan has been left untried? And, above all, why do we send them to die far from their home and their friends? When that home is by the seaside, I admit that removal from it is quite necessary; but I will venture to say that no consumptive patient ever yet was saved by being sent out of England, who might not have been saved by being kept in it, and judiciously treated.

In the following cases, it is to be observed that both in those which ended fatally and those which recovered, very great spinal irritation, and in some of them deformity of the column or displacement of some of the vertebræ, was present; and not one case of consumption has come under my care or notice, since my attention was turned to this subject, in which I did not find this symptom.

I could have added a great many to the cases given here; but I deemed it unadvisable to load so small a work as this with any, either on phthisis or other diseases, which did not possess peculiar interest or which could seem like repetition.

To obviate all doubt on the subject, I pledge myself that I have given the only cases of consumption, which ended fatally under my care, since the year 1819.

PHTHISIS.—CASE FIRST.

— — — A young lady, eighteen years of age, had from childhood enjoyed the most robust health. In the summer of 1817, was exposed for some hours to the weather, and great fatigue, under circumstances of painful mental excitement. A few days afterwards she complained of severe pain in the chest, languor, and general uneasiness, frequent palpitation of the heart, and slight cough, with which she spit up a little frothy blood.

She underwent a variety of treatment, such as bleeding, blistering, and issues, without any permanent good effect. As the winter advanced, the symptoms of phthisis increased; her flesh and bloom faded, and her debility became very great. Towards spring, urgent symptoms began to decline, without the change being attributable to any particular cause; and by change of air, and great attention, her health was in the course of the summer completely restored.

At the approach of winter, however, in spite of every precaution taken, there was a gradual return of all her complaints; and by the middle of December she was considered decidedly consumptive.

At this time she could scarcely walk across her room, and her appearance was quite phthisical. The pulse was generally from 100 to 120. The pain of chest was very severe, and the paroxysms of cough so violent that the unfortunate girl was wont to slide from her chair to the floor, when she felt them coming on, and there she lay nearly convulsed. No expectoration ever took place; but occasionally, when unusually severe, she vomited from half a pint to a

pint of colourless water; and very often blood was brought up in small quantities.

During one of these paroxysms, my partner suggested putting the feet and limbs into the warm bath, which was done, and instantly the cough was arrested as if by magic. Repetition of the experiment only tended to confirm the fact of its influence in subduing the cough; but as it was but too likely to augment the liability to take cold, and the general delicacy of the patient, it was as sparingly applied as possible.

This circumstance had the effect of awakening my attention for the first time to the fact of nervous irritation producing or simulating symptoms of phthisis. Proceeding on this idea, I recommended a course of medicine such as I conceived likely to subdue this irritation. Much to my disappointment, however, the patient became so much worse under this treatment, that I found myself necessitated to suspend it. I next ordered frictions over the whole spine and thorax, to be continued for an hour twice each day. A very faint degree of amendment appearing to arise from this, I next ordered volatile liniment with laudanum to be used. When this had been used for about a fortnight, there was the most decided change for the better in all the symptoms. A slight rash having appeared upon the parts rubbed, I desired ointment of tartrate of antimony to be applied along the dorsal portion of the spine; the frictions over the thorax to be continued as formerly. Under this treatment, I had the great satisfaction to see my patient recover completely. She is still alive, and, though always a delicate person, has never since had any attack of a phthisical tendency.

PHTHISIS.—CASE SECOND.

February 27th, 1828.

Miss ———. Was consulted for the first time to-day upon this case, and received the following history of it from the young lady's mother. She had been very robust, and enjoyed excellent health till somewhat less than a year ago, when, from no visible cause, she began to droop, and from that time, in spite of a variety of medical treatment which she has undergone, her health has become steadily worse. She is now, for the most part, confined to bed, and the ordinary medical attendant of the family has announced it as his opinion that her complaint is consumption, and that nothing more can be done for her recovery. I found her extremely emaciated; the complexion of a peculiarly sallow hue; lips bloodless; eyes sunk, and yet staring; countenance expressive of great anxiety and suffering; complains of stitches in various parts of the chest, and of a fixed pain, covering a considerable extent in the centre of the sternum, reaching to the scrobiculis cordis. Frequent, hard, hacking cough, which greatly aggravates this pain and the stitches, and is occasionally accompanied with expectoration of mucus slightly tinged with blood. Great pain of head, sometimes

most severe at the occiput, sometimes across the forehead, at other times diffused over the whole skull. Night perspirations are very severe, and debility so great, that when out of bed she snatches at each successive chair for support, as she moves through the room. The respiration is quick and hurried, greatly excited by motion; and the palpitation at the heart is then so violent "as almost to take away the breath;" the shoulders are pulled up, and the chest hollowed; cannot make a deep inspiration; the voice peculiarly feeble; catamenia reported regular; bowels rather torpid; urine scanty, and peculiarly foetid; tongue flat, yellow, and slimy at the posterior portion; pulse 120, small, and very feeble; thirst considerable; appetite very poor and capricious.

Such was the state of this patient at my first visit; and few will be inclined to deny that here were very strong symptoms of phthisis. Yet finding, on the most careful examination, nothing which I considered as a decisive proof of organic lesion of the lungs, I felt inclined to view it as one of long-neglected nervous irritation, and therefore requested permission to examine the spine. After considerable difficulty, this was granted. On drawing my fingers *very* gently down the column, no pain was experienced; but on increasing the pressure, and drawing my fingers down each side of the spinous processes, no sooner did I reach the middle and lower portion of the dorsal vertebræ, than the patient winced, drew herself forward to escape from me, and complained of great increase of pain at the sternal aspect. On repeating the pressure still more firmly, she gasped for breath; the pain in the breast covered a larger portion; and the cough was severely excited: at the same time a most disagreeable thrilling sensation darted down the inner side of the thighs to the very soles of the feet. The curvature in the dorsal portion of the spine was very evident, even without a plummet.

Satisfied that I had discovered the source of all the patient's ailments, I directed the attention of her mother to it, and endeavoured to explain to her my views on the subject. The result was, that she requested me to take the case entirely under my own management.

I ordered, notwithstanding the extreme debility of the patient, that eighteen or twenty leeches should be applied over the pained vertebræ. Gentle friction over all the other parts of the spine, and over the whole thorax, to be sedulously attended to. The bowels to be regulated by a simple laxative pill and magnesia; the stomach to be treated with tonics of quinine and iron; the diet to be generous, but not heating; the recumbent posture to be preserved, unless the patient felt desirous of moving about; exercise never to be pushed the length of fatigue.

The leeches were applied at intervals of two and three days; and before a week had elapsed, the sternal pain began to give way; and, as it were, to *recede* from its first station. At each successive application of the leeches it seemed to retreat towards the spine, at the same time lessening in severity. If, trusting to these favourable

appearances, the leeches were omitted for a day or two longer than usual, the pain advanced again towards the sternum, always retreating on a renewal of vigorous applications to the spine. The general health at the same time made a sensible advance, and all the urgent symptoms declined in severity. I then applied strips of blister, an inch broad, on each side of the spinous processes in the dorsal region, keeping them open as long as seemed prudent, then allowing them to heal, opened them again a little further up or down the column, occasionally alternating them with leeches. The progress of the case under this mode of treatment was by no means *steadily* onward. It seemed at times to stand still; at others, almost to recede, instead of advancing. Nevertheless, when I considered that the hectic was subdued, the cough abated, and the flesh improving, I would not allow myself to despair. As the summer advanced, I sent her to the mildest and most inland situation that could be selected, for change of air; and, as in all cases of nervous irritation, this produced a most beneficial effect; she returned home in high spirits, greatly increased in flesh, and every thing in her case wearing a favourable appearance. By the end of July, every symptom of phthisis having completely disappeared, she was sent to the Island of Bute, where she enjoyed sea-bathing for several weeks, rapidly progressing to a state of perfect health. On her return home, it would have been difficult to recognize in the blooming, plump young woman she appeared, the same emaciated, and to all appearance dying person, I beheld her at my first visit in February.

Our profession is an arduous one. It has, beyond all other, its days and its *nights* of unmitigated toil, and intense anxiety; but there is no denying that it also has its moments of heartfelt satisfaction and benevolent enjoyment no other profession can ever boast!

This young lady has continued to enjoy uninterrupted health; is married, and, I believe, a mother.

PHTHISIS.—CASE THIRD.

Miss M., aged 17.—This young lady had been in delicate health from her thirteenth year, when she had a sore throat, accompanied with enlargement of the submaxillary and parotid glands. This left her extremely emaciated, and with a constant tendency to catarrhal symptoms, such as short dry cough, pain of chest, and slight feverishness, on the least exposure to cold. The greatest care to ward off these attacks had been taken by the ordinary family attendant, and by her mother, who was a very sensible and experienced person. Notwithstanding all their efforts, however, she was, when first placed under my care, in April, 1832, labouring under many symptoms of incipient phthisis, rendered the more alarming by the circumstance that five or six of her paternal aunts and uncles had died of that malady. She complained of extreme langour and aversion to move; loss of appetite; acidity of stomach: pain of chest; cough; breathlessness on taking the least exercise, par-

ticularly on going up stairs ; and severe high sweats. The voice was feeble and shrill ; the shoulders drawn up, and the head poked forward ; the left shoulder lower than the right, shown by the dress invariably hanging off, that side. The bowels were very torpid. The face was extremely pale, but not sallow ; the lips colourless, and the eyes sunk—the pupil greatly dilated, showing the peculiar amaurotic symptoms I have so often mentioned.

I examined the chest with the greatest attention, but found nothing to countenance the apprehension of phthisis. On examining the spine, I found the whole of the dorsal vertebræ tender to the touch, firm pressure on them exciting a very marked increase of sternal pain and spasmodic gasping, and, when continued, palpitation of the heart, rapid respiration, sickness at stomach, and disposition to faint.

Duly considering the hereditary predisposition to phthisis in this case, my prognosis to the relatives was a very guarded one. The mode of treatment ordered was nearly similiar to that in Case *Second*, and I am most happy to say it was in all respects equally successful. At the end of autumn the young lady returned from sea-bathing in excellent health, though still wearing a delicate aspect and complexion. By degrees those too disappeared, and I had the great satisfaction of seeing her recover flesh, strength, and robust health.

PHTHISIS.—CASE FOURTH.

Feb. 27, 1827.

Miss L., Greenock, aged 23.—Reported to have enjoyed very robust health till within the last few months. During that time she has gradually declined, and is now considered by her friends to be consumptive. She complains of severe hacking cough, coming on in violent and long-continued paroxysms, which leave her exhausted and feeble. Constant pain in the centre of the sternum ; strong palpitation of the heart on taking the slightest exercise ; copious night perspirations ; total loss of appetite.

Previous to her present illness she was plump and florid ; she is now sallow and greatly emaciated ; has that peculiar stoop of the chest, with raised shoulders, which is well known as a phthisical symptom. The eyes are languid—pupils much dilated ; lips colourless ; countenance expressive of great langour and anxiety. Pulse quick and feeble ; respiration hurried and difficult ; the attempt to produce a full inspiration brings on acute pain in the chest, and immediately excites the hacking cough,—literally the *tussis clangosa*. Bowels reported torpid. Urine emits a peculiar fætor when voided ; deposits red sand on cooling. Catamenia reported regular.

On examination of the spine, I found no curvature whatever, nor even tenderness *over* the column. On drawing my hands down each side of it, however, in the dorsal region I found it immediately excited the cough, and increased pain in the sternal aspect ; when repeated, the pulse became accelerated, and the breathing more

laborious. Guided by this in my diagnosis, I gave it as my opinion that this was no case of phthisis, but merely one of great nervous irritation. In this opinion I was most happy to find that my valued friend Dr. Hill, of Greenock, who was the regular family attendant, fully and entirely coincided, and that he also agreed with me as to the mode of treatment to be pursued. This need not be detailed, as it did not materially differ from that in the preceding case. I only saw the patient twice : she convalesced rapidly, and made a perfect recovery under Dr. Hill's management. She married soon after, is a mother, and continues to enjoy excellent health.

PATHISIS.—CASE FIFTH.

M. A. K., aged 20.—This girl was brought to me for consultation from Cheshire, in July, 1834. The history given of the case was, that eighteen months previous to this period she was for several hours exposed to damp and over-exertion. The catamenia, being then present, disappeared, and never returned. She became at the time cold all over,—“so cold,” to use her own words, “that nothing could be like it ; and for days and days nothing would warm me.” Cough, pain in the chest, restless uneasiness, difficulty of breathing, and night sweats and debility, followed in due time. She underwent a variety of medical treatment, without experiencing even temporary benefit.

On examining the chest, I felt fully aware that tubercles had formed in the lungs ; but from all I could ascertain it did not appear that any had run their full course, or discharged their contents. On examination of the spine, I found it throughout its whole length in a highly irritable state, but more particularly so in the dorsal and lumbar regions.

I directed a similar mode of treatment to that pursued in the foregoing cases.

The patient had come into town, 17 miles, in an open gig, and returned the same day by the same conveyance, the wind at the same time being both cold and damp.

In a fortnight she was again brought to me, in every respect worse than when I had formerly seen her. I insisted that this ruinous plan of her taking such journeys in an open carriage should be abandoned, and, if she was so anxious for my advice, that she should remain in town to have it. This was agreed to ; but, in a very few days after, purulent sputa began to be expectorated in amazing quantities, and the case rapidly degenerated into one of hopeless ulceration of the lungs. Having frankly announced my opinion to her friends, she was removed home, where, to my astonishment, she continued to linger till the beginning of November.

I feel most fully convinced that at the period I first saw this patient her case was far from hopeless ; but poverty presented an insurmountable barrier to much of the treatment it required. The long exposure to cold damp air, and fatigue, in an open carriage, the

first day she came to Manchester, I conceive produced inflammation of the lungs, terminating in abscess.

The state in which I found the spine and nervous system strongly contributed to convince me, that in Nervous Irritation will ultimately be found the real source of Pulmonary Disease.

PHTHISIS.—CASE SIXTH.

Miss ———, of B——, Derbyshire. I was last spring consulted by letter, and subsequently requested to visit this young lady, in consequence of the apprehensions entertained by her friends, and the medical gentleman attending her, that she was labouring under Phthisis Pulmonalis. In the previous autumn, or beginning of winter, she caught a severe cold, from which time her health declined. I found her labouring under constant sense of tightness over the chest, with severe fixed pain at the sternum; very frequent tearing cough, occasionally accompanied with muco-purulent expectoration; the sputa partly sinks and partly floats in water; any attempt to make a deep inspiration causes sharp stitches in the chest, and brings on the cough; frequent heart-burn; constant pain of head; respiration hurried, and the heart palpitates violently on the slightest exertion; the sleep is disturbed and unrefreshing; complains much of copious perspiration coming on towards morning; the flesh and strength are greatly reduced; the face and lips colourless; the eyes dull—pupils dilated; pulse quick and feeble; bowels torpid; urine turbid, and of a peculiar fœtor, occasionally depositing red sand; catamenia regular; voice thin and weak.

Observing that the patient stooped forward very much, and that her dress fell off one shoulder more than the other, and being assured that this was of recent occurrence, I requested permission to examine the spine, and found it exhibiting a lateral curvature of an inch and a half from the perpendicular. There was extreme tenderness in the whole of the dorsal region, pressure there aggravating the pain at the sternal aspect.

On retiring with the family attendant, I mentioned to him my opinion that the symptoms in this case arose entirely from irritation of the spinal nerves. The idea was perfectly new to him, and he was by no means inclined to coincide in it; candidly stating to me his doubt of any beneficial effect arising from the mode of treatment I proposed. At the same time, with a liberality which did him honour, he expressed his wish to give it a fair trial. I therefore chalked out a plan of treatment very similar to that pursued in the foregoing Cases. Friction, with an embrocation in which I had begun to place great confidence, being very particularly enforced. Great credit is due to the gentleman above alluded to, for the zeal and attention with which he watched this case; and he had the satisfaction of making a complete cure. The young lady has just now (August) returned from the sea-side—the third change of air she

has, by our directions, made during the summer ; her health is perfectly restored ; and she has completely regained her plumpness and her bloom.

One of the most melancholy instances of predisposition to Phthisis which ever came under my notice, was that of a gentleman's family upon which I was called to attend in 1824, in consequence of the ordinary family surgeon being at the time indisposed. The mother and eight children, of all ages, from infancy to twelve or fourteen years, were labouring under bronchitis, which prevailed greatly at the time.

These children had the complaint with unusual severity, but all recovered in a satisfactory manner. I had, however, seen enough to make me apprehend a phthisical diathesis ; and before my attendance ceased, I warned the parents that the greatest care and attention on this point would be requisite in rearing their family.

In 1829 I was again called to this family, in consequence of a son, about nineteen years of age, who had gone into business, having returned to his father's house in a very bad state of health. In the interval from my former attendance, the mother and four children had died of phthisis.

The youth now placed under my care was evidently dying ; but a more extraordinary case I never met with. He was debilitated to the last degree, but he had neither pain nor suffering of any sort. The functions of the stomach were not deranged ; the appetite was tolerable ; and emaciation was not remarkable. Respiration was difficult, but not painful ; the pulse quick and feeble. On percussion, the chest gave a sound as of a perfectly solid substance. The cough was not severe. The expectoration was not purulent, but of a greenish hue, and frothy. There was a very remarkable posterior curvature of the cervical and dorsal vertebræ, and at this part the patient complained of uneasiness when touched. There was no time for treatment, however ; the debility increased with rapidity, and, without any increase of other symptoms, he expired in three weeks after he came under my care.

On a *post mortem* examination, the lungs were found so complete and solid a mass of tubercles, that it became a matter of astonishment how respiration had been carried on, or the circulation maintained, during the latter period of life. It was evident, from the appearance of the mass, that it had been forming for a great length of time ; and the absence of all suffering during life makes this a very curious case. The liver was paler than natural, and tubercles were found in various parts of it. The spleen also was paler than natural, and the mesenteric glands were enlarged. The other viscera appeared natural.

Soon after the death of this young man, his younger brother showed symptoms of a similar description, but continued to go about, to walk, to ride, and enjoy tolerable comfort, till the beginning of

November, 1832, when after about a week's confinement he expired. In 1834, a most lovely and interesting daughter also fell a victim to the same desolating malady; but of her case I have learned no particulars.

ASTHMA.—CASE FIRST.

On the evening of 9th January, 1829, I received a hurried call to *A. H.*, the son of a respectable farmer, a stout lad of 14 years of age, accustomed to constant out-of-door work. The message bore that he had been suddenly seized with *croup*. On my arrival, I found him sitting at the fireside quite composedly, and was informed that the attack had gone off as suddenly as it came on. The face, however, retained all the appearance of a recent and violent struggle, being swelled and bloated, with streaks of a livid hue. The eyes looked starting from their sockets, and the conjunctiva was suffused: the respiration hurried; pulse quick. From these appearances, joined to the description given of the attack by those who witnessed it, I was convinced it had not been one of *croup*, but of spasmodic asthma.

On requesting him to strip, I found the chest well formed and developed, and percussion excited no uneasiness whatever. On proceeding to examine the spine, my hand no sooner came in contact with the second, third, and fourth dorsal vertebræ, than it elicited a gasp from the patient, like that caused by a sudden plunge into cold water; and he complained that it seemed as if it would cause a second attack of all his previous sufferings and breathlessness. I could not, however, repress my curiosity to repeat the experiment, and did so several times, invariably with the same results. There was not the slightest displacement or twist of any of the vertebræ, nor did the same pressure that caused the gasping cause any pain to the parts. The whole column was apparently healthy.

Satisfied that I had discovered the source of the spasmodic attack, I ordered two dozen of leeches to be applied over and around the spot where pressure occasioned the gasping: these to be applied every few days, and if the attack of asthma did not cease to return, blisters to be applied, and kept up as an issue. The bowels to be kept open by mild purgatives, combined with tonics of iron and quinine.

Under this treatment the attacks of asthma declined in violence and frequency; and in two months the boy was restored to perfect health. He grew very rapidly during this time and immediately after; has, as far as I know, never experienced any recurrence of asthma; and became remarkably hale and robust.

ASTHMA.—CASE SECOND.

In October, 1834, I was consulted by a very stout, large-made man, 65 years of age, who complained of having been for five or

six years troubled with attacks of severe asthma, coming on in the most irregular and capricious manner; but, what seemed to himself exceedingly mysterious, it most frequently attacked him "just when he was pulling on his coat in the morning." I inquired whether he had any pain in the back at these times, or at any time. He said he had not; but seven years before, on making an imprudent exertion of his strength, a pain between the shoulders seized him, and continued for some time to annoy him. On examining his spine, I found very considerable irritation over the whole dorsal vertebræ. At this place there was a posterior curvature, but I felt some doubt whether this was not the old gentleman's original conformation: at all events, pressure on this part instantly produced asthmatic sobbing and increased uneasiness. I requested him to follow the plan of treatment I habitually pursue in such cases, and he departed promising to do so. He had come from a distance to consult me, and I heard nothing more of him for some months, when I accidentally learned he had died from the bursting of a blood-vessel in the lungs causing instant suffocation.

DISEASED LIVER.—CASE FIRST.

November, 1833.

J. R.———, aged 29, a cook in a gentleman's family in Greenock.—Has hitherto enjoyed good health. Consulted me in consequence of extreme debility, which renders her unable to move about or take the slightest exercise. If she walks a little distance, or ascends a stair, the fatigue is so intense as to oblige her to sit down every two or three minutes; her heart palpitates violently; the breathing becomes rapid and oppressed, and faintness frequently supervenes. She complains of a short dry cough, pain in the chest, from the sternum, extending round the sides; loathing of food, and constant acidity of stomach. Voice weak and husky; talking a few words completely exhausts it, so that she stops and breathes hard. Her appearance has in a few months altered from that of a stout, athletic woman, with a clear, blooming complexion, to the emaciated appearance of disease; the skin exceedingly jaundiced; the eyes languid—pupils dilated. Bowels torpid; urine scanty, of a peculiar odour, depositing red sand on cooling. Pulse quick and feeble. Catamenia regular. Has felt her present ailments coming on for some months, but cannot state any particular cause for them. Consulted the family attendant of her master; he gave her some medicine, which she supposes was calomel, as he told her that the jaundiced appearance of her skin showed that her complaint was in the liver. Derived no benefit from the medicine.

On examination, I found nothing to countenance the idea that the liver was the seat of disease; but I found a lateral curvature of the spine, which threw it nearly an inch and a half from the perpendicular line at the centre of the dorsal region, pressing down the ribs till they approximated to the ilium on the right side, so as

probably to occasion functional disturbance of the liver, and give rise to the jaundiced appearance of the skin. The pain on pressure was not so great as the magnitude of the curve would have led one to expect. Pressure down each side of the spine caused a deep sob, and very marked increase of uneasiness for the moment.

I ordered treatment similar to most of the cases already detailed. That she might be attended without difficulty or interruption, she left her situation, and went to her father's house, where I attended her for three or four months. Her convalescence was tedious, but very satisfactory; and before I left Port Glasgow, in May, 1834, her health was quite restored.

DISEASED LIVER.—CASE SECOND.

M. M'C., aged 16, consulted me shortly after the above case came under my care. I received the following history of the case from the patient's mother.

She originally had a good constitution, and enjoyed excellent health till autumn, 1833, when she became languid and debilitated, without any sufficient cause being apparent. Loss of appetite, constant acidity of stomach, pain in the chest, and headache, supervened. The flesh rapidly declined; the complexion became sallow, and ultimately jaundiced. The usual family attendant, having been consulted, pronounced her complaint to be disease of the liver, which he said had already made considerable progress. She was immediately put under a smart course of mercury, which was continued till the constitution was fully influenced by it. No benefit whatever, but the reverse, arose from this plan of treatment; her friends were of opinion that she became so very decidedly worse under it, that they were induced to put the case entirely into my hands.

At the time I first saw her she complained of extreme debility, and was unable to be out of bed for any length of time: walking once or twice across the room brought on such breathlessness and palpitation of the heart, as sometimes almost to make her fall to the ground. There was no appetite, and a decided loathing at *animal* food. Constant heartburn, and frequent headache; amaurotic appearance of eyes very remarkable. The flesh was flaccid and greatly reduced; the complexion very jaundiced; the pulse rapid and weak. Catamenia tolerably regular. The right shoulder was lower than the left, shown by the dress falling off the bust on that side.

I could not, on examination, find there was present the slightest indication of any organic disease of the liver, or any visceral disease whatever. I was therefore led to the conclusion, that the symptoms arose from nervous irritation. A view of the spine showed cause sufficient to account for this: it presented the appearance of an *Italic f*, the curvature being double,—the upper one towards the right side. The whole length of the column was painful to touch—*acutely* so at several points, particularly over the whole dorsal

region, pressure upon which excited cough and increased uneasiness over the spot pressed upon, and at the lower and middle part of the sternum.

My first care was directed to free the constitution entirely from the mercury so unnecessarily poured into it. I then ordered the pained parts of the spine to be freely leeches every two or three days; frictions with stimulating liniments over the thorax and on each side of the spine. After a few weeks, the leeches were alternated with blisters, with the happiest effect. Mild tonics, with alkalies and gentle laxatives, and the constant recumbent posture, formed the whole treatment of this case. The urgent symptoms rapidly declined; the jaundiced appearance went off exactly in proportion as the straightening of the spinal column relieved the liver from pressure. The appetite and flesh returned; she was sent to the country, and subsequently to sea-bathing, with the happiest effect; and some months before I left Scotland, I had the satisfaction of seeing that she enjoyed the most perfect health.

DISEASED LIVER.—CASE THIRD.

— —, a stout, athletic girl, ætat 21.—Has been habituated to hard work and constant exercise from her earliest childhood: has enjoyed uniform good health till of late, when she began to experience a sense of indescribable languor, fatigue, and uneasiness in the lower extremities, and occasionally over the whole body; accompanied with hurried respiration, loss of appetite, acidity of stomach, great pain in the right shoulder, more particularly on raising the arm to the head, as in the movement of sewing. Uneasy nights, the sleep being interrupted and unrefreshing. The bowels are constipated; urine scanty, and of a most offensive odour, depositing red sand on cooling. Eyes peculiarly staring and clear, pupils being much dilated. Complexion completely jaundiced; pulse variable; tongue foul. Catamenia regular.

Observing that the left shoulder of this patient was very perceptibly higher than the right, I was induced to examine the spine, and, as I had anticipated, I found not only a considerable curvature to the right, but the dorsal and lumbar vertebræ very tender to touch. The short ribs were almost in contact with the crest of the ilium on the right side, sufficiently accounting for the jaundiced complexion and other pseudo-hepatic symptoms.

By a mode of treatment similar to that detailed in the foregoing cases, this patient recovered her health; but it was a very great length of time before she felt anything like her former vigour or athletic powers of exertion: neither did she, as long as I knew her, ever regain her *embonpoint* or blooming complexion.

DYSPEPSIA.—CASE FIRST.

1826.

— —, a young lady, ætat 12, very tall of her age, and

slender; dark eyes, hair, and complexion; complains of constant acidity of stomach, disinclination to food amounting to nausea; acid eructations, accompanied with pyrosis; what comes up is occasionally so sour as to set the teeth on edge; constant languor, and aversion to exercise; frequent head-ache, and fits of the most unaccountable dejection and irritability. The bowels are torpid; the tongue foul; breath peculiarly fœtid in the morning; pulse low and irregular; flesh and colour altered very much for the worse. One uncommon symptom is a constant craving for acids, so that it requires considerable attention to prevent the child drinking up vinegar, or sucking lemons, whenever she can by any means procure them.

Observing that this young lady's dress constantly hung off the left shoulder, I was induced to examine the state of the spine, and found it exhibiting a double curvature—the true Italic *f*, with a very well marked gibbosity of the ribs on the right side, and great tenderness to touch in the cervical and dorsal vertebræ.

I ordered that she should be confined to the recumbent posture, on a hard couch, with a small hair cushion strapped over the gibbous ribs, so as to produce gentle pressure when she lay on that side. All school tasks to be given up, and the child's mind kept as easy and as much amused as possible. Very frequent and long continued frictions with stimulating liniments; exercise in the open air at stated intervals, to be increased as the strength revives; and a certain portion of vinegar to be allowed with the child's dinner, the only meal she ever takes with a relish.

Under this mode of treatment, the patient's recovery was satisfactory, and she is now a remarkably healthy and handsome woman.

Two things are remarkable in this case; the one is the *apparently depraved* desire for acids, which literally proved to have been “the voice of nature supplicating for relief”—for, from the time she was allowed the free use of vinegar, the extreme gastric irritation was allayed; and the other is, that she subsequently confessed having, previous to her illness, repeatedly received severe blows on the dorsal portion of the spine, in the act of swinging; some so severe as to produce nausea at the moment. I think there can be no doubt entertained that these blows were the original cause of the nervous irritation productive of the dyspeptic symptoms. The catamenia were not established till her sixteenth year, and then without any constitutional disturbance.

DYSPEPSIA.—CASE SECOND.

M. C., a slender-made girl, 18 years of age, servant in a gentlemen's family in Glasgow, applied to me in November, 1827. Mentioned that some weeks previously she had, on attempting to lift a heavy tub from the ground, felt as if something gave way in her back; and immediately an acute pain rushed into her breast at the lower part of the sternum, extending over the region of the stomach.

A medical gentleman was sent for, who ordered sixteen leeches to the seat of this pain. They bled freely, and gave some relief, which however was only temporary. A blister was then applied to the same place, but with no perceptible benefit. The pain continued to increase, and extreme restlessness and uneasiness, head-ache, nausea, aversion to food, frequent vomiting, and nervous tremors, were present. She could not sit up, from the indescribable wretchedness caused by the position; "and yet," she added, "I am scarcely less wretched in any other posture."

Being unable to work, she resigned her situation, and passing through Port Glasgow on her way to her native place, she consulted me.

Finding the spine had never been examined, I examined it; and found the whole dorsal portion of it in a very irritable state. I ordered two dozen leeches to be applied to this part; and the patient declared that even before they were done bleeding, she felt the most marked amelioration of urgent symptoms. I desired the leeching to be renewed at intervals, and to be occasionally followed by a blister, kept open for a time. Frictions with stimulating liniments were pursued night and morning; and by this treatment, joined to the use of tonics and laxatives, and ultimately the daily use of sea-bathing, the girl in a few months perfectly regained her health.

DYSPEPSIA.—CASE THIRD.

R. S., a stout labourer, tall and large-made; applied to me in November, 1832. Had enjoyed good health during the whole course of his life, except on one occasion, ten years ago, when he wrenched his back between the shoulders, by lifting a weight beyond his strength: from this cause he suffered considerably for some time, but ultimately regained his health, and had forgotten the circumstance till it was recalled to his mind by my questions.

Complains now of severe head-ache; dull pain in the lumbar region; acid eructations; nausea, and aversion to food; constant pain and acidity of stomach, even a little tea, or a draught of cold water, producing sickness and vomiting of acid or bitter fluid; the flesh is wasted; colour gone; strength so much prostrated that to walk a few yards is an almost intolerable exertion; the eye dull and languid; tongue white; bowels torpid; pulse small and variable; his nights are sleepless and uneasy; the mind in a very gloomy and despairing state.

I ordered an alkaline mixture with bitters; a dose to be taken three or four times a day. The diet to be animal food, with hard biscuit highly dried, to the exclusion of vegetables. The bowels to be kept soluble by gentle laxatives.

In about three weeks he returned to me, looking more ghastly and deplorable than ever: said that for eight or ten days he felt sensibly better for my prescriptions, but after that period they entirely failed, and for a fortnight he had scarcely swallowed an

ounce of food—never even a mouthful without its producing severe vomiting.

I ordered him to strip, that I might examine the state of the spine; but his weakness was so great that I was obliged to give him half a glass of brandy, and a bit of biscuit, before it could be accomplished. I found three or four of the middle dorsal vertebræ tender to the touch. The patient sobbed, and complained of indescribable uneasiness, when the hand was firmly drawn over this part of the back; the lumbar vertebræ also were slightly tender; no distortion or disarrangement of the column was observable.

I ordered a large blister to be applied to the dorsal region, to be kept open for some time by irritant dressings. Three grains of oxide of bismuth to be taken thrice a day; an alkaline draught before each meal; and such laxatives as would keep the bowels gently open.

When I visited him in the evening, he told me he had had several hours refreshing sleep, and that the brandy and biscuit I gave him had not been vomited,—the first time for three weeks anything had been retained by the stomach. I advised him to repeat it, but the effect was entirely reversed, that it produced nausea and vomiting of some hours' duration. On the rising of the blister, this harassing symptom subsided, and never again appeared. Nausea, and aversion to food, continued to annoy him for some weeks; but by perseverance in the above-mentioned treatment, with the addition of frictions with a stimulating liniment, he completely recovered. In the month of March he returned to his laborious occupations; and has never since had an ailment of any description.

DYSPEPSIA.—CASE FOURTH.

A gentleman between forty and fifty years of age, of very temperate habits, naturally of a robust constitution, and who had been employed as a merchant from his boyhood, consulted me in 1833, stating that he had suffered for upwards of two years from constant acidity of stomach, frequent nausea, and aversion to food; occasional voracity of appetite; but a full meal was uniformly followed by feelings of misery so great, that the patient seemed to want words to describe them. Severe pain of head, resembling the sensation of having the hair torn out in handfuls by the roots; lancinating pains in the limbs, particularly on first awaking in the morning; frequent and distressing sense of distension in the belly. The bowels were torpid; the tongue foul; the complexion squalid; the flesh flabby and reduced. Complained of unaccountable anxiety and despondency of spirits, and an irritability of temper quite foreign to his natural disposition.

On inquiring into this gentleman's habits, I found that he generally got up between seven and eight in the morning, breakfasted about nine, and went immediately to his counting-house, where he continued till five in the afternoon, occupied in conducting the affairs

of an extensive mercantile concern. Never had been in the habit of taking more than a biscuit—and since his stomach complaints began, not even that—between breakfast and dinner: he frequently returned to business after dinner.

Finding that he had undergone a vast variety of medical treatment, in the course of which he had swallowed such an extraordinary and heterogeneous mass of drugs as fully convinced him he had nothing to hope from that practice, I requested an examination of the spine: there was neither displacement nor tenderness in the column itself, yet finding that a most peculiar and unpleasant sensation was produced by drawing the hands from the sternal to the dorsal region, I came to the conclusion that nervous irritation was in this case the cause of the dyspeptic symptoms.

I ordered twelve leeches to be applied on the dorsal region. Slight relief following, they were repeated in a day or two; and as soon as the bites healed, the whole back and thorax were subjected, night and morning, to long-continued friction with the flesh-brush. I also ordered that dinner should be regularly taken at three o'clock, and half an hour's siesta to follow it. All drugs to be given up, except as much mild aperient medicine as would keep the bowels gently open; and half a glass of alkaline tonic mixture an hour before each meal.

Finding a marked improvement take place in a few weeks, I ordered friction with a stimulating liniment: this very shortly produced a profuse miliary eruption, extremely itchy and irritable. It was kept up for some months, during which time the gastric irritation gradually declined, and at length was wholly removed. It is a very remarkable fact, that the eruption declined and disappeared exactly in the same ratio; though the application of the liniment which first produced it was continued for many weeks after the stomach complaints were completely cured.

Since I have resided in Manchester, many cases bearing a close resemblance to the above have come under my notice, and have uniformly yielded to similar treatment, except one, in which I subsequently discovered nephritic tendencies were the origin of the gastric irritation.

CRAMP IN THE STOMACH.

In the night of the 12th April, 1832, I was suddenly called to a lady, 46 years of age, the mother of a large family, and who had all her life enjoyed the most robust health.

I found her writhing in all the agonies of the most violent spasm or cramp in the stomach, by which she was drawn together with her head almost between her knees. The abdominal muscles felt hard, and were drawn towards the spine. Respiration much incommoded. Features sharp; face pallid; eyes sunk and half closed, showing only a part of the conjunctiva. Surface of body covered with cold clammy sweat. Pulse hardly perceptible at wrists.

A considerable dose of laudanum in a glass of hot brandy and water had been given before my arrival, but it was ejected from the stomach in a few minutes, and no relief was obtained. Hot applications to the stomach externally, and two Pil. Thebaica, and Æther, succeeded no better. The patient was sitting out of bed, drawn together in the way I have described: I began gently to rub the spine along the dorsal region, when the patient told me very *impatiently* she had "no pain in the back—the pain was in her stomach," and that I increased the pain by touching her back. On hearing this I persevered, making an attendant continue the frictions with laudanum, till the pain and spasm of stomach was completely subdued. An agreeable glow accompanied the subsidence of pain, and was followed by a sense of great itching all over the parts which had been affected by the cramp.

In about two hours I left my patient quite free from acute pain; I ordered her to have a dose of castor oil in the morning. Next day I found her very nearly in her usual health, except that externally the stomach felt bruised. She declared that all she ever suffered in childbed was not to be compared to the agony she had undergone the night before.

DIABETES.

J. Fleming, a farmer, ætat 34.—First consulted me on the 4th February, 1833. Has all his life enjoyed most robust health, till his present illness. About the end of last autumn he had occasion to go into Argyleshire, to bring home to his farm in Kilmalcolm a drove of cattle. This is in any circumstances a laborious and anxious undertaking; but on Highland roads and over Highland hills it is particularly so. He had servants with him, yet took his turn regularly, both in watching the cattle by night, for several nights in succession, and driving them by day. Thus he was exposed to the weather, with no other covering than a greatcoat and shepherd's plaid; at the same time suffering considerable irregularity and discomfort in his diet. No bad effect seemed at the time to result from these exertions; but shortly after his return home his strength and flesh began to decline, without any apparent cause, yet his appetite was more than usually keen; and though constantly *uneasy*, he suffered little positive pain. He had constant urgent thirst, and voided large quantities of limpid urine. This last symptom, and the emaciation, increasing rapidly, he consulted in succession several medical men, who all assured him he was labouring under an incurable malady.

Having lastly consulted Mr. Smellie, surgeon of Houston, that gentleman advised him to put himself under my care. He was brought from his own house to mine, a distance of about seven miles, seated on horseback, where he was held by one of his brothers, his debility being so great as to disable him from otherwise retaining his seat. His appearance truly deplorable; the athletic form wasted to a skeleton; the skin dry and husky, sallow, almost approaching to

a brownish hue. The voice feeble; the respiration hurried; the pulse quick and thready; tongue foul and slimy. Bowels torpid; the eyes sunk in their sockets; the appetite voracious; thirst urgent. Complains of frequent acid eructation; of a sense of coldness and discomfort over the whole surface of the body. Generally voids from four to five gallons of urine during twelve hours—at least during the night; has never exactly ascertained the quantity during the day, but thinks it less than at night. The urine limpid and sweetish tasted. Has taken great quantities of medicine of various sorts, without deriving any benefit. Thinks himself “a dying man.”

It would not be easy to express the satisfaction which I felt in getting this case into my hands. It was the first I had met with for many years, and I had long most ardently desired an opportunity to test the correctness of an opinion which I had formed from analogy, that diabetes originated in irritation or debility of the nerves supplying the stomach and renal apparatus. It certainly was anything but a favourable case for a curative experiment, having been for five or six months progressing under a variety of treatment, of which I knew nothing but its unsuccessfulness. Anxious in the first place to know whether it would yield to an internal remedy, I ordered, with a view to alter the secretion of urine, twelve drops of the Tinct. Muriat. Ferri to be taken three times a day, gradually increasing the dose to double that quantity. A laxative pill to be used to keep the bowels open.

By the 18th the case had made little progress one way or other: the quantity of urine had once or twice, for a day or two at a time, seemed to diminish, but again increased: the other symptoms were nearly stationary. I ordered the medicines to be continued, and an ointment, composed of two drachms of tartrate of antimony, previously triturated with spirits of wine, and combined with one ounce of lard, the size of a walnut to be rubbed night and morning along the whole length of the spine; the friction to be continued as long as the patient could bear it.

The eruption was more than usually tardy in making its appearance, which may possibly be accounted for by the absence of vital energy in the surface, as shown by the constantly cold and husky skin. At length, however, a copious crop of pustules was produced along the whole length of the back, from the cervix to the sacrum, and shortly after their appearance the symptoms began to subside, with a rapidity far surpassing my most sanguine expectations. The quantity of urine gradually diminished, and became saltish instead of sweet; the appetite became natural in the same proportion; the thirst abated, and the flesh and strength augmented so rapidly, that in a few weeks he walked from his own house to visit me, and returned the same day, with little fatigue. By the middle of May he was completely out of my hands, and had returned to his ordinary avocations as a farmer. Up to the period of leaving Scotland, he continued perfectly free from any diabetic tendency, and enjoyed

good health, though not entirely restored to the Herculean strength he possessed previous to his illness.

TABES MESENTERICA.—CASE FIRST.

November, 1830.

J. W., island of Cumbray, aged six.—Is reported to have enjoyed good health till about five months ago, when he began to droop and get sluggish; complained of weakness and pain of the lower limbs, and latterly of the back. The appetite became poor and capricious; thirst urgent; the flesh is now greatly wasted; the complexion squalid; eyes dull and staring; countenance anxious and unhappy. The dejections appear like half-digested food; the urine deposits red sediment on cooling, and is offensively fœtid.

Has been seen by two medical men in his native place, but I could not learn that any benefit had arisen from their treatment, nor even what was its nature.

The spine is painful to touch throughout its whole length. At the lower dorsal and lumbar region there is a considerable posterior curvature. Drawing the hands down each side of the spine causes a sick sensation, as if the patient was going to faint. The abdomen tumefied and hard: there is no pain on pressure, nor can I detect any existing disease of the viscera.

Ordered this patient to be kept constantly on a hard mattress, without a pillow. Frictions along the whole breadth and length of the back, with stimulating liniment. Great attention to the bowels, but the less physic the better. Diet to be nourishing, with occasionally a little wine. Gentle exercise in the open air to be permitted as the inclination for it returns.

I never afterwards saw the patient; but I understood that my orders were most scrupulously obeyed, and in four months the boy was restored to perfect health: he is now a remarkably robust, well-grown lad.

TABES MESENTERICA.—CASE SECOND.

September, 1831.

Mary Hunter, island of Cumbray, aged 10.—Is reported by her mother to have enjoyed excellent health, and been a very stout romping girl, till five or six months ago, when she suddenly began to droop; became quite listless and inactive; complained of constant headache, pain in the lower extremities, want of appetite, and constant acidity of stomach: shortly afterwards she complained of dull dragging pain in the loins and sacral region.

In July the family medical attendant was consulted, who pronounced the symptoms to arise solely from worms, and ordered treatment to that effect. No improvement whatever resulting from this, but rather the little patient's strength and flesh rapidly declining, a surgeon at Milport was consulted. He candidly told the

mother that he did not at all understand the case, but considered it a very hopeless one.

The prostration of strength is now so great, that she is unable to stand without support, drags the limbs in attempting to walk, and altogether presents a most deplorable appearance, being greatly emaciated ; sallow, the features shrunk ; eyes hollow and amaurotic ; voice very feeble ; respiration hurried and painful ; pulse quick and feeble ; appetite quite gone, what is eaten appearing to pass through the intestines undigested. Complains of frequent and severe pain of head. Vision greatly impaired.

On examination, I found the whole length of the spine in an unsatisfactory state, and tender to touch, particularly in the dorsal and sacral regions. Drawing the hand down or up the column caused a painful tingling sensation down the thighs, and in the soles of the feet ; when the hands were passed down the back, a little way on each side of the vertebræ, it caused an indescribably painful sensation of sickness over the stomach, abdomen, and even in the head ; the patient at the same time uttering a low tremulous moan, and seeming ready to faint, while the lips trembled, and the countenance became if possible more ghastly and wretched in its expression.

Thus assured that the child's complaints arose from irritation, not only of the spinal nerves, but of the sympathetic system also, I directed a narrow strip of blister, six or eight inches long, to be applied down the left side of the spine in the dorsal region, to be kept open with issue dressings for a couple of weeks, when it was to be allowed to heal, and a similar one to be applied on the right side in the lumbar and sacral regions ; and thus they were to be constantly alternated, till the whole length of the back, on each side, had been freely vesicated. A mild tonic system of medicine, with great attention to the state of the bowels, to be observed. Constant rest on a hard mattress, with the head laid low, was particularly enjoined, and also gentle friction over the thorax and along the course of the ribs. Six weeks elapsed without the unremitting attention paid by her mother to these orders, or the fortitude and patience of the little sufferer herself in submitting to them, being rewarded by any appearance of amendment. About the end of November, however, an improvement in the strength of the lower extremities became very apparent ; and at the same time the appetite improved, the evacuations became more natural, and the general appearance changed for the better. The treatment was persevered in till the beginning of January, 1832, when she was able to walk out alone, and with the restored joyousness of childhood it became difficult to hinder her from over-exerting her returning strength. The blisters were occasionally had recourse to, for four months after this period ; but in May she returned to school in perfect health, which she has ever since continued to enjoy. She is reported to be now an uncommonly robust, stout girl.

TABES MESENTERICA.—CASE THIRD.

M. F., an infant of eight months, born Dec. 1832. I was accoucheur on occasion of its birth. The labour was easy and natural; the child very sprightly and healthy. It thrived remarkably well till seven months old, when, without any apparent cause, it began to pine away. I was just at this time obliged to leave home for Buxton, on account of my own health; and know not how the case was managed during my absence. On my return, in October, 1833, I was immediately called to it. I found the child greatly emaciated; the lower extremities as powerless as if they had been paralyzed; the abdomen hard and tumefied; the temper to the last degree irritable and uneasy; the appetite quite gone; the bowels torpid; the breath remarkably sour; the pulse quick, small, and variable.

Finding no reason to suppose that this sad state of matters was connected with dentition, I next examined the child's body, and found the spine very tender, particularly at the lumbar region, where there was a posterior curvature; at the upper part of the dorsal portion, one of the spinous processes projected very considerably; any handling or pressure of this part made the child extremely fretful and uneasy.

I ordered the little patient to be kept as much as possible in the horizontal position, upon the floor, with a few folds of blanket or carpeting under it; gentle frictions along the back and the limbs, with slightly stimulating liniment, to be used several times in the day. The diet to be nutritious; the stomach and bowels to be regulated by small doses of magnesia and rhubarb.

It was interesting to see how quickly, under this simple treatment, the infant regained flesh and strength. The extreme fretfulness of the little creature made it at first rather difficult to enforce the lying upon the floor; but it seemed soon to discover that it had more ease in this position than in any other, and kept it without resistance.

The paralysis of the lower extremities gradually disappeared, and in three or four months the child was running about, active, healthy, and plump; and, as far as I know, continues to thrive, and to enjoy perfect health.

TABES MESENTERICA.—CASE FOURTH.

J. N., a boy between two and three years of age, brought from the interior of the country for consultation. Is reported to have been a remarkably healthy, active, and fearless child, till about six months since, when he began to get listless and peevish, and was observed by the mother to walk with a strange rocking movement of the body. In a short time he lost the power of his limbs altogether; the flesh became flabby; the colour sallow; the belly large and tumefied; the functions of the stomach disordered, so that the

child at times refused food, at others ate with voracity. Had been seen by several medical practitioners, and had undergone a variety of treatment, in the course of which a very great quantity of calomel had been poured into the system; but the debility and suffering of the little patient augmented every day.

On examining the child, I found the flesh wasted, the abdomen enlarged and hard, but not painful to touch; the features sharp; the chin projecting; and the chest slightly gibbous; the whole length of the spine was painful on pressure, and from the lower cervical to the lower dorsal presented a posterior curvature, so obvious that it astonished me how it could have escaped the notice of the medical attendants and the parents themselves. The lumbar vertebræ had also a lateral curvature, which joined to the other, gave the whole column a most singularly twisted appearance.

I ordered a treatment similar to that of the foregoing cases. Under this the child's general health and strength slowly rallied; but the posterior curvature of the spine was permanent. As the residence of the child was thirty-four miles from mine, I very rarely saw it, and perhaps less attention had been paid than ought to have been, to keeping him constantly in the recumbent posture. At all events, he is now hunch-backed, but enjoys excellent health, and is a remarkably clever, precocious little fellow.

TABES MESENTERICA.—CASE FIFTH.

April 10th, 1833, I was requested to visit a child two years and a half old, which the mother informed me had had an easy birth, and was uncommonly stout and healthy till it was two years of age, at which time it was running alone, and remarkably stout on its limbs; shortly afterwards it was observed to lose its appetite and colour; and the flesh to get soft; its limbs seemed to fail under it, and it expressed constant weariness and fretfulness. The ordinary medical attendant of the family pronounced that dentition was the cause of its ailments, but matters becoming rapidly worse, further advice was deemed necessary.

Finding nothing to indicate that dentition had any share in producing the child's complaints, I examined its body. It was wasted almost to a skeleton; the limbs plaited under it as those of a paralytic, or new-born infant, and seemed quite palsied. The abdomen was tumid and hard, but not painful, on gentle pressure. The back was bent like an aged person's, and at the dorsal and lumbar regions there was pain on pressure, and a slight projection of one or two of the vertebræ in both places.

Treatment similar to that of the foregoing cases, followed by sea-bathing, completely cured the child; and in five or six months it was once more running about, a plump, romping little rogue.

I am not aware that Tabes Mesenterica has hitherto been re-

marked as associated with, or arising from, spinal irritation. The above are the only cases of this disease which have occurred in my practice since my attention has been turned to the subject; except one on which I was consulted a few months ago, of a lady about 40 years of age, who had languished under the malady for several years, but was in its last and most hopeless stage before I saw her. On examining the spine, it was found in a very diseased state. Several of the vertebræ at the lower cervical, dorsal, and lumbar regions, were displaced, and sunk anteriorly, leaving a puffy feel, with extreme tenderness to touch. The advanced state of the disease forbade all attempt at active treatment, and it proved fatal shortly after. No *post mortem* examination was permitted.

CHOREA.—CASE FIRST.

C. H., aged 23, a fine-formed, remarkably blooming girl.—Was placed under my professional care in November, 1823, in consequence of inflammation and tumefaction of the left-knee joint, which caused great pain in the parts, but little or no constitutional disturbance.

Over the patella a tumour formed, which I punctured: it contained pure serum. Wet sponge and a roller, as recommended by the late Mr. Allan in his "System of Surgery," were used with the happiest effect. The fluid did not re-appear, and the joint remained free from disease, though for a considerable period it felt weak and tender on any unusual exertion. She continued to enjoy good health till January, 1825, when she complained of an indescribable, but most painful, sensation in her head, causing giddiness, dimness of vision, loss of memory, and impeded articulation.

When called to her, I found the eyes dull and languid; the countenance most particularly vacant; the temper, formerly the most gay and cheerful in the world, altered to sullen, reserved, and melancholic. The motions listless and slow. The flesh and muscular power greatly reduced. The appetite was bad; the bowels torpid; pulse quick and small; heat of surface natural.

Whenever the question was asked by those around her, what caused so great mental depression, she replied in the most mournful voice, "the apprehension that the disease in her knee would return, and render her incapable of gaining her own livelihood,—and she had no home." Always when thus speaking, and sometimes even when silent, it was remarked that she shook her head in a most extraordinary and grotesque manner. It, however, very speedily became evident that these motions of the head were perfectly involuntary; and they soon increased to such a pitch as quite defies my pen to describe. The attacks were always sudden, occurred uniformly on any mental excitement or start; even hearing her name pronounced in an unusually loud tone would produce them; but frequently they came on without any apparent cause. The chin was jerked from one shoulder to the other with a rapidity which nothing but the

motion of steam machinery could equal. The only idea I can give of it is by saying that the bystanders lost all sight of distinct features, exactly as one does of the spokes of a rapidly revolving wheel. The violence was no less remarkable than the rapidity of this strange jerking movement; so much so, that the comb tucking up her long fair hair was frequently thrown out with such violence as to strike the opposite wall. During these paroxysms she was quite unconscious of all surrounding sights or sounds, and, fortunately for herself, was, on their subsidence, equally unconscious they had occurred. In fact, she wore at these times, with the exception of the motion of the head, the appearance of a person in profound coma.

The medical treatment of the case varied from time to time, as I found successive remedies fail in producing any permanently good effect. In January, purgations, and the free application of leeches to the forehead and nape of the neck; the head shaved, and cold applications kept to it. In February, the bowels kept open by gentle laxatives. Powder of Valerian combined with Oxide of Zinc in powerful doses twice a day. On the 22d the whole head was blistered. On the 27th she was bled at the arm, and on the 28th an issue was opened at the posterior fontanelle. I then tried her with opiates. But all seemed equally futile in subduing this extraordinary complaint. On the 15th of March I inserted a seton in the neck over the uppermost cervical vertebræ, and, as much to my surprise as gratification, I found this remedy succeed in arresting and finally curing the disease.

In the course of a few days the involuntary motions of the head ceased; but as the strength and flesh had been severely reduced, it required great care and attention ere the patient was restored to health. Frictions along the whole back, change of scene, and sea-bathing, contributed most materially to this end; but she never recovered her robust appearance or fine complexion.

In 1832 this patient married, and passed through eight months of her first pregnancy without any unusual occurrence: she then experienced a sudden and apparently causeless attack of the strange involuntary movement of the head. It came and went for about an hour, and then entirely ceased; but from that time no motion of the fœtus was observable. At the full time labour came on, and was in all respects natural and easy; but I delivered her of a still-born child, which had evidently been dead for some weeks. The following year she again became pregnant, and again passed through gestation without any unusual symptom till the end of the eighth month, when a similar attack occurred, with the same lamentable result,—a result anticipated by herself, as all fœtal movement ceased after the spasmodic attack; and it was very evident, from the state of the child when born, that it had died at that period.

I then gave it her as my most earnest advice that she should study to strengthen the constitution by change of scene, sea-bathing, gentle exercise, and daily frictions of the spine along its whole length; and I had very lately the satisfaction of hearing that she had this

year given birth to a living and healthy child, no recurrence of the spasmodic movements having taken place.

CHOREA.—CASE SECOND.

M. F., aged 12.—Tall of her age; slender; complexion remarkably sallow.

I was first called to see this girl to-day, 7th December, 1829. I find she is labouring under chorea. The involuntary movements are not very violent, and are confined almost entirely to the left arm and foot.

She is perfectly rational; but her mother mentions, that, though naturally good-tempered, she has, since this ailment, become peevish and capricious. The account the patient herself gives of the commencement of her present illness is, that about three weeks ago she was thrown into great terror by some persons rudely jostling her upon the street in the dark; that she continued to tremble for a long while after the occurrence, and has never since felt quite well; that she first discovered "the startings," as she calls them, a few days afterwards, and they have continued gradually to increase. At times she has no command whatever over the voluntary muscles of the left side. This morning, when about to sit down, she was suddenly turned to the right side, and rolled down upon the floor, from which she was unable to rise without assistance.

The appetite is bad; the pulse quick and rather full; the bowels, naturally costive, have been particularly so of late; and much purgative medicine has been taken.

I have ordered a smart purgative to be taken every night at bedtime; and antispasmodics of ammonia, æther, and assafœtida, to be very freely used. The whole length of the spine to be rubbed, night and morning, with an anodyne liniment. The temples and forehead to be freely bled with leeches.

At the end of a fortnight I found, so far from the patient improving under this treatment, that urgent symptoms were daily increasing, and the case rapidly assuming an epileptic character. I ordered on the 31st December, that the head should be shaved, and both it and the neck very copiously bled with leeches; both to be subsequently blistered; part of the blister on the head to be kept open as an issue. A pill of ammoniuret of copper to be taken twice a day. The bowels to be kept open by the use of mild purgatives of various kinds. A stimulating liniment to be substituted for the anodyne one hitherto used.

To give a journal of this case would occupy the time of the reader to very little purpose. It is sufficient to state that no part of the above treatment appeared, even for a moment, to arrest the progress of the disease,—the difficulty of managing which was greatly aggravated by a frequent recurrence of trismus, sometimes continuing for days at a time; and even when it was not present, the power of deglutition was frequently impeded or entirely suspended.

Thus it became a matter of much difficulty to regulate the bowels; the more so that every attempt to administer enemata produced the most violent perturbations, uniformly succeeded by an accession of the rotatory convulsive movements. Towards the end of January the involuntary motions had arrived at a pitch I never witnessed in any other case of chorea. In fact, they far surpassed in oddity, in agility, and most certainly in *constancy*, the wildest feats of the celebrated Grimaldi. At one moment the legs and arms would be stretched to their utmost extent, and a very rapid rotatory motion given to them, resembling that we see practised by Indian jugglers, while the head was simultaneously rolled from side to side with a quickness it would defy even an Indian juggler to imitate: then, rising on the hips, the patient would bend down her head till it was quite between her feet, and tumble head over heels with a rapidity of evolution which gave her the appearance of a wheel in violent motion.

Her mother and I have again and again counted two hundred and fifty—several times three hundred—revolutions of the body take place without an interval; then all at once, uttering a loud, sharp shriek, she would start bolt upright upon her head, and stand as stiff as a board for a few minutes, her toes resting against the frame of the bed. In general, however, this manœuvre was repeated at the end of every fifty tumbles.

Any attempt to control her during these paroxysms only added to their length and violence; so that by my orders her bed was lined in such a manner as to prevent her injuring herself; and a person was constantly in attendance to hinder her from throwing herself out of it.

At the termination of the paroxysms I have described, she sunk down wholly exhausted, and often lay for hours in a state of insensibility, from which she in general gradually sank into profound sleep, which continued for several hours. On awaking she always complained of great, even of agonizing pains, over the whole body; yet generally mentioned that she had had “the most delightful dreams—of walking through green woods, and seeing sparkling streams of rushing waters, and lovely gardens; occasionally, however, she complained that she had been chased out of these charming places by “wild beasts and dreadful shapes:” whether correctly or not I do not pretend to say, but her mother alleged that this last complaint was never made except after an unusually violent attack of tumbling.

The mind had gradually sunk into a state but few degrees removed from fatuity; and the expression of the countenance had altered to that of downright idiocy. As I have already mentioned, the power of deglutition was frequently suspended for days together; the attempt to swallow even a little water, producing the most horrible spasms. At one time she was actually fourteen or fifteen days without taking into her stomach nourishment of any sort. To be three or four days without it, was, in her case, a common occur-

rence. As might naturally be expected under such circumstances, the emaciation was extreme. In fact, the frame at this period was merely that of the skeleton, covered with a shrivelled and hideously discoloured skin. How amazing then must be the amount of that nervous power lodged in this our mortal frame, since the morbid energy of it could, in this poor girl's case, produce exertions which would have defied a man in all the pride of youthful strength and agility to imitate!

Such then was the situation of my unfortunate patient at the end of January, 1830; and at that time it would have been impossible for me to fix upon any one symptom which was not decidedly unfavourable. I had exhausted every remedy I could think of; but all had been equally unsuccessful. In fact, some of those usually recommended in such cases, threatened, when tried in this one, to cause instant extinction of life. Such was the result on attempting the use of the hot and the cold bath. Even pedeluvium caused a most marked exacerbation of symptoms.

At one time the case wore so very much the character of hydrophobia, as subsequently excited in my mind some curious ideas with regard to the nature and treatment of that most appalling malady. Ideas the correctness of which I fortunately never have, in my own practice, had the opportunity of testing.

The medical reader who pursues his profession with true scientific enthusiasm, will be able to sympathize with me at this period, when, I frankly confess, *I knew not what to do*.—I had carried bleeding and blistering to the very utmost verge of prudence, hoping thereby to relieve the diseased nerves through the medium of the surface; but I cannot say that I ever observed the blisters procure even a temporary relief of symptoms; or that either they, or depletion, had in the slightest measure arrested the progress of the disease. Thus I had little encouragement to try external remedies; particularly as repeated and careful examinations of the spine, only tended to convince me that there was nothing organically wrong in that quarter. Nevertheless, as a last and desperate remedy, I ordered the whole back, from the nape of the neck to the sacrum, to be rubbed twice a day with ointment of the tartrate of antimony. The effect was almost immediate. After the second rubbing, she complained of great pain in the parts, and inflammation speedily succeeded. It was also remarked that she slumbered more, and had fewer paroxysms. On the second day of the application, the pustules came out profusely, and of unusually large size. On the first attempt to tumble after this, it was observed that the movements were much less agile than usual; and she shortly lay down, loudly accusing those around her of using her with most intolerable cruelty. Thus the days passed for rather more than a week, in alternate sleep; ineffectual attempts to tumble; and extreme mental irritation at her inability to do so.

I find from my notes that after the 12th February, there was no attempt made to tumble; but the involuntary movements of the

limbs continued for some time after. Even, they, however, gradually subsided. The appetite returned; the power of deglutition ceased to be obstructed; and the intellect slowly regained its natural strength and balance.

In the end of March my regular attendance on the case ceased. The girl was at that time free of all actual complaint, though still most miserably weak and debilitated. Change of air and scene, and frequent sea-bathing, in the course of the following summer, tended to restore her strength; yet she never became what could be called a *robust* person. By her mother's report, the powers of the mind were fully restored to what they had ever been; but as long as I had any opportunity of observing, her countenance retained a very painful, though perfectly gentle expression of vacuity.

I never could trace that this very distressing case in any degree arose from uterine irritation. There was no appearance in its course to countenance such an opinion; and the catamenia did not appear till the seventeenth year of the patient's age; and even then without any uneasy or unusual symptoms.

To my medical readers it must now be perfectly obvious what I meant in allusion to hydrophobia. That that most awful and afflicting malady is *nervous*, no one will deny. Confessedly hopeless by all hitherto tried means, is it not worth consideration whether by attacking it through the medium of very rapid vesication of the surface, along the cervical and dorsal vertebræ, (such as that produced by caustic potash) tending to relieve the spinal nerves from morbid action, better results might not be obtained? This is confessedly a conjecture; and one founded on analogy alone; but where a disease is so very appalling, and has hitherto proved so utterly incurable; above all, when the proposed remedy is not in itself destructive to the powers of life, I have the less hesitation in submitting it to the profession at large.

CHOREA.—CASE THIRD.

M. M., aged 16.—I was to-day, 22d November, 1829, requested to visit this girl, in consequence of an extraordinary and distressing change of temper and disposition, which her friends are inclined to attribute to some undiscovered ailment of body. She is the adopted child of a most truly worthy couple, who treat her with all the tenderness and affection of parents. From these persons I learn that she has hitherto enjoyed excellent health. She is a well-grown and very fine-looking girl of her age, and till of late had a very robust appearance and a blooming complexion.

Her disposition, hitherto remarkable for docility, cheerfulness, and anxiety to oblige, has of late changed to a dogged sullenness, extreme obstinacy, and peevish irascibility; at times almost assuming the aspect of fatuity or mania. Her bodily movements have undergone a change no less remarkable. They are now sluggish and languid, like those of a person only half awake. The appetite

is capricious ; at times wholly gone,—at others voracious : her colour and general appearance are strikingly altered to the worse ; but she denies having any pain or ailment of any description. Positively refuses to show her tongue, and with difficulty allowed me to feel the pulse, which was quick, rather full, and variable. No means of ascertaining the state of the bowels, from the dogged determination to answer no query as to health. Twitchings of the hands and feet have of late been occasionally observed ; but whether these are absolutely involuntary or otherwise, it is impossible to ascertain. Catamenia established and quite regular.

Proceeding upon the assumption, which will generally be found correct in such cases, that the bowels were torpid, I commenced a course of brisk purgatives combined with a strictly antiphlogistic regimen. So far, however, from any benefit accruing from this mode of treatment, the case daily and rapidly assumed a more alarming aspect.

The fatuity increased, the ideas becoming more and more distorted, and the language incoherent. The involuntary motions of the extremities became more frequent and violent, at length putting on the decided character of chorea in its very worst form.

All power over the muscles of volition was now lost or suspended ; so that, when not under the influence of the spasmodic excitement, the case might have been mistaken for one of complete hemiplegia. All sensation of pain was absent ; so much so, that not the most excruciating remedies applied to her body ever seemed to excite her notice, or were observed to extort a groan ; and during the paroxysms of spasm she beat her head against the wall, or pillars of the bed, with a violence which it was amazing did not shatter it to pieces ; at the same time biting and tearing her own flesh in a manner which rendered it imperative to confine her in a strait waistcoat. In short, at those times she wore all the appearance of the most furious maniac ; contrasting strangely with her dead and palsied aspect during the intervals. There was nothing periodical in the paroxysms. They varied in the time of their occurrence, as well as in length and severity. She never appeared to notice anything that was said or done around her at these times ; in fact, no one could have supposed she was capable of doing so ; yet she frequently was observed in the intervals to murmur to herself, with perfect correctness, the conversations which had then taken place. She also was heard repeating portions of Scripture and hymns which had formed part of her adopted parents' pious instructions ; but far more frequently her ravings consisted of the most horrid imprecations, and expressions of hatred to all around her.

Such was the situation of the patient at the end of the first month of my attendance. On the very first appearance of decided mania, I had ordered the head to be shaved, and both it and the nape of the neck to be copiously and repeatedly blooded with leeches, subsequently blistered, and the vesicated surface was kept open for a considerable time. The purgative system to be followed up, as

the dejections were very offensive : but no benefit, not even temporary remission of symptoms followed this treatment. To follow the case through all its details, would be tiresome and unnecessary ; I shall therefore merely give an occasional extract from my notebook.

June 31st.—No change to the better since last date. Paroxysms of spasm and mania, if anything, more frequent and outrageous, and the intervening palsy more complete. Power of speech frequently suspended ; deglutition only partially so ; the quantity of food taken during the last ten weeks is so incredibly small, that it becomes a matter of astonishment how life is maintained. Emaciation is extreme. Treatment has been the same as last month, with the addition of antispasmodics.

Feb. 28.—No improvement whatever since last date. The appearance of the patient is now that of the most frightful maniac. Eyes sunk ; flesh gone ; skin leaden-coloured and shrivelled. Not above a few ounces of food taken since last date. No thirst,—drinks very little. Catamenia still regular. Pulse very variable ; respiration undisturbed. The quantity of muscular strength elicited during the paroxysms is amazing ; and as it is generally applied to the purpose of self-destruction, watchful means are adopted to prevent this. Mild laxatives, combined with tonics, have this month been substituted for the purgatives ; frictions along the spine with anodyne liniment tried,—but with no apparent benefit.

March 15th.—No change to better or worse. I have now exhausted every remedy my reading, experience, or ingenuity can suggest ; all with equal want of success. The case has now all the appearance of either terminating fatally, or in a state of hopeless, helpless mania."

I had repeatedly and very carefully examined the spine, in the hope of finding something to encourage the opinion that the symptoms arose from disease or disorganization there ; but in vain. The spine was to all appearance perfectly healthy ; straight as an arrow, and correct in every joint and articulation. Nevertheless, encouraged by my success in the foregoing case, which it will be observed was under treatment at the same time, I ordered the back from the cervex to the sacrum to be strongly rubbed, morning and evening, with antimonial ointment.

Several days elapsed without any effect from this ; the skin retaining its dead and shrivelled appearance. About the eighth day slight symptoms of inflammation began to appear, which rapidly extended, and in a few days more a copious eruption of pustules took place.

On the very first spasmodic attack after this, the patient uttered the first expression of bodily pain that had ever escaped her from the commencement of her illness ; and she shortly afterwards lay down quietly, as if subdued by some new and unexpected agent. Thus encouraged, I ordered the irritation of the parts to be kept up ; and I have every reason to be satisfied with the result. At first

it seemed merely the effect of extreme bodily agony by which the paroxysms were arrested ; but very soon it became evident the influence was constitutional, in as much as during the intervals of mania the hitherto palsied extremities showed some power of voluntary motion ; the eyes opened and shut naturally, and the appetite was slightly improved.

By the end of April these favourable appearances had made considerable progress ; and as the sores on the back was quite healthy, I kept them open, at the same time pressing the tonic system as far as prudence would warrant. Under this the spasmodic and maniacal paroxysms gradually diminished in frequency and severity, and by the end of May they had entirely ceased.

The appetite slowly returned, as did the flesh and colour. In the same ratio the mind, so long the victim of the wildest hallucinations, was restored to soundness and strength.

My regular attendance ceased in June. In the course of the autumn she was sent to sea bathing, and returned from that in perfect health of mind and body.

When I last saw her, in May, 1834, she was "a blooming bride," and I believe continues to enjoy good health.*

As a corollary on the mode of treatment by which the above cases were cured, I may here mention that in 1817 a young lady, aged 17, was placed under my professional care, who a year and half before had been severely afflicted with chorea in a form greatly resembling that of Case Third, and on the subsidence of this malady had sunk into what was considered by her friends as consumption of the lungs. On examination, however, I discovered incipient lumbar abscess, which quickly developed itself, and was opened again and again. The whole length of the spinal column ultimately becoming more or less diseased, my amiable and truly interesting patient sunk under her sufferings, and expired in the autumn of 1818. No *post mortem* examination was permitted by the afflicted relatives, which I very deeply regretted.

CASES WHICH COULD NOT BE CLASSED WITH ANY OF THE FOREGOING.

CASE FIRST.

E. D., a farmer's daughter ; fine, healthy-looking girl, but of a very strumous family. She had, however, enjoyed excellent health

* See Note D.

till 1823, when I attended her for a slight pleuritic attack, which was easily subdued by the usual means. In 1826 I was again called to her, being informed that she was attacked by the same complaint. I found her in bed, complaining of great weakness of the extremities, languor, pain of chest, short dry cough, breathlessness, palpitation of the heart, and severe pain across the brow. The skin was hot and dry; pulse quick and weak; tongue red; face flushed; bowels torpid; urine reported natural. Catamenia regular. Her present situation ascribed by those about her to over-exertion in harvest toils.

Suspecting the symptoms arose from nervous irritation, I examined the spine, and found it in a very tender and irritable state. On drawing my hand firmly down the column, several parts of it proved to be most acutely painful, increased pressure causing palpitation, dyspnoea, and sickness at stomach;—*yet, till that moment, no sensation had ever directed the attention of the patient to her spine.* In the situation of the fifth and sixth dorsal, the bodies of the vertebræ could not be distinguished; the space presenting merely a soft spongy feel, acutely painful to the touch. At this point there existed slight anterior curvature of the column.

How long this had been going on, it was impossible for me to ascertain. The patient was of a most gentle, uncomplaining disposition; her father harsh and exacting, having a large farm, which it demanded the utmost exertions of his family to manage. She could only say she “had not felt well for a long time before she complained, but could not tell what was the matter with her; and was often ready to faint without being able to say why.”

I ordered constant rest on a hard mattress, with a very low pillow; great attention to the bowels; blisters on each side of the spine, and over it; frictions; mustard poultices; issues; in short, I exhausted in succession every remedy my experience or my ingenuity could suggest; but all in vain. Nine years have elapsed since I first saw this very interesting case; and at this moment—at least, when I last heard of her—the unfortunate sufferer languishes in hopeless, irrecoverable misery. To detail the case would fill a volume. It has in turn assumed the forms of hypertrophia; phthisis; amaurosis; gastritis; enteritis; hepatitis; hysteria; and finally epilepsy. Each of these has successively yielded to the remedies, not to give place to health, or even to alleviation of torment, but to some new form of the hydra-headed malady.

Issues have been constantly kept open, alternately in every part of the back. The moment one was dried, if another was not previously opened, the sufferings of this meekly enduring being were aggravated in the most extraordinary degree; agonizing pains in different parts of the body, and convulsions, frequently supervening.

It is evident that she must now soon sink under the accumulation of bodily disease; for the powers of the stomach are so debilitated, that she cannot swallow food sufficient to support life. She has not for a long time been able to raise her hand to her head; her hearing

is at times painfully acute, at others she is wholly deaf. Her sight is decayed ; her body emaciated to a deplorable degree ; and even the powers of her mind are greatly weakened.

I never met with, or read of, any case at all resembling this, except one which was mentioned to me by my valued friend Mr. Torbet, of Paisley ; and it was even more interesting than the above, —in as far as, occurring in the person of a highly cultivated and refined young female, the mind partook in an extraordinary degree of the morbid phenomena.

CASE SECOND.

M. T., a farmer's daughter, aged 16 ; tall, well-made girl.— Applied to me in July, 1833, when I was myself a great invalid. The history of the case given by the girl's mother, who accompanied her, was, that for two months she had been drooping ; complaining of constant languor and inability to work, or even move about as usual, owing to pains in the limbs and palpitation of the heart, produced by every attempt at exertion : of late, severe pain at the sternum, and short dry cough, had supervened on other symptoms, as also had copious night sweats, frequent nausea, aversion to food, and constant acidity of stomach. The eyes were dull ; the skin sallow ; bowels torpid, Catamenia established and regular.

On examining the spine, I found the fourth, fifth, and sixth dorsal vertebræ painful to touch. Slight pinkishness of skin over the fifth. Patient sobbed and complained of increased uneasiness when the hands were run from this point towards the sternum. Slight tenderness of the sacral vertebræ.

Treatment ordered exactly similar to the foregoing cases, with the addition of food more delicate and nourishing than the girl had been in the habit of using, and a small quantity of wine daily. She convalesced rapidly, and recovered perfect health.

CASE THIRD.

A most extraordinary case came under my care in autumn, 1833. The sufferer was a lady of a highly nervous temperament. In the month of June previous, she had had an attack of pleurisy, which was subdued by the usual means. Before she was quite recovered, and while labouring under great mental distress, her voice suddenly became extinct, and she was seized with fits of what cannot be described as coughing, for it was literally *barking*—exactly resembling that sound from a middle-sized dog. In a few days this was followed by spasmodic croup, which generally attacked her through the night, and so violently that she frequently sprung out of her sleep to the middle of the floor, quite unconscious of what she did. The face became tumid and purple ; the eyes started in their sockets ; and the croupy wheeze was so loud as to be heard over the whole

of a large house. On the subsidence of the spasm, a few mouthfuls of blood generally came up.

She underwent a variety of treatment ; the throat was very frequently leeches, and was nine times blistered ; the last blister was dressed with mercurial ointment. By these means the spasmodic attacks were ameliorated in violence and frequency, but by no means cured.

When she came under my care, she was able to go about as usual ; but never escaped a single night the attacks of her "nocturnal enemy," as she called the attacks of spasm and barking. She complained also of a constant sense of obstruction in the throat, but neither swelling nor inflammation could be detected by the most careful examination. Her mind was deeply affected by the apprehension that she was to be cut off in some of the paroxysms.

Finding that she never experienced them but when in bed, I was led to the inference that they proceeded from irritation of the cervical nerves ; and ordered very frequent frictions, first with anodyne, and then stimulating liniments, from the back of the head down to the lower dorsal vertebræ ; joined to tonics, the use of the tepid bath, and change of air. In about a month she was relieved from her distressing ailment, and has never experienced any return of it.

I consider this as a very remarkable instance of a disease resisting treatment applied at the seat of it, and yielding at once to even less active remedies, applied at the roots of nerves ramified upon the diseased organ, and the surrounding tissues.

CASE FOURTH.

When in Cheshire last summer, I was consulted by a gentleman, who stated to me that he had, in the course of the previous winter and spring, been treated first for tendency to apoplexy, and then, by a very smart course of mercury, for liver complaint ; but was still in very bad health. He was tall, and well-formed, and must, when in health, have been a very athletic man. He had been in the habit of taking a great deal of exercise on horseback, and mentioned having, about a year before, been thrown from his horse, when he received a twist in the back, which continued to annoy him for some weeks.

On examining him, I could not find the slightest trace of liver complaint, or any other visceral disease. Neither did the symptoms he detailed give me any idea that the head had been the seat of disease, however severely it might have sympathized in the general disturbance. He had had most dreadful head-aches, with which he was still occasionally afflicted. The eyes were in a high degree amaurotic, and he had frequent giddiness and distorted vision ; but if these are infallible proofs of apoplexy, then eight out of every ten of the preceding cases must have been apoplexy. He had been,

and still was, extremely jaundiced in his complexion ; he had pain of chest, and also in the right side, extending round to the dorsal region. Observing, while we stood together, that the left shoulder was very perceptibly higher than the right, I requested permission to examine the spine, and found a curvature of an inch and a half from the perpendicular, extending from the sixth cervical, to the lower lumbar vertebræ. Handling of the spine, or pressure down each side of it, elicited a most uneasy and peculiar sensation.

Here, to my mind, was reason sufficient to prove that this gentleman's sufferings had arisen solely from irritation of the spinal nerves; and that the diseases for which he had been treated were merely pseudo; the functional derangement of the liver arising, in fact, from the pressure upon it occasioned by the curvature of the spine. One symptom, which I have seldom found absent in advanced cases of nervous or spinal irritation, had been present with him to a very high degree, viz., depression of spirits, amounting to hypochondriasis in its worst form.

This gentleman appeared at the time fully satisfied with my opinion, and promised to adhere to the plan of treatment I laid down for him ; but I have never seen nor heard from him since ; and have understood that he never did attend to my advice, and that he is still in bad health.

This is a situation in which medical men are very often placed ; and of a truth it is a hard one. A person consults us ; we give him our opinion and advice ; he listens to it ; goes away ; and forthwith follows his own devices, in no one point attending to the directions we have given him, or doing so only by fits and starts, so as to have no permanent good effect ; and then when he gets worse, or at least no better, he or his friends say, "Oh, Dr. —, and Mr. —, so and so, were consulted ; *but they did no good!*"

CASE FIFTH.

Mrs. H., ætat 42. I was first consulted by this patient in 1824. The history she gave of her case was, that for a length of time her health had been in a very declining state. She was originally of a robust constitution, and had had a large family ; but two years ago she became subject to occasional neuralgic pains in the back of the head and neck ; these quickly increased to a most agonizing degree, and were accompanied by rigidity in the muscles of the neck ; so that any attempt to move the head caused a darting and excruciating pain down the left arm, to the palm of the hand and finger-points. By degrees the fixed pain in the vertebræ extended downwards to the three upper dorsal, and the darting pain extended to the left leg and foot, accompanied and followed by a thrilling, yet numb sensation. By degrees these sensations became permanent, and total paralysis of the left hand and arm, and partially of the left leg and foot, slowly supervened, her general health becoming at the same time extremely bad.

There was constant gastric irritation, with frequent severe pain of stomach. The appetite was poor and capricious; the bowels torpid; pulse rather quicker than natural; eyes amaurotic; flesh wasted; complexion faded and sallow. The head was drawn to the right shoulder, and as immoveably fixed there as if the cervical vertebræ had been anchylosed; none of the muscles of the face were in the least affected.

Such was the melancholy situation of this patient at my first visit to her. I found that she had, without benefit, undergone a most tedious variety of medical treatment, such as repeated applications of blisters and leeches to the head and neck, depletion, and cathartics; all which had reduced her to a state of great debility.

I ordered the whole length of the spine, but more particularly the pained portion of it, to be treated with frictions twice or thrice each day, with anodyne and stimulating liniments: the same to be extended to the paralysed limbs. Tonics to be freely exhibited: the diet to be light, but nutritious.

Under this treatment a very satisfactory improvement took place in the general health, but little in the paralysis of the limbs. She became pregnant; passed through gestation without any unusual feelings or occurrences, and in December, 1824, after an easy labour, I delivered her of a very fine, healthy child. During the whole time of labour, which was very rapid, there was no alteration in the rigidity of the muscles; the upper part of the figure remaining all the while as immoveable as if formed of wood or stone.

Shortly after parturition she became affected with general dropsy, under which she suffered severely, and became extremely reduced.

She ultimately recovered, however, and a few weeks after was seized with dysentery.

On her recovery from this, I resumed the tonics, and other treatment for the spinal irritation, which had in the interval threatened to assume somewhat of an epileptic character. I had at length, after using in large quantities, externally and internally, almost every variety of tonic, the satisfaction of seeing this very obstinate case so far give way, that she had in a great measure recovered the use of the leg and arm, when she again became pregnant, and, exactly two years after the birth of the former, she had another remarkably large, healthy infant. The labour and delivery were very easy; but the recovery was tedious, and the debility very great. In due time the frictions on the spine, &c. were again resumed, with good effect. By degrees the general health was quite restored, and she became able to go about and attend to her domestic concerns with very tolerable ease and comfort; though there was, and still continues to be, a slight drag in the left foot, and a want of nimbleness in the movements of the fingers on the same side. The rigidity of the muscles of the neck was completely cured; but there remains a slight paralytic turn of the head to the right side. She has had no more children.

Increased experience in the treatment of such cases has led me

frequently to regret that I did not, at my first attendance on this one, insert a seton over the upper cervical vertebræ. I am now convinced I should, by this means, have made a much speedier and more complete cure.

CASE SIXTH.

Mense Februario, anno currente, ad longinquitatem vocatus sum, meam sententiam dicere in re hujuscemodi.

Domina ——, mulier nupta (ætate 28), quæ unum puerum peperit, pluribus mensibus, cum ægritudine gravissima affecta erat; quæ ægritudo, ut illa infeliciter putavit, ab origine syphilitica orta est. Hæc opinio infortunata, sensus adeo acerbos, tantasque rixas domesticas excitaverat, ut, eoque tempore, et temporibus multis antiquam eam primo viserem, ea seipsam separatam à conjugè tenuerat. In hæc sententiâ medicus convenit, et me certiolem fecit, se putare illam affectam esse cum unâ multarum rationum hujus morbi valde odiosi. Ego illam reperi multa dejectione animi laborantem; cruciamenta membrorum habuit, sed præcipue artuum, veluti genuum, talorum, carporum, dolorosa inflatione partium nonnunquam superveniente. Dolor erat fixus, urens, et ad mensuram dimidii majoris nummi argentei finitus, in regione læva iliaca; ad quem mitigandum, hirudines, epispastica aliaque remedia hujusmodi frustra tentata fuerant. Leucorrhæa aderat, et emissio decolor æque ac fœtida. Investigando diligenter, inveni procidentiam uteri esse; os tinæ, fere pollicem ab ore externo distari; tamen nullus dolor, nulla molestia excitabatur in partibus internis ex hac investigatione; nisi quod quum digitus premeretur super sedem nervorum iliacorum, ægrota subsiliret, atque de membrorum angore dolente usque ad pedes quereretur.

Spinâ exploratâ, nullum aspectum morbi, nullam mollitudinem inveni, donec ad partes inferiores lumborum, etiamque ad partem superiorem sacri pervenissem, ubi curvatura anterior formata à parte superiori sacri, vertebrarumque inferiorum lumborum aderat, sensu inflationis relicto in vacato spatio, quo compresso, erat actus sentiendi angoris extremi, non tantum in loco affecto dolore (in lævâ iliacâ regione videlicet,) sed etiam quasi uterus trans externum foramen vaginæ cogendus foret; porro, autem, dolores uti jaculantes et tinientes in femoribus deorsum usque ad plantas extremas pedum. Pressura manuum alteri cristæ ilium, vel utrisque adhibita similem sensum ciebat; hoc comitato quodam sensu sicuti æquipondium corporis dirutum esset, et ægrota super dorso dejicienda futura. Quum hæc inquisitio completa fuisset, ego, cum ægrotæ ipsi, tum medico, meam certam opinionem nuntiavi, nullam syphilis contagionem quocunque de genere adesse; tota morbida phænomena oriri simpliciter ex pressura vertebrarum è loco dimotarum in uteri nervos ac ejus ligamenta.

Multum argumenti necesse fuit, multum et varium colloquium cum medico priusquam ad meam sententiam illum adduxi, et illi

persuasi, ab usu nimio hydrargyri abstinere. Ultimo, autem, rationem meam tractationis adoptavit; et hodie sextili (mense Augustali) ægotam ad valetudinem integram videre gaudet; animo dominæ etiamque omnino liberato ab notionibus falsis quibuscum inquietatus fuerat; simul ac adeo pace domesticâ restauratâ. In nonnullis causis, procidentiam uteri vel connexam cum incurvatione in parte inferiore spinæ, vel hâc causâ, exorientem inveni; et in causis irritationis nervorum spinæ, Leucorrhœam sæpissime adesse.

REMEDIAL TREATMENT.

I HAVE laid the details of my practice so very freely before the reader in the foregoing Cases, that little remains to be said on this subject, except in a general point of view.

It will be observed that the first time my attention was roused to the fact of nervous irritation simulating or occasioning organic disease, was in 1818, while treating a case (N. 1) of Phthisis; and it will also be observed how extremely crude and inaccurate were my ideas as to the proper treatment; inasmuch as I supposed, that by exhibiting a course of medicines such as are usually given in spasmodic and nervous cases, I should succeed in subduing the pulmonary diathesis. The aggravation of every urgent symptom which supervened on this treatment, did, for a time, most completely puzzle and distress me; but at length reflection convinced me that when a disease arose from nervous irritation, it was most probable that the morbid influence causing that irritation existed at the roots or ganglionic junctions of the nerves affected; and therefore that, to succeed in expelling it, we must apply our remedial treatment as nearly as possible to these roots or ganglions. But where, or how, was to be found the readiest access to these? Not through the medium of the stomach, it would appear, for there I had failed!—And the surface readily presented itself to my mind, as the only other medium of communication which, in the present state of our knowledge, we have with the nervous system, in a remedial point of view. The result of this idea is already before the reader, so that I need not repeat it here.

From that time, up to the present moment, I have been engaged in studying the subject in all its bearings, with the most incessant assiduity; and let me here be permitted to say, that at the time, and for long after I entered on the study, I was uncheered by a single ray of encouragement, either from the practical members of my own profession, or from those brilliant discoveries as to the anatomy and physiology of the nervous system, more recently given to the world by the physiologists of France, Italy, and Great Britain.

In the whole result of those seventeen years of study and prac-

tice, I find not one single reason to alter my early opinion, that it is on the medium of the surface we must *principally* depend in the cure of nervous debility or irritation. In the sulphate of quinine, and the salts of iron, zinc, and copper, as well as the vegetable bitters combined with alkalies, and gentle laxatives, I have found most admirable adjuncts ; but never yet did I succeed with these alone, in curing any case of nervous or medullary irritation which had advanced so far as to assume the character of any organic disease.

The absorbent powers of the skin, and the influence of such absorption, even on the functions of the viscera, have been observed from the days of Hippocrates downwards, and are so fully known and established as to require no argument from me to prove their existence. It may not, however, be inappropriate to produce here a few familiar examples of the fact.

If garlic, onion, mint, or, in short, any strong-scented plant, be handled, placed in contact with the soles of the feet, or rubbed smartly upon any part of the body, the effluvia of it will, in a very short time, be exhaled from the lungs by the breath ; from the whole surface of the body by the perspiration ; and be very perceptible in the odour of the urine. The same thing will happen, even more rapidly, with sulphur. There is not the slightest reason to suppose that these substances, or any of their component parts, are more readily absorbed by the skin than any other ; it is merely that their volatile aura renders their presence more distinct and undeniable. We know, in fact, that the skin is capable of absorbing so large a quantity of simple cold water, and directly conveying it to the circulating mass, that persons travelling under the influence of raging thirst, have found that agonizing sensation in a great measure relieved, by exposing their naked bodies to a hearty shower of rain.

I sincerely hope, and believe, that the time is not far distant when such facts as these will be turned to the improvement of the curative art, more usefully and more extensively than they have ever hitherto been.

While we keep the above remarks in view, let us recollect the very close connexion and communion existing between the skin and the nervous system ; reverting at the same time to the fact that the vascular and absorbent systems derive their energy from the nervous ; and we shall see reason to conclude that it is solely through the agency of the latter that dermal absorption takes place ; and from this it inevitably follows, that whatever is absorbed must have a very direct nervine influence.

Not only do the whole of the spinal nerves send filaments directly to the skin, but the cerebral nerves, and those of the sympathetic system, do the same, either directly or by anastomosis. If any uninitiated person wishes to ascertain for himself to what degree the skin and the nervous system are connected, let him recollect that in the nerves alone the sensations of pain or pleasure reside ; and, taking the finest needle that ever was made, let him try if he can find the breadth of its point, in any part of his own

skin, where pain is not produced by its insertion. There is no danger of the experiment being too often repeated.

What the external applications are, by which we may hope most surely to alleviate symptoms, or effect a cure, in cases such as those we have had under consideration, is a subject to which, for the last seventeen years, I have given the closest and most unwearied attention.

To begin with those which produce cuticular irritation, such as blisters, ointment of tartarized antimony, and the ammoniacal and terebinthine liniments, I have given them all the fullest trial, and found them all useful, each in their own way and time, with the exception of the terebinthine, the stimulant properties of which I have found more than counterbalanced by their tendency to produce irritation of the kidneys and neck of the bladder.

To the antimonial ointment I am by no means partial ; yet the foregoing cases, particularly the Second and Third of Chorea, will show that I have occasionally succeeded in making a cure with it, where both blisters and issues, as well as depletion, had entirely failed. There may be two reasons for this : it is generally applied to a much larger surface, and the discharge produced by it is from a perfectly different source, and of a different character, from that produced by blisters, approaching much more nearly to the nature of pus. The ordinary action of cantharides is confined to the epidermis, while the antimony, penetrating the cutis, exerts its influence more directly upon the nervous and muscular tissues.

My objection to its use arises from the capriciousness, as well as harshness, of its operation ; the great and extremely irritating pain which it occasions ; and the severe sickness of stomach consequent on its absorption into the system ; often producing effects, in a delicate frame, hardly less distressing than the disease it was intended to remove. Moreover, in cases where I have found its application a complete failure, I have succeeded with what, *à priori*, appeared a much less efficient agent. Nor could I ascribe this altogether to idiosyncrasy ; it rather seemed to me to arise from some as yet unexplained difference in the nature of nervous disorders.

Ammoniacal liniments I have used extensively, and with the very best effects ; yet they too have occasionally failed me ; and they have this disadvantage, that, in cases where it is not desirable, they irritate the skin, and produce an eruption.

To discover an external application which would stimulate, or, in fact, act as a tonic on the nervous system, without at the same time being an irritant, has been for many years the object of my most anxious and indefatigable search. Within the last twelve months, I have seen reason to believe that I have succeeded in extracting such from a very simple substance ; but the cases on which I have as yet tried it, though perfectly conclusive in themselves, do not, in my opinion, form a sufficient warrant for my, at present, laying it before the profession, or the public. Few things are more truly

disgusting than the pompous fracas with which, in the present day, new remedies are thrust into notice, by persons whom the experience of others proves to have been actuated, in their reports of the extraordinary virtues of each successive trash, either by a blind enthusiasm, or by motives far less justifiable.

Simple friction, even without any rubefacient, over the seat of the principal nervous centres, and over the whole thorax and abdomen, I have found of very important service, particularly in the earlier stages of nervous debility. But, to render friction of any use, whether with or without rubefacients, depends entirely on the steadiness of its repetition, as well as on the length of its application. It is not rubbing the spine, or the seat of the sympathetic system, or the thorax, for a few minutes at a time, and then wholly neglecting it for days or weeks together, that will avail. Friction, to be of any use, must be continued for an hour at a time, at least twice, if not three times, each day*, so as to prevent the nervous system from losing, in the interval, the impetus given to it; and if not so practised, it may as well be omitted altogether. Nor, even with this attention to the steadiness and frequency of its application, must it be expected that the sanitary influence will become immediately evident. It stands upon the face of the foregoing Cases, that many of them were months, none less than six weeks, and several of them a whole year, before they were *thoroughly* cured. Yet, amongst forty,—with the exception of two which were fatal, (and be it observed that those two were very far advanced before they came under *my* care,) and one which proved incurable,—the *whole* finally regained perfect health, and are at this day alive to testify the truth of what I say. Perhaps it will not be considered irrelevant if I here mention, that these two are the only patients I ever lost while under treatment for spinal or nervous irritation, and I have treated some hundreds. I do not allude to this from any contemptible vanity, but simply from the wish to show how tractable such cases are, when met with patient perseverance, and a due admission as to their real nature and source.

Having already mentioned the medicines on which I principally rely in the treatment of these cases, I have here nothing of any importance to add, except to warn my younger brethren, who may now turn their attention to the subject, against the use of mercury, in any of its forms, in treating spinal or nervous irritation. Through-

* It will generally occur, after this has been persevered in for a few days, that the skin either breaks, or becomes so very tender, that the stimulating liniments cause extreme pain and irritation. The friction should not on this account be discontinued, but simple almond oil be used under the hand till the dermal irritation ceases, when the liniment is again to be resumed.

I have frequently heard patients complain of intolerable uneasiness at the commencement of friction, even when the skin was not tender; but this uniformly yields to perseverance, and is succeeded by a grateful and soothing sensation. The frictions should at all times be light and rapid, but particularly when this extreme irritability of the surface is present.

out my whole experience I have found it most decidedly injurious; so much so, that at one period I consistently refrained from prescribing even half a grain of calomel *per diem*; and this arose from my finding that the most irksome and intractable cases I ever treated, were those which had been mercurialised previous to their coming under my care. Motives of delicacy towards others have induced me to suppress not a few of these, some of them of very recent occurrence. On more mature reflection and extended experience, I do now readily admit, that where functional derangement of the liver or bowels has been produced, as in Cases First and Second of "Diseased Liver," a cautious exhibition of the Blue Pill, alternated with mild laxatives, will be found not only beneficial, but perfectly indispensable.

Excessive purgation is another measure which I have found very decidedly hurtful.

If the bowels are loaded, or more than commonly torpid, of course they must be relieved, and completely cleared out: but instead of doing this by the more violent drastics, I would recommend moderate purgation, joined to the daily use of Juke's apparatus; and when the fœcal matter lodged in the *primæ viæ* is thus got rid of, very gentle laxatives (such as will keep the bowels soluble, but not *purged*,) is that practice which I have uniformly—particularly when I combined the laxative with extract of Hyoscyamus—found most successful.

The use of the Buxton baths I have found of the most indubitable efficacy, in every case in which I have had it in my power to send a patient to them. Nor is it, in my opinion, difficult to account for their powerful sanitary influence in all nervous cases.

The Buxton waters yield, on chemical analysis, little or nothing which can account for their extraordinary and undeniable effects on the human frame: but it ought to be remembered, while considering this subject, that they hold in combination a large, but extremely evaporable, portion of azotic gas, which, under the more popular name of the "gas of Paradise," is well known to have, when inhaled by the lungs, so powerful an effect on the nervous and cerebral systems, as to produce excitement, or delirium, no less delightful than it is transient. How, then, can it admit of a doubt that this same gas, daily introduced into the frame, through the gentle but extensive medium of dermal absorption, must produce the most stimulating and beneficial effects upon a debilitated nervous system?

I have seen a single glass of the water of St. Ann's Well produce, in a delicate and nervous female, the same exhilaration as a glass of champagne would have done; and in another, of a less mobile nervous temperament, flushing of the face, unusual brilliancy of the eyes, with throbbing of the temporal arteries, and hurried respiration; circumstances, these, which render the incautious use of the Buxton waters as injurious in some cases as they are beneficial in others.

The water of the Lion's Mouth Well, I have found a much more useful adjunct to the baths, even in nervous cases, than that of St.

Ann's. It is powerfully tonic, holding in solution a large proportion of carbonate of iron; but during its use (which never should exceed a pint *per diem*, taken at three periods), attention must be paid to regulate the bowels by the use of a gentle laxative, as it almost inevitably produces costiveness.

In addition to the natural properties of the Buxton waters, the mode of their application by the *douche* is a most admirable mechanical addition to their efficacy, producing as it does the same stimulating effects as friction, but in a much higher degree. It ought to be daily applied along the whole length of the spine, as long, and in as strong a degree, as the patient can endure; until a pleasing glow is excited over the whole back. And I will venture to say, very few persons labouring under spinal irritation will do this for ten days successively, without experiencing the most marked benefit.

Change of air and scene, particularly if it be to a very dry atmosphere, is a measure which ought never to be lost sight of in treating cases of nervous or spinal irritation. It is only when a very considerable advance towards a cure has been made, that the seaside, or sea-bathing is advisable. I have always found the greatest benefit accrue from having my patients as much in the open air as their strength will admit. The very utmost care, however, ought to be observed to prevent exercise ever being pushed the length of fatigue; because every time a person labouring under irritation of the spinal nerves is fatigued, he has lost just so much ground on the road to recovery.

Gentle exercise in an open carriage, or sailing in an open boat, above all, if the recumbent posture can now and then be assumed, are strikingly efficacious, when the cure has made a certain advance; but too often these very measures prove destructive, by being adopted at a too early period of the complaint, or an unsuitable season of the year. And here I would wish most particularly to impress upon the minds of my non-medical readers, if ever I have any such, that, as it requires the nicest discrimination of a medical man, who has spent his life in the study of the subject, to decide at what time, or which of these remedial measures it is most advisable to adopt; so, if they take it upon themselves to decide the point, the chances are ninety-nine to a hundred that they act in such a manner as shall prove highly—perhaps *irremediably*—injurious to the patient.

To keep the mind in an easy and cheerful frame, I have always found to be of the last consequence. Anxiety, deep thought, the indulgence of the angry passions, or habits of abstruse reasoning, are fatal barriers to a cure. Light reading, or any pursuit that occupies the attention without fatiguing the mind, must be had recourse to: great judgment, however, is required in regulating this point; for what is abstruse study to one, is light and agreeable reading to another. I have known absolute disgust and low spirits induced,

in a patient of a serious and contemplative mind, by novels and works of fancy being enforced as his only intellectual diet.

How it is that these complaints and their cure are so powerfully influenced by the mind, it is quite beyond our power to comprehend or explain. Indeed we have good reason to apprehend that the *modus operandi* of mind, upon the material frame in which it is lodged, will for ever elude our most anxious researches. It appears to be an arcana which our Creator, perhaps to keep us humble, has eternally sealed against our prying curiosity; and therefore we must rest satisfied to watch its effects, without knowing their exact causes, and endeavour to make them as much as possible subservient to a cure.

While we pay the utmost attention to prevent a patient making heedless or undue exertions, we must be no less careful to prevent their thoughts from dwelling on their own situation, or watching every little turn of sensation. Nothing can be more fatal than such a practice. Surrounding friends should never on any account discuss the patient's state or symptoms in his, or more especially in *her*, own hearing; or repeat what this or that doctor has said; or, in short, allude to any thing that can keep uneasy apprehensions present to the mind: and let me also suggest, that the medical attendant's opinion and directions ought at all times to be delivered with a firmness of manner which will admit of no dispute, either as to the degree of obedience to be paid to them, or indecision as to their exact meaning and tendency.

CONCLUDING OBSERVATIONS.

It appears to me quite impossible for even the most bigotted or most ignorant members of our profession to shut their eyes to the fact, that owing to the light of anatomical certainty thrown upon the observations and experience of practical men, by the splendid discoveries of Bell and Bellengeri, a most important change is about to take place in our views as to the pathology of the nervous system. For my own part, I most confidently anticipate that the time is at hand, when all the rubbish of "Anomalous Cases," and "intractable and *mysterious* diseases," will be swept from our periodical literature; and when "systems of nosology," only calculated to obscure the subject they pretend to illustrate, will be left to rot unnoticed and undisturbed on the most inaccessible shelves of our libraries.

Nevertheless, I am fully aware that many, very many of the profession, will stick, with all the tenacity of limpets, to the rock of ancient usage; and meet these new views, and every thing that goes to support them, with the same virulence and hostility as if

the calm examination of their claims to attention, or the testing of their accuracy, were to inflict a positive injury on the dearest interests of society! This, unfortunately, is "part and parcel of human nature." It has been the fate of every new discovery, from Galileo downwards; therefore it should excite neither surprise, mortification, nor animosity, if it is the same in the present instance.

Many reasons will combine to repress, for a time, the progress and the practical usefulness of these new ideas. Some will turn a deaf ear to them, lest they should be put to the trouble of studying, in order to comprehend them; not a few are incapable of comprehending them at all; and others there are, who will refuse to follow, simply because *they* were not the first to lead! Another, and, I regret to add, a very respectable class of the profession, will, nay, I am aware, *do already* turn from the subject with cold disdain, because, as they are pleased to say, "*it has been rendered quite disgusting by quackery and empiricism.*" Of all objections, this appears to me the most futile!—Most true it is, that *empirics* have been the first dimly to perceive, and to benefit from, by *mystifying*, the very truths that are now in progress of being scientifically demonstrated; and by fearlessly stumbling through right and wrong—"good report and bad report"—such persons have speedily realized fortunes, one tithe of which no *regularly educated* or *truly well principled* member of our profession ever acquires;—but is this a reason why we should refuse to study and investigate the truths of our science? As well might we refuse to look through a telescope, or refuse to believe in the laws which regulate the motions of the heavenly bodies, because in their day judicial astrologers made these, and the sublime truths deducible from them, subservient to the purposes of a gainful imposition! Or, what comes nearer still to our own art—Should we refuse to believe in the splendid discoveries of modern chemistry, because, actuated by selfishness and cupidity alone, the ancient alchemists were the first to cross the threshold, and to obtain a glimpse of the future glories, of that noble science?

Prejudice is the bane of advancement in every department of human knowledge; but in none does it tell more heavily against the weal of our common nature than in our profession; for never will any man practise it with either true dignity or real usefulness, till he casts from him every *trammel*, whether of education, theory, or authority—until, in short he hears with his own ears, sees with his own eyes, and judges with perfectly unbiassed mind.

That I have always been able to do so, I am very far from asserting; the foregoing cases would contradict me, if I did! In many of them it is apparent, what I do not wish to disguise, that I got completely confused, and at a loss what to do, before the simple idea occurred of trying whether the morbid influence was not lodged at the roots or ganglions of the nerves, whose extremities were ramified upon the affected organs.

To find spasmodic diseases yield more readily to this mode of treatment than to any other, appeared so natural, that it required no second lesson to impress my mind with the fullest conviction of the fact. But it required much and repeated experience ere I became so for unprejudiced as to see and believe, that diseases bearing no resemblance to spasmodic, and which had never been considered as peculiarly connected with the nervous system, were, no less than the others, originated there, and amenable to the same treatment. This conviction once obtained, the extensive views in pathology which it opens, and the ease and correctness in diagnostics resulting from it, cannot be duly appreciated by any but one who, like myself, has struggled, alone and unassisted, out of darkness into comparative light.

If there be one department more than another where the value and importance of these views is felt, it is in treatment of the diseases of women and children, whose highly mobile temperament renders them peculiarly liable to ailments originating in the nervous system,—ailments which, by neglect or mismanagement, may sooner or later degenerate into constitutional or organic disease.

In the treatment of those convulsive attacks with which infancy and childhood are so frequently afflicted, I have been peculiarly successful, by an unflinching and assiduous attention to the principles laid down in the foregoing pages.

That convulsions in children frequently have their origin in dentition, in worms, in acid, or crudities, existing in the stomach and bowels, causing irritation of the nerves ramified upon these viscera, is most true; but it is not the less true, that *through the medium of the nerves alone the convulsions are produced*: and it therefore follows, that while we endeavour to clear away the offending causes, we must no less assiduously attend to restore the offended nerves to a healthy tone. But very many cases come under our notice where none of the fore-mentioned causes are found to be in existence, and yet the convulsive attacks are in these cases more intractable, and more frequently fatal, than in the other! And here I venture to assert, most fearlessly, that in such cases examination or experiment will prove the morbid influence to exist at the roots of the spinal nerves, or in the ganglionic system; and that if it has not existed so long as to occasion, by its reaction on the brain, any structural disease there,* it will uniformly be found to yield to a patient application of remedies such as are suggested in the foregoing pages. Not that I would be supposed to hint that no better can or will be found—far, very far from it! Let it never be forgotten, that these suggestions are the result of the observations of one single *unassisted* individual in *private* practice.

There can be nothing more certain than that morbid action in the medulla, or spinal nerves, reacts upon the brain, to the production

* From the delicacy of the structures in infancy, it follows that this result takes place much more rapidly in it than the adult state.

of delirium, mania, and structural disorganization ; and it surely needs no argument to prove what an important light this fact, once fully ascertained, throws upon the pathology and treatment of mental maladies. In all the three cases of Chorea which I have given, the brain was evidently affected ; in the two latter, it was so in a very high degree. In No. 2, the patient wore, for many weeks, all the characteristics of furious mania—no inhabitant of Bedlam ever did so more completely. Yet no sooner were the spinal and sympathetic nerves relieved from morbid influence, than the irritation of the brain subsided in the same ratio, and the patient perfectly recovered her senses, and all her mental powers. And let it be remembered, that previous to this the curative treatment had been directed to the head itself, without any good effect whatever.

Were the state of the spinal and sympathetic nerves more anxiously investigated than has hitherto been the practice, at the commencement of mental maladies, I am much inclined to think, and I speak from experience when I venture to hint, that there would be fewer "incurable" cases found in our lunatic asylums.

My ideas on hydrophobia I have already stated, so that I shall here only say, that time and experience since the case which originated them took place, have only tended to brighten and confirm my hope, that a remedy may, at no distant period, be discovered for that hideous malady.

I anticipate that, as our knowledge advances, it will be proved that not only this, but epilepsy, and all diseases of that class, arise primarily from irritation of the cord ; and that the brain, especially in the earlier stages, is only secondarily affected, except in cases where, from malformation, injury, or accidents, such as spiculæ of bone growing inwards,* it becomes directly the seat of structural disease. I have no hesitation in stating my opinion that in all cases of epilepsy, where the aura epileptica occurs, the medulla spinalis will be found the seat of irritation.

To No. 6 of the non-classified cases, I would wish to call the particular attention of my medical readers. It is a most important one, inasmuch as it presents an instance (and it is hard to say how frequently such may occur,) where a very clever and experienced member of our profession, and also the patient herself, were led to form a most erroneous opinion as to the nature of her malady. An opinion, which, wherever it takes possession of the mind of a married lady, must not only occasion the most acute mental agony, but prove utterly subversive of all domestic peace and comfort ; at the same time that it destroys the character and respectability of a perhaps innocent individual : not to mention that lasting ill health, or death itself, may result from the well intended, but mistaken, treatment prescribed.

It would be most uncandid in me, as well as unjust to the medical attendant of the family, did I here conceal, that so strong were the

* Note E at end of vol.

pseudo symptoms in this case, that had it not been for the close and long continued attention I have given to diseases of the spine and nervous system, keeping me right in my diagnosis, I should most inevitably have agreed with him, and heartily coincided in his proposed mode of treatment.

There is another disease, viz. Plegmasia Dolens—on the purely nervous origin of which, I wish here to express my decided conviction. I conceive this to be, *in reality*, a very rare disease; because, in the course of extended practice in puerperal cases, it occurred to me but in very few instances. These, however, were sufficient to convince me, that all the painful and intractable phenomena of this disease were plainly traceable to pressure or other injury of the nerves, either before or during parturition; causing a deficiency of energy in the nerves themselves, and, consequently, languor and inefficiency in the action of the vessels dependent upon them; hence the pain and intumescence of the limb; and, of course, when once intumescence takes place, it *must* react on the nerves to the increase of all painful and morbid phenomena. In the few instances in which it occurred to me, I found leeching at the groin, and over the whole sacral region, and frequent frictions with anodyne and stimulating liniments on the sacrum, the groin, and the affected limb, most decidedly beneficial: scarification I never attempted.

Before taking leave of my readers for the present, I trust I may be permitted to express a hope that the cases I have laid before them are of such a nature as to bear me out in my assertion, as to the great and hitherto ill understood influence of the nervous system, in occasioning organic disease. At present, we are but on the very threshold of this discovery; and attention to the practical part of the subject has been confined to a few individuals. Who, then, can doubt that, when the great body of the profession become duly impressed with its importance, the most rapid advancement may be hoped for; and certainty, light, and order be introduced into that region, hitherto the seat of obscurity, perplexity, and contradiction.

I would here, however, beg those who come to the discussion of the extremely intricate subject of nervous irritation, to remember, ere they enter on their labours, and while they prosecute them, **THAT ONE FACT, CAREFULLY NOTED, AND FAITHFULLY REPORTED, IS OF MORE VALUE THAN WHOLE VOLUMES OF THEORY AND HYPOTHESIS.**

It appears to me, that there are two false ideas abroad, adherence to which proves a most serious stumbling-block in the road of improvement. The one is the persuasion, or assumption, that in *all* cases having their origin in spinal irritation, the medulla spinalis will, on *post mortem* examination, exhibit such morbid appearances, as to account for the phenomena developed during life. This idea I have combated so much at large in the earlier part of this work, that I need scarcely allude further to it here. Wherever the medulla is the SEAT of the disease developed, as in epilepsy, tetanus, or chorea, I should expect to find some lesion of it; but where irrita-

tion of it or the nerves has occasioned structural disease elsewhere, I am inclined to think the morbid appearances in it will, for the most part, be invisible to our senses. There can be no doubt that closer attention to its structure, and the very beautiful discoveries now made in its minute anatomy, will lead us to recognise as morbid, many appearances, to which, hitherto, little importance has been attached.

Another false idea, or what my experience leads me to consider as such, is, that nervous irritation or debility never can, or does, exist in such a degree as to occasion the symptoms of organic disease, without obvious derangement in the column, or tenderness to touch over it, and in the neighbouring parts, being present. With the discoveries of Bell and Bellengeri alone before us, this assertion is quite untenable; but no less does experience contradict it.

In several of the most serious of the foregoing cases, these symptoms most decidedly were absent, yet the mode by which a cure was at last accomplished proved, beyond all dispute, that in the nervous system alone, and that as more immediately connected with the spine, the cause of the morbid phenomena had existed.

In one of the cases of chorea, No. 3, there was evidently total paralysis of the posterior strands of the cord from which the sentient nerves spring, accompanied by a high degree of irritability in a large portion of the motor nerves; yet not the most minute and repeated examinations of the spinal column could detect the slightest distortion or disarrangement; nor were symptoms, as far as I could ascertain, aggravated by pressure on that or the surrounding parts. In like manner, in Case 3 of diseased heart, there was no tenderness of any of the vertebræ, yet symptoms were much the same as in cases where both lateral curvature and tenderness were present. Tenderness to touch, indicative of inflammatory action, and curvature of the column, are, in fact, not *causes*, but *effects*, of nervous debility and irritation. Hence they may or may not be present, without at all altering the real character of the primary disease; but when they are present, by reacting upon it they must unquestionably increase prominent symptoms. Let the reader here take notice that in my opinion, caries of the vertebræ is a disease which ought never to be confused with, or mixed up in any discussion upon, mere spinal irritation; though curvature of the column be a symptom common to both, it does not follow that they are necessarily connected. I shall, however, take a future opportunity of entering more at large into this subject.

That many in the profession will be found to cavil at the opinions I have advanced, and the facts I have adduced, I make little doubt: but conscious as I am of the strength of my general position, and of the purity of the motives which have induced me to lay the present work before the public, I shall endure with great indifference the ephemeral remarks and opinions of such persons. *Magna est veritas, et prevalebit.*

NOTES.

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 Note A, page 10.

The following is the case to which I allude. It appeared in Dr. Johnstone's Medico-Chirurgical Review for October, 1828.

“DISTRESSING CASE OF NEURALGIA.

[For Consultation.]

“The motives which lead us to publish the following most melancholy and terrible case will be readily appreciated. It is with the view (would that we could say HOPE) of eliciting some suggestion that may tend to mitigate the sufferings of an afflicted member of our own profession.

Mentem mortalia tangunt !

“The patient is a surgeon, retired from the East India Company's service, and in the fifty-ninth year of his age. About nine years ago, a pound of gunpowder (in a canister) exploded in his left hand, by which the bones of the thumb were fractured, and the soft parts about the palm of the hand much lacerated. The wound was dressed, and the case appeared to be doing well till the 10th day, when the sloughing process took place, which was followed by a profuse hæmorrhage, at first thought to be of venous blood. This was restrained by pressure ; but it repeatedly recurred, and proved to be arterial. Several attempts were made to secure the vessel by ligature, but all in vain. Two medical gentlemen (Dr. S. and Mr. C.) advised ligature of the radial artery. The vessel was taken up by the latter gentleman, but unfortunately the radial nerve was included, and, when the ligature was drawn, the patient started up involuntarily from the recumbent to the perpendicular posture, and felt a most dreadful pain dart from the occiput to the forehead. This pain was of short duration, but ever since that time he has been subject to headache. The hæmorrhage returned the same day, and Dr. S., in hopes of reaching a sound part of the palmar arch, removed the thumb, at its carpal junction. This operation also failed, and hæmorrhage again returned during the night. Being now much reduced, the patient himself determined on amputation, and the operation was accordingly performed the same night. But new misfortunes seemed destined for the unfortunate patient. While the surgeon was in the act of sawing the bones, the assistant let the soft parts fall into the teeth of the saw. ‘The pain,’ says the patient, ‘at this moment, was most exquisite ; that produced by the circular incision was pleasure compared with it. The sensation was as if melted metal were poured into the wound.’ One or two more strokes of the saw completed the operation, and the pain ceased. Before the wound healed, two sloughs came away in the direction of the blood-vessels, nearly three inches in length, after which cicatrization proceeded rapidly. *But great*

pain, referred to the lost hand, continued, and the patient felt as if the left hand were still attached, and in a high state of inflammation, with the fingers rigid and immovable. There was also a sense of pain in the region of the cervical vertebræ, with distressing head-aches, especially when any acidity prevailed in the stomach. Nevertheless the appetite continued excellent. With the view of getting rid of these painful sensations, the patient visited Edinburgh, London, and Paris, where he consulted the most eminent of the faculty in each capital. The majority of these recommending a second amputation of the arm, as the most effectual means of relief, the operation was performed by Mr. Wardrop, between three and four years ago, in London. His evil fate pursued him from north to south! In about twelve hours after the operation, hæmorrhage took place, and Mr. W. was obliged to open the wound to search for the bleeding vessel. This opening of the stump gave him more pain than all the operations he had previously undergone! The stump, after this, healed very quickly (the amputation was performed five or six inches above the elbow); but, alas! the original sensation referred to the lost hand remains as intense as ever! Since the last operation, the patient has been gradually losing ground, and, with the exception of a good appetite, *he is suffering under all the usual symptoms of dyspepsia.* In addition to the pain referred to the absent hand, the patient is harassed with constant spasms in the biceps and other muscles of the arm and subsultus. *There is also a considerable tinnitus in the left ear.* He takes a good deal of exercise, but still his sufferings are on the increase. Every thing he eats is disposed to turn acid, and when acidity obtains in the stomach, all the above-mentioned phenomena are greatly exasperated. 'I find there is a small hardened portion of substance on the face of the stump, connected with the muscles, very painful on pressure (the sensation always referred, even then, to the lost hand), and which appears to me to be a matting of nerves.'

“Previously to the last (second) amputation, Sir Astley Cooper advised merely the removal of the extremities of the nerves on the face of the stump. Mr. Abernethy was averse to any operation, and recommended blue pill. We have ourselves consulted several eminent surgeons and physicians, but their opinions have been very various. Sir Henry Hallford is of opinion that the extremities of the nerves on the face of the stump are in a state of disease, and are the cause of the patient's sufferings. He recommends another amputation, which he has known to succeed in two instances. We forbear to state any opinion on the subject at present; but solicit the opinions of others. The patient is employing every means of improving the general health, and especially the state of the digestive organs.

“It will be acknowledged that there is hardly to be found on record a more melancholy, unfortunate, or distressing case, than that which is here sketched out. As occurring in the person of one of our own profession, it is doubly interesting, and calculated to call forth our sympathy. Any suggestion communicated to the Editor of this Journal, will be conveyed to the afflicted patient.”

Had the valuable discoveries of Sir C. Bell and Signor Belengeri been before the world when this case occurred, I am inclined to think it would have been differently treated, by the eminent members of our profession to whom it was latterly submitted. I have marked by Italics, symptoms which, in my humble opinion, most decidedly indicate that the morbid

influence productive of so much suffering was lodged, not at the extremities of the cut or lacerated nerves, but at their roots or spinal and ganglionic junctions.

Most melancholy to say, this miserable case is still going on; and, if I am not misinformed, further amputations have been submitted to since the case was published in 1828!

That it is now, after sixteen years' endurance, far past cure, is more than probable; but if the unfortunate sufferer will even now submit to the insertion of a seaton over the upper cervical vertebræ; a caustic issue over the whole of them, or the repeated application of moxa, as near as possible to the origin or principal junctions of the brachial nerves, and daily frictions over the whole back and thorax, with an anodyne or stimulating liniment,—I do not presume to say that his case will be *cured*; but my experience is much at fault, if he does not find *perseverance in this plan of treatment very materially alleviate its most distressing features*.

I am inclined to anticipate, that *on careful examination* the whole dorsal spine will, in this case, be found tender to touch, and pressure there increase painful symptoms.

It will naturally be asked, why I did not make these suggestions known at the time the case was published for consultation. I answer, that 'Dr. S——' *is well aware of my reasons for non-interference*, and there is no occasion for my making them more public.

Note A 2, page 26.

It is deeply to be regretted that the nice discrimination, the critical acumen, and the warmth of feeling which has been expended in combating the rival claims of the two great anatomists of the Nervous System, Bell and Bellengeri, to priority of discovery, have not rather been bestowed in prosecuting the practical results of what they have discovered.

I cannot sympathize in, or approve of, the indecorous zeal with which some have stepped forward to pluck the laurel from a fellow-countryman's brow, and plant the brand of piracy instead.

I know nothing of Sir Charles Bell, further than that his character as a gentleman is unimpeachable, and he has done much for the benefit and improvement of our science; circumstances which ought to shield him from such attacks.

It is surely no very extraordinary or unnatural occurrence, that two men of great talent, their whole lifetime engaged in prosecuting the same studies, should simultaneously make the same discovery, and promulgate it to the world. At all events, it is to me much more easy to believe this, than to suppose that a man of Sir Charles Bell's acuteness and good sense would choose the Royal Society as the medium of communicating his discovery to the public, had he been aware that, three years before, another person had laid the same before that learned body.

It detracts in no degree from the merit of any one who makes a new discovery or observation, that another, unknown to him, makes it simultaneously. Nor does it thus become in any degree less the property of each. And such a discovery as the one we speak of, may well furnish laurel sufficient to encircle two brows.

Note B, page 27.

“Since we have touched upon this subject, I may here state what is

known of the *sympathetic nerves*. When I began study, it was usual to demonstrate this nerve as a nerve of the brain, descending more directly from the sixth and second division of the fifth nerve—to trace through the carotid foramen, down the neck with the *nervus vagus*, and so on to its division to the heart, and then as *intercostal* to the viscera. This term, *intercostal*, sufficiently marked its connexions; it was so called from the frequency of its connexions with the intercostal nerves, viz., the *spinal nerves*, which take their course between the ribs.

“It being acknowledged that nerves were the only bonds by which the sympathies of distant parts were to be accounted for; and physicians observing the connexions between the different parts, the emotion expressed in the face, the affection of the organs of sense, that blushing proceeds from the influence of passion on the body, and even such connexions as sneezing from tickling the nose; all these were accounted for by sympathy through this nerve; and hence, for distinction's sake, it was called the Sympathetic Nerve. The experiments detailed in this volume will clear away that mass of error in which physiologists were involved. But I am now the more bound to acknowledge our obligations to Bichat, having shown how far, in some respects, he was incorrect. To him we owe the important fact, that there is no sensibility in the branches of the sympathetic nerve, nor in the ganglions formed in its progress. Those parts may be cut and pinched in the living body without producing pain; and they move no muscular apparatus, as far as we at present perceive.

“The functions of this system are known only by negatives: we have ascertained that they have nothing to do with volition, nor with sensation, nor with respiration, nor with expression, nor with sound and speech.

“We are left therefore to the conjecture, that the sympathetic nerve, on the ganglionic system of nerves, according to Bichat, are for those thousand secret operations of a living body which may be called constitutional. Circulation, secretion, and absorption, are operations which simultaneously affect the entire frame. Constitutional peculiarities, fever, and general derangement of health, must, we conceive, belong to this system of nerves. And we call it system, for it is curious to observe that, by the progress of anatomy, this lesson has become easy. Painfully, and with a stretch of memory, we were formerly endeavouring to recollect the relations and connexions of the sympathetic nerve, but now we know that it is extended universally; that its relation to the nerves of the head are not more remarkable (when looked upon free from hypothesis) than its branches to the nerves of the extremities; and that it extends to all the internal viscera. It is universally distributed to all parts of the body, and in this is its peculiarity.

“As to the origin of the sympathetic nerve, we cannot assign it a commencement. It has a twig from each nerve of the spinal marrow; but these are very small nerves, compared with the mass of nervous matter seen in the centre of the viscera of the abdomen.

“The semilunar ganglion, and solar plexus, being parts of this system, and the branches of nerves extending and diminishing from this region, give countenance to the idea that we have here the centre of the sympathetic system.

“This conjecture is countenanced by the fact, that these viscera of the

abdomen perform the most independent of the will, and over which the mind has no control. No part of the human body is altogether independent. When, by circuitous influence, the mind does operate on the vital functions, we know what disturbance is produced, which is enough to show with what beneficial effects the relations are made remote."—*Sir Charles Bell's "Nervous System of the Human Body."*

Note to page 29.

It is greatly to be lamented that the female sex are not more fully aware of the baneful effects which are produced by any deformity or disarrangement in the lower portion of the spinal column, when placed in the most interesting situation a woman can occupy—that of becoming a mother.

If women knew, or could be convinced, that such disarrangements are productive of extreme danger to the life of both mother and infant, and that too, too often the one is of necessity sacrificed to save the other; and also, that the inevitable sufferings endured at such times, are increased tenfold by any twist in the column; surely such solemn considerations would induce them to avoid those practices, in the education of their daughters, on which I have animadverted, *with not a tithe of the severity they merit.*

Would to God it were possible to convince mothers and governesses, that to over task the mind of a growing child, to keep it for hours sitting in the same erect attitude, and to check its natural desire of romping exercise, is to ensure the production of spinal disease and deformity, and the ruin of the constitution; and that far, far less dangerous will it be found to the health and development of a growing creature, to stint it *of its food than of its sleep!* Yet how mercilessly, how unthinkingly, is this done! How inhumanly are poor infants, and young girls at the most critical time of life, every morning shaken and shoved about, and *scolded*, to arouse them from that profound repose by which exhausted nature is seeking to repair the injury done by the previous day's over exertion!

It never can be too deeply impressed upon the minds of those who have the guardianship of the young, that all growing animals require a much larger proportion of sleep than they do when the adult state is attained. In a state of nature, such animals divide their time entirely between violent exercise and profound repose. Any one may learn this lesson from the kitten on their carpet, or the lamb on their lawn. The more pity it is, that in the present day we take so few lessons from SIMPLE NATURE.

Note C, page 46.

In making *post mortem* examinations in our military hospitals in France, we were often astonished to find traces of extensive lesion, as cicatrices, adhesions, and concretions, in the lungs of men who had not, during life, or while under treatment in hospital, complained of their respiratory organs. Adhesion of the pericardium to the heart was likewise very frequently met with.

When we consider to what extreme fatigue and privation, as well as mental excitement, these men had been for a length of time subjected, we cannot wonder that such results should have taken place; but how are

we to account for the absence of all complaint or apparent suffering during life? Dysentery prevailed considerably in our camp at that time, and of these subjects died of the chronic form of that malady.

Note D, page 77.

This case excited a great deal of notice in Port Glasgow and the neighbourhood at the time it occurred, not only from its extraordinary nature, but from its being made the subject of a *would-be miracle*, by one of a sect more remarkable for good intentions than good sense. The fair scion of a ducal house, who had become deeply imbued with the wild idea that she was gifted with miraculous powers, waited upon my suffering patient, with the benevolent intention of casting out a devil, with which she pronounced the poor girl was possessed. The devil, on being ordered to quit his residence, proved refractory; far be it from me to hint but that he would at length have yielded to repeated exhortations, had the progress of the 'miracle' not been interrupted by the arrival of a liveried footman, to announce that '*the steam-boat was just at hand.*' On which most *unmiraculous* summons, the lovely enthusiast hastened away, assuring the wondering family that she would 'return in a few days *and finish the miracle.*' I was however *hardened* enough to forbid her all access to the apartment of my patient.

The next time this fair lady goes a casting out of devils, I advise her to put half a pound of hog's lard and an ounce of tartrate of antimony in her pocket. She will find these articles form a better *exorcism* than any she has hitherto used. And if she is sceptical on this point, she had better use a portion of them upon any part of her own beautiful person; there is reason to think it would have an excellent effect, in clearing her mind from some of the hallucinations with which it has been troubled.

Note E, page 93.

I have twice, in making a post mortem examination of epileptic subjects, found lanciform spiculæ of bone thus growing from the orbitar plates, and pressing horizontally upon the brain.

In one of these cases, the patient was a young lady; the attacks occurred at considerable intervals, and the existence of the disease was a profound secret to all but her mother and the medical attendant. In one fit, not at all more than usually violent, but occurring just on awaking from very profound sleep, she suddenly expired.

How are we to account for the long intervals in attacks, the *apparent* cause of which is invariable and immovable?

The most extraordinary instance I ever met with of an ossific formation in the brain, was in that of a dwarfish idiot, 34 years of age, whose miserably deformed body I examined merely as a matter of curiosity. The head was of most unusual size, and the volume of the brain much greater than in ordinary subjects.

Lying quite detached, in the substance of the cerebrum, just above the sella turcia, I found what closely resembled in size, colour, and even *beauty*, an ordinary pearl. There was no sac, no cell, nor could I detect the slightest attachment to the surrounding texture, neither was there any discoloration of the parts around.

I regret to say that this strange substance was, along with many similar curiosities, stolen from me a few years since.

I could not learn that this creature had, during any period of life, been liable to fits or convulsions of any kind. It was an idiot of the most inoffensive but deplorable sort, quite deprived of language, and even of the power of uttering any articulate sounds, and the whole senses apparently extremely obtuse, if not altogether absent, if we except a strong feeling of *modesty*, and an obvious delight at the sight of infancy; a bunch of rags, however, twisted into the shape of a doll or baby, was quite as acceptable as a living infant, evidently producing, when placed upon her lap or in her arms, sensations of most intense enjoyment. It measured about three feet in height. The skeleton would have been a rare curiosity, but this I could not procure.

APPENDIX.

THE following Cases, kindly furnished by my friends, and which bear so strongly upon the subject of this volume, reached me too late for insertion in the body of the work,

“ 6, *Russell-street*, 2d *September*, 1835.

“ Dear Sir :—In compliance with your request, I hand you the following abstract of a case of spontaneous *Tetanus opisthotonicus* complicated with *Cynanche trachealis*, in the adult. In committing it to your disposal, I would observe, that I merely detail facts, without implicating myself at present in the support of any theory of morbid sequences, or of any therapeutical principles. With the sincerest wish that science and humanity may derive advantage from your forthcoming lucubrations,

“ I am, dear Sir, yours truly,

“ To Dr. Marshall.

JOSEPH PEEL CATLOW.”

“ I was called at eight A. M., on the 14th Nov., 1824, to *Willaim Drake*, stuff-weaver, of Thornton, near Bradford, in Yorkshire, æt. 19, of phlegmatic habit, on account of violent and constant pain in the loins, with almost incessantly repeated exacerbations. He was heard to complain on the 13th, of pain in his back, after perspiring profusely, from running at a hunt ; though he said himself, at a subsequent visit, that he did not notice it until the morning of the 14th. He was said to have hurt himself with leaping over a wall, and to have afterwards run very little.

“ My observations were as follows : a slight flush in the cheeks, which is habitual ; the pulse quick and small ; each inspiration interrupted by pain in the loins, and when purposely prolonged, also at the scrobiculus cordis ; much tenderness midway between the ensiform cartilage and the umbilicus ; a little to the right and left of this point, and also in the right renal region, the muscular parietes of the abdomen rigid. It was not until five p. m., that I discovered the paroxysms of pain to be completely opisthotonic ; the back being then, at each accession, involuntarily raised and arched. The pulse was strong and hard during the paroxysms.

“ Inquiring as to the patient's *previous health*, it was repeatedly said to have been perfect in every respect, but in the midst of these confident assertions, I learnt that his bowels were habitually constipated, and that he had a very difficult motion on the 13th. I also learnt that he was habitually much troubled with phlegm in the throat. At a subsequent visit I was informed, by the same at-

tendants, that he had complained of great difficulty in breathing for some weeks ; and that he was so ill on the 12th, as to think of applying to me for relief. Again, at a still subsequent visit, when the relaxation of the pain allowed him to attend to my inquiries without inconvenience, he informed me himself, that he had had, for *many months* ‘ a shortness of breath, especially on using any exertion ; frequent pain at the pit of the stomach, with tenderness and interruption of inspiration, and distention and hardness of the abdomen, with heartburn in the evening.’ With regard to his bowels, he *said*, ‘ that he had generally had a tolerably copious yellow evacuation, of a natural consistence, every morning after breakfast, requiring a moderate time for its accomplishment ;’ he again said, however, that he had occasionally been very relaxed, and had suddenly passed scybala. His inclination to pass urine had been very frequent. His appetite had latterly been unusually great.

“Up to one A. M., on the 16th, the patient was treated with repeated doses of calomel, opium, and ipecacuanha, infusion of senna and salts, a warm bath continued for an hour, mercurial inunction, V. S. at three intervals, to the *estimated* extent of ℥ iij. and ℥ iv., of which the latter portion was abstracted while the patient was in the bath. Enemas were also exhibited, and at one time the tartarized antimony and digitalis were combined with his medicines.

“The effects of the V. S. were faintness, the breathing rendered more free, the abdominal tenderness removed, the pain temporarily relieved. The blood did not show the buffy coat. The relief was great, and continued after he was removed from the bath. During its use he was occasionally delirious, talking about the chase ; but at other times uttering prayers and exhortations to those around him, much elevated above the anticipations of his friends. The pulse was rendered quicker and fuller by the bath ; but it was soon reduced again by the small quantity of blood then abstracted. It is again reported, at three P. M. on the 15th, to be quick and bounding ; the tongue being moist and a little furred ; a coppery taste being perceived, but the gums not being tender or swollen. Vomiting and alvine dejections procured temporary relief. Some of the latter were very scybalous.

“At nine P. M., on the 15th, the patient is reported to have no pain ; to be constantly inclined to sleep, and to have slept well during the day. The fatal prognosis which I had given was now supposed, by the friends, not likely to prove correct ; but, about eleven P. M., he began to complain of “a lump” in his throat, which, on different examinations, he referred to the top of the thyroid cartilage, to the space between the thyroid and the cricoid cartilages, and to an indefinite space between the latter and the sternum. He complained that it impeded his breathing. He could swallow liquids, but not solids, easily. Some mucus, and very slight redness, were observed in the posterior fauces. There was a frequent spitting or other issue from the mouth of frothy saliva ; but the gums were not tender or spongy. His voice was rather hoarse.

My attention was now more particularly directed to the great motion and dilatation of the *alæ nasi*, which I recognized as having existed from the time of my first visit. A certain gulping, or interrupted deglutition, which had seemed to be consentaneous with the paroxysms of pain in the back, was now present, though this pain had temporarily ceased. The pulse was very quick, rather hard and full. The pain of the back began again to increase, its first re-appearance or aggravation being imputed to vomiting.

"The means now used were, V. S. to the extent of $\frac{1}{2}$ ss. by *estimate*, an emetic of tartrate of antimony, a large blister to the chest, 12 leeches to the neck, boluses of calomel, opium, and ipecacuanha, mercurial inunction, and enemas.

"About noon on the 16th retching occurred, and, with the assistance of warm water, the patient vomited more than an ounce avoirdupois of very thick false membrane; one large piece forming a flattened tube, the parietes of which were irregularly cellular, of a whitish-grey color; another piece yellowish and not tubular. The pulse was calmer, the pain of the back ceased, and the patient slept. And now, the cause of the whole disease seeming to the friends to be removed, they desisted from the further use of the means enumerated. Towards five P. M., however, the pain of the back seemed again to increase; the use of the medicines ordered was resumed, but they were soon discontinued, on account of the patient desiring to sleep. He *died* very calmly at two A. M. on the 17th.

"SECTIO CADAVERIS, 52 hours after death.

"*Spine*—On opening the vertebral canal, from the top of the sacrum nearly to the highest dorsal vertebra, the outer surface of the *theca* was found streaked with very minute red lines, which became more numerous and larger as the examination proceeded upwards. On the lower part of the *theca* being prematurely opened by accident, a large quantity of reddish watery fluid escaped, and inundated the surrounding parts. The pia mater was considerably injected with florid blood, and this appearance increased progressively upwards. The central vein was remarkably conspicuous, with its numerous lateral ramifications. As far as could be seen without further chiselling the bone, this injection was continued along the nerves, detached through the vertebral foramina. Somewhat above the centre of the dorsal portion of the spine, was readily observed a small tumor on the left side of the medullary substance, much softer than the rest, and surrounded by the greatest degree of injection.

"*Trachea, &c.*—Above and below the bifurcation of the *trachea*, conjointly for a space of two or three inches, and chiefly occupying the posterior part of the canal, was observed a linear redness, which sponging did not efface, and which suggested the idea of the skin, when it has partially recovered the recently abraded cuticle, clearly indicating the site of the false membrane. The mucous coat appeared softer than is usual. A little injection was observed under

the mucous membrane, covering the cricoid cartilage ; and the membrane itself seemed of a coarser texture than is usual.

“*Abdomen.*—The liver was rather large ; the gall-bladder was very full of bile ; the colon was very large, particularly the left portion of the transverse arch, which was in contact, as the body was recumbent, with the highest posterior part of the diaphragm. The beginning of the *duodenum* was very large, and injected on its posterior outer surface. Two considerable portions of the *ileum* were much more contracted than the *jejunum* ; and the glands opposite them were enlarged and injected. The mesenteric and mesocolic glands in general were much enlarged, and many of them injected : some of them were livid, and injected through their whole substance. The mesentery itself was considerably injected for the space of a hand’s-breadth, opposite a part of the *duodenum*. In that part of the *duodenum* which was tinged with bile, the mucous coat was soft and easily abraded, and the muscular coat was very vascular. It was the only part of the intestine opened.

“P. S. Dr. Marshall is further informed, that at the Charlton-upon-Medlock Cholera Hospital, in the autumn of 1832, the vertebral canal was opened by Mr. Begley, the house-surgeon, and the informant, only in three cases of death from malignant cholera. These had ended in a low secondary fever after the stage of collapse ; from which, indeed, one of the cases could hardly be said to have recovered. In two of these cases there were serious effusion in the theca vertebralis, and injection of the pia mater, very similar to that reported in Wm. Drake’s case, particularly in the dorsal and lumbar regions. In the third case the injection was the same, but there was no apparent effusion. In this, however, there was a larger quantity of effused serum in the lateral ventricles of the brain, than in the others, which is noted as reddening litmus paper. In one of the three cases, a considerable effusion of dark blood is also noted on the external surface of the theca vertebralis, with external injection. How far the former appearance might depend on the chiselling of the bone, I leave to be conjectured ; it was not, however, observed in the other cases. Two of the patients were about nine or ten years of age ; the other about twenty-five.”

CASE OF SPINAL IRRITATION CAUSED BY A STROKE OF ELECTRIC FLUID.

In January of the present year, on my way through Buxton to visit a patient in Staffordshire, happening to converse with Mr. Buxton, of that place, upon the peculiar views which I entertained as to the influence of the nervous system in producing organic disease, that gentleman mentioned that there had been for upwards

of two years a case under his immediate charge, which he thought would prove highly interesting to me, and kindly proposed that we should immediately visit the patient. As we proceeded to her house, Mr. Buxton gave me a detail of her sufferings, which I need not repeat here, as it will follow in his own words.

I found her in bed, to which she has now been nearly three years confined. Her countenance placid and beautiful, by no means giving any impression of either disease or suffering. Mr. Buxton had never examined the spine; and it was with very considerable difficulty we raised her so far into a sitting posture as enabled me to do so; the utmost gentleness and caution were requisite, to prevent the agitation bringing on a cataleptic attack.

The cervical and dorsal spine were found exquisitely painful on touch; about the middle of the dorsal, there was a space where the spinous processes of two of the vertebræ could not be traced; and there was a puffy feel at this place, touch causing the most excruciating torture, accompanied by an indescribable thrilling pain over the whole body *below the point touched*. The lumbar vertebræ were not displaced, but pressure upon them produced such an aggravation of suffering as caused the patient to fall into a state of total insensibility; for a few minutes there was rapid winking of the eye-lids, with a simultaneous rolling of the eye-balls, and obscure twitching in the lower extremities: these movements soon ceased, and she lay extended, the image of death; the body completely rigid, and considerably opisthotonic. In this state, I was afterwards informed, she lay for several hours. I have visited her repeatedly since this period, and have on almost every occasion witnessed similar attacks, consequent upon the use of the catheter, or any other cause for moving her body; but I shall not longer detain the reader from Mr. Buxton's interesting account of this mournful case—mournful indeed, when the youth, the beauty, and the dependent situation of the sufferer, are taken into consideration.

“*Buxton, Sept. 6th, 1835.*”

“My Dear Sir:—I regret that professional and other engagements have hitherto put it out of my power to comply with your request for a detail of Elizabeth Oldfield's case; and even now I fear you will find the following notes but unsatisfactory. They are, however, the best I can at present offer.

“She continues much as you saw her, and to-morrow I intend to apply the caustic potash to the spine, in the manner you recommended.

“I am, my dear Sir, yours truly,

“Dr. Marshall, Manchester.

THOMAS BUXTON.”

“On the 5th of October, 1832, the Peak of Derby was visited by

one of the most tremendous thunder storms ever experienced in England, and at Buxton it was particularly severe.

“About five o'clock of the day, when the storm was at its height, Elizabeth Oldfield, the subject of the present case, then a fine, healthy girl, sixteen years of age, was passing from one room to another of her father's house, when she was struck on the forehead by the electric fluid; the flash was of the most vivid brilliancy, and accompanied by an appalling clap of thunder; this last seemed, to use her own phraseology, 'to strike her through the left breast, and work round her whole inside.'

“By the testimony of those who were present, she was at the moment raised from the ground, and thrown forward at least two yards, and would have fallen forcibly against the door of the room, had she not been caught hold of, and carried into another apartment. Here she was placed upon a chair, and supported for some minutes, when she recovered from the state of insensibility into which the shock had thrown her; but on attempting to walk, it was found that she had entirely lost the use of her lower extremities, more particularly the left. On a second attempt to walk, she shrieked out of pain in her head and 'inside,' and presently fell into a cataleptic fit, in which she remained till the following morning about nine o'clock, when she came out of it in the most fearfully agonizing manner; remained sensible for an hour, and then fell into a similar fit, which held her for three weeks, during all which time she never was one moment sensible; though every medical means were tried to relieve her, such as bleeding, blistering, leeching, enemata, &c., &c.

“When at length she awoke from this long trance, it was with fever, pain of head, and general sense of severe suffering. In a very few days there was a recurrence of a similar fit, in which she lay for thirty-two hours, during all which time she was as still and motionless as any corpse; the eyes were open, fixed, turned upwards, and the pupils greatly dilated. This has always been the direction of the eyes during the fits, except once, when they were as if looking straight forward into the face of the observer, with a glare that was indescribably horrible.

“For about three weeks after this, the fits were much shorter and more frequent. Sometimes as many as seven in a day; but they suddenly changed to two in the day, occurring regularly forenoon and evening, to a minute, at the same hour. They were ushered in by great pain, and a feeling as if her heart were falling out of its place; then presently sinking into the cataleptic state, she remained therein for two hours and a half, and then began to struggle and make the most violent convulsive exertions. When these had gone on for two hours, the poor sufferer, with the most heart-rending cries and groans, regained her consciousness—again to act over the same dismal scene in a few hours after; and thus nine hours each day were spent.

“During the fits, the fingers and thumbs were firmly clenched in

the palm of the hand, and the toes drawn down till they were pressed nearly flat upon the soles of the feet. When coming out of the fits, the fingers relaxed *one by one, invariably commencing at the little finger*, and proceeding regularly till the whole four had recovered their pliancy, when the hand turned over, and the thumb next lost its rigidity, and successively the other hand and the feet underwent the same process. The long fits continued to recur till the 11th of April, when they began to abate.

“Shortly after this, she complained so much of severe pain in the left hip, as to cause an examination of the parts to be made, when a complete dislocation of the hip joint was discovered. This must have taken place about the time the fits abated, for I had observed, a short time previous to that, that both limbs were quite perfect, moveable in every direction, and the same length. About this time she was also seized with suppression of urine, which rendered the daily use of the catheter necessary for about two months. Nevertheless, she convalesced in some degree, so as to be able to sit up, move about a little on crutches, and go out in a bath chair.

“Exactly at the expiration of a year from the time she was struck by the electric fluid, she was again seized with diurnal fits, similar in character to those I have described, but with the additional symptom of locked jaw, continuing the whole while of their duration, which was generally five hours.

“During the winter she continued very poorly indeed, notwithstanding the constant use of every remedy my skill could suggest. Neither the natural baths here, nor the hot baths, ever were of the smallest benefit to her. In the course of the summer she obtained some little remission of her extraordinary sufferings, but on the return of October, almost to the very day, she was again attacked with the fits, and such violent pain in the back, left shoulder, and arm, as to cause serious apprehensions that dislocation was about to take place there, as it had done in the hip.

“The fits continued very severe for three weeks, recurring twice a day, differing from the former ones only in this, that the eyes were closed, and the lids affected with constant twitching. The winter was passed in a very miserable state of suffering.

“She is now in a most melancholy state, constantly confined to bed, and even almost to one posture; every attempt to turn or move her in bed, or the use of the catheter, producing a cataleptic attack. There has been for the last two months, to a certain degree, incontinence of urine, but I still deem it advisable to use the catheter twice or thrice a week.

“One remarkable peculiarity of her case is, that when the atmosphere is charged with electricity, as before a thunder storm or heavy rain, her sufferings, particularly palpitation of the heart, with which she has all along been severely annoyed, are greatly aggravated; and the occurrence of thunder invariably throws her into a violent cataleptic fit.

“She has been seen by a number of medical men. Dr. Willis

saw her during a visit to Buxton, and prescribed for her an emetic and musk draught, both of which I considered highly beneficial, particularly the latter; it was administered at a time when, from Monday forenoon till Saturday evening, her jaws had continued locked, and soon after taking it they gradually relaxed. She herself imagines that it rendered the fits less severe.

“Her mental faculties are perfectly sound, and never have been otherwise; but all is a blank from the time the fit comes on till it goes off. Her temper is remarkably mild and amiable.”

In what state the spinal marrow would be found in such a case as the above, is a question no less curious than it would be useful, could we obtain a satisfactory answer to it.

I am not aware that there is on record any minute or scientific dissection of a body killed by lightning; but to obtain such has always appeared to me most highly desirable, as it might tend to throw great light upon several difficult points.

The rarity of such occurrences in Scotland never afforded me any opportunity of satisfying my curiosity.

The only animals ever killed by lightning in my neighbourhood were two oxen, and on hearing of the occurrence, I lost no time in applying for permission to examine the carcasses. The curiosity of the owner and his neighbours had, however, been equal to my own, for the *dissection* was over, and the carcasses disposed of, before my arrival.

I conversed upon the appearances found in them, with a very shrewd intelligent man who had been present, and who told me, in his own mode of expressing such matters, that the carcasses were greatly swollen, and the blood round the heart and in the lungs was very fluid and violet-coloured, but towards the extremities and in the flanks this was interspersed with patches of rose colour. The bowels were darker coloured than natural, but what was most remarkable, on cleaving the back bone, *the whole spinal marrow ran out no thicker than cream*. This was the whole amount of my informant's observations; but even this throws no inconsiderable light on Elizabeth Oldfield's case. I feel little or no doubt that ramollissement of the spinal cord is the cause and origin of all her prolonged and extraordinary suffering, and perhaps the same exists in such cases as the *first* in Dr. Griffin's volume, in No. 3 of the non-classified cases in this volume, and also in a case from my friend Mr. Torbet, of Paisley, which I understand is to appear in the Edinburgh Medical Journal for October next.

The following case is only curious as having occurred in a situation where no medical assistance could be obtained, and was conducted by a person who had merely seen me treat one somewhat similar, and who, hearing of my intended publication, sent me the following detail:—

“*John Lorn*, a stout plough-boy, 16 years of age, having walked to a considerable distance to attend the funeral of his father, was during his journey home seized with such intense pain in his back as rendered him quite unable to proceed. He was found in this situation by a person who had the humanity to assist him to his own house, and send for a doctor. This gentleman ordered leeches to the pained part of the back, which gave much relief, and he was sent home to his master’s house in a cart.

“A few days afterwards, I was informed of his wretched state of suffering, and went to see him. I found him in bed, from whence he was wholly unable to rise, or even alter his position in it, from the intense agony in his back. The spine was incurved from the nape of the neck to the bottom in a most extraordinary manner, and painful throughout its whole length. At two places, the vertebrae were so sunk as not to be felt at all, and at these parts the tenderness to touch was exquisite. The skin was hot and dry ; the appetite quite gone; the countenance expressed extreme suffering.

“I requested a blister an inch broad, and eight long, might be put upon the back, close to the bone and the most painful part; and when it was healed, a similar one was put on the other side, a little further up; and thus they were alternated for two months. When the fever subsided, I sent him porter for drink, as his strength was much reduced.

“It was above six weeks before he could sit up or move about, but after that period he recovered rapidly, and is now a tall, stout young man.”

