A letter addressed to Sir Benjamin C. Brodie : containing observations and strictures upon certain parts of his Lecture on spinal complaints / [Edward Harrison].

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A

LETTER

ADDRESSED TO

SIR BENJAMIN C. BRODIE, Bart.

CONTAINING

OBSERVATIONS AND STRICTURES

UPON CERTAIN PARTS OF HIS

LECTURE ON SPINAL COMPLAINTS,

DELIVERED TO

THE YOUNG GENTLEMEN OF ST. GEORGE'S HOSPITAL.

Third Edition,

CONSIDERABLY ENLARGED, AND ILLUSTRATED WITH ENGRAVINGS.

By EDWARD HARRISON, M.D., Edin., F.R.A.S.,

EXTRAORDINARY MEMBER, AND FORMERLY PRESIDENT, OF THE ROYAL MEDICAL SOCIETY;
HON. MEMBER, AND FORMERLY PRESIDENT, OF THE
ROYAL PHYSICAL SOCIETY, &c.

LONDON:

PRINTED FOR THE BENEFIT OF AN INFIRMARY TO BE ESTABLISHED
FOR THE CURE OF SPINAL COMPLAINTS.

1836.

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PREFACE.

I HAD occasion to refer, a few days since, to the Lecture of Sir B. Brodie, published in the Medical and Surgical Journal for November 29, 1834; and discovered, that in the hurry of commenting upon it, I nearly overlooked one portion, which appears to be deserving of more consideration than it has hitherto received. On making the discovery, I resolved to supply the deficiency in an introductory address; affording, as this will do, the opportunity of reporting, that since the first publication of the letter, and since the models of S. Hawkes and E. Wood, have been cast under the direction of my ingenious colleague, Dr. Serny, the new practice has excited a much greater degree of interest; the faculty no longer venture, openly, to deny the facts stated, nor the surprising results which have followed its introduction. The incredulity and the opposition to my practice, have been chiefly confined to Britain, especially London, the boasted soil of freedom and liberality. Several foreign physicians and other literary characters, during their sojourn in England, have visited S. Hawkes and E. Wood, that they might be satisfied from personal inquiry, as to the truth of my statements; being satisfied, models were procured of both cases, and in this way the cases of S. Hawkes and E. Wood have been favourably transmitted to France, to Germany, and America; the purchasers of these models declaring, that neither at home nor in their travels, have they met with deformities or cures to be compared with them. Many of the British faculty have also candidly admitted, that the former practices in spinal complaints, although adopted by themselves, because they knew of nothing better, were cruel, often injurious to health, and never permanently beneficial to the sick; convictions in which I concur, from the experience of many years, and which I have taken every proper opportunity to express, notwithstanding the contumelious opposition created thereby in many quarters.

The progressive increase of my occupations, and the more general approval of the mode of treatment adopted by myself, and by the faculty, encourage auspicious and gratifying anticipations of ultimate success.

Of the unequivocal superiority of this mode of cure over all others, I never entertained any doubt; therefore, looking steadily towards the future, I have persevered under good report and evil report, and can safely declare, that none of the numerous obstacles cast in my way have, for a moment, arrested my progress, or forced me out of the strict line of professional duty, or abated my zeal in the cause of humanity.

The long wished-for time has at length arrived, to make a full disclosure of the means contemplated, for the benefit of the deformed poor, and the instruction of the rising generation of medical practitioners. The millions of afflicted human beings, and their dispersion through every region of the habitable globe, make the latter

arrangements necessary, in order to administer appropriate relief to all the sufferers. Moreover, a desire, natural on my part, to make the present letter more complete than either of the former, has led me to reconsider, and more carefully examine, Sir Benjamin's Lecture in the Medical and Surgical Journal. It struck me forcibly on the re-perusal, that I had been guilty of a great omission in the previous addresses. This unintended defect I now proceed to supply, accompanying this with a brief allusion to circumstances which have subsequently taken place. As the original motive remains unchanged, I shall continue to deliver my sentiments with freedom; but, I trust, with the candour and diffidence which ought to actuate all researchers into doubtful and controverted questions.

Sir Benjamin remarks positively, and without hesitation, in the Lecture referred to, that "*When the period of growth is completed, she is awry for life, generally if she be a pretty good figure at the adult age, the distortion becomes very much increased as she grows old, or when attacked with illness from any cause.*"*

The above paragraph, although actually copied at full length into my two former letters, was unaccountably overlooked. Its importance will, however, justify a few remarks, based upon my own experience; more particularly as I conclude, that the quotation gives a true exposition of Sir Benjamin's own experience. As such I shall proceed to treat it, and the rather because the conclusion, that deformed persons, arrived at mature age, are incapable of deriving benefit from art, circumscribes unjustly, the capabilities of the curative profession. Entertaining, as I do, a very different opinion on this interesting question, I do not hesitate to dissent from the doctrine; and to say further, that while I entertain great respect for the lecturer, I dissent from his bold declaration, that "*when the period of growth is completed, she is awry for life.*" It affords me no small pleasure to be able to contradict the assertion, not on the authority of theory simply, but of numerous, reiterated, and well-established *facts*. Had Sir Benjamin favoured me with his company, according to my invitation, I intended to introduce him to both males and females, sufficiently advanced in life to be grandsires and grandmothers. Several of these individuals are no longer accessible, because, having obtained cures, they are returned to distant homes. Others are advancing in convalescence, and will also soon take their departure.

I should, moreover, have taken him to a late patient of his own, a clergyman, who had injured his back by falling from a vicious horse. He came under my care paralyzed in the arms and legs. Both his feeling and general health were much impaired. The breath was nauseous and disagreeable on approaching his person. This young gentleman had, before I saw him, been under the care of Sir Benjamin Brodie more than twelve months. During this long trial, various professional consultations were held upon the case; but, as too generally happens upon such occasions, the persons chosen were

* Medical and Surgical Journal, Nov. 1833,

known to follow a similar mode of practice, and to advocate the same doctrines. Proceedings of this description have a tendency to inspire confidence in the medical attendant, although, for obvious reasons, they seldom benefit the subjects of them. Candour, and a proper anxiety for the welfare of patients, ought to encourage a different preference. It should induce the confidential advisers to recommend practitioners, entertaining other notions in the hope, that the conflict of opinions would elicit new views of the case, and a more successful method of treatment.

One of the consulting surgeons—speaking, I believe, in accordance with the rest—told the aunt plainly, that it was *impossible to cure her nephew;* and, that she must be prepared to see him crippled, and wheeled about in a merlin chair for the remainder of his life. Under all former modes of cure, the deplorable consequences predicted, would doubtless have been such as this eminent and experienced hospital surgeon foretold.

In publishing the following letter, written by another of the attendants, I wish merely to expose the erroneous notions entertained of the case by practitioners, who rank deservedly high with the profession and the public. In withholding their names, I am actuated only by feelings of delicacy towards the individuals themselves. To Sir B. Brodie I shall not hesitate, on a proper application, to mention the persons alluded to, or to give any other information that may be desired.

SIR,

I have just had a letter from our patient, the Rev. Mr. ———, in which he describes to me his present condition. It is a very distressing case, and one over which I fear our art can exercise little or no influence. Every thing seems to confirm the opinion I was at first led to entertain. that there is organic disease in the cervical portion of the spinal chord, or in the lower portion of the brain, or in both these situations. The moxa has evidently done him no good, and I should wish the ulcerated sore to be dried up immediately, and nothing more to be done for the present; but, in the mean time, that such medicines should be exhibited as you may judge most beneficial in preserving his general health.

I am, Sir, &c.

Such were the opinions of the persons attending this gentleman. On examining the back of my patient, at the first visit, I discovered two considerable derangements in the spinal column, which had, I understood, been entirely overlooked—one between his shoulders, the other in the loins. By subduing them, the paralysis of the arms and legs was removed. Appetite, at first, trifling and inconstant, has become strong and regular. He is restored to the enjoyment of excellent health, the free use of his limbs, and will, with care, soon recover the full possession of his bodily vigour. The digestive functions were, at first, impaired, because the nerves which supply the stomach and collateral organs had been rendered unable, by the vertebral displacements, satisfactorily to execute their appointed offices.

The dependence of the healthy performance of the functions of the thoracic and abdominal viscera upon the vertebral column, is not yet generally understood by the faculty: when it is, the correction of spinal deformities will no longer be neglected or deferred, but will be carefully promoted, the moment derangement is perceived, *in order to restore the healthy functions of organs indispensable to the well-being of the human economy.* The cures will then be speedy, and easily accomplished, though now tedious and difficult from their inveteracy. With respect to any organic malady in the head, where the disorder had been erroneously placed, it was never affected in the least. The antiquated notion of paraplegia, originating in the brain, although so strenuously advocated by the seniors of the passing generation, will, like caustics and muscular exercises in the cure of spinal contortions, be soon forced to give way to the omnipotence of truth, and juster views of the living system.

It was stated in the history of the case, that the breath was at first disgustingly nauseous, tainting the surrounding atmosphere to a considerable distance. This offensiveness, as already observed, commenced soon after the accident, and disappeared with the cure of the spinal complaint. These circumstances constitute a curious and remarkable coincidence, which would appear to justify the conclusion, that the phenomenon was, in some way or other, produced by the mischief inflicted, however difficult may be its explanation. Many other things occurring in the living body are equally perplexing and unaccountable; but we must not on that account disbelieve them, and reject the evidence of our senses. All researches into the works of creation are extremely limited, and lead to the conclusion, that our knowledge is both imperfect, and circumscribed within narrow limits.

In the animal economy, numerous organs are employed for the twofold purpose of repairing the waste continually going on, and removing useless materials. In the lungs constant is the action, whether we be awake or asleep. A lengthened pause in respiration is inevitably fatal. The lungs, therefore, must perform very complicated and most essential offices in the animal economy. Some few particulars may now be noticed, reserving to some future period more complete details. In every respiration oxygen gas seems to pass *unchanged* through the delicate air-cells of the lungs to mix with the blood; and, by its gradual assimilation, imparts equal temperature to the living frame. At the same time, effete materials are conveyed through the same channel, and escape with the breath expired. To carry on such processes, a suitable machinery is required. We accordingly find, that the lungs constitute a voluminous mass, accommodated with numerous blood vessels. Various secretions are elaborated in them to mix and circulate with the blood, while the excretions, combining with the expired air, are conveyed out of the system. In order to carry on these intricate operations, many *nerves* are employed. Some come from within the skull, but the greater portion issue out of the spinal chord to join the great sympathetic. Thus united and combined, they together form a group of nerves, called the *pulmonic* plexus, which supplies the lungs with nerves; which, being

undisturbed in their functions, the lungs are active and capable of discharging the various offices intrusted to their management. Nor is this subserviency of organic life to the vital principle confined to the lungs alone; it is equally distinguishable and operative in every other part of the frame. So long as the nervous system—the instrument of vitality—enjoys its full vigour, the body is alive and active; deprived of nervous energy, it is converted into a stiff and lifeless corpse, incapable of voluntary motion, or of executing any other functions. Moreover, the component parts, released from the bondage imposed by the controlling energy of the vital principle, readily submit to the laws of chemical affinity, and putrefaction ensues. With a knowledge of these facts, it surely requires no further proofs to convince the most incredulous, that the total suspension of nervous power, or that its enfeebled and morbid action, will operate unfavourably upon the members supplied by this nervous power. Accordingly we find, that in whatever region the spine is injured, the nerves proceeding thence are injured in their functions, and the organs supplied by them are injuriously affected.

In the present instance, the fall displaced the vertebræ both between the shoulders, and also in the loins. The consequences were most conspicuous in the superior and lower extremities, from undue pressure made upon the nerves of the arms and legs. The stomach and the lungs were affected from injury to the upper dorsal vertebræ, out of which a great portion of the nerves supplying the stomach and the lungs pass to these organs. He was, from these several causes, paraplegic in the arms and legs. The digestive powers of the stomach were likewise feeble and defective, and the lungs, thus injured, generated nauseous and offensive effluvia,* as I have often known in other deformities. Such was the condition, affording a melancholy prospect to this young and amiable clergyman, when he first came under my professional directions. I have now the gratification to add, that by curing the derangements enumerated, he is restored to the enjoyment of sound health, and is enabled to resume his professional occupations with renovated zeal and ability—which happy termination, were it a solitary one, which it is not, would establish the superiority of the new practice.

I wish, before I proceed further, to record another example of my peculiar mode; and prefer the following, because I have the particular request of a grateful parent, and of his amiable daughter, to publish it, from a benevolent desire in both, that the knowledge of her distressing afflictions, and of the relief afforded to her by the treatment pursued, may encourage others to adopt similar means, and reap equal benefit.

Miss Maria Drew, of Islington, when only three years old, was, to save her life, thrown, by the faithful nurse, out of the carriage road, upon the foot pavement. Though much bruised and hurt by the accident, no bad consequences were apprehended. At the age of

* Arrangements have been made to submit the tainted breath of deformed patients to chemical examination.

eleven she was forcibly pushed into a saw-pit—was much bruised, especially on the whole of the left arm, which became black, and very painful upon motion. It is now believed, that she never wholly recovered from the first injury. After the second, she became gradually more delicate and ailing. She was soon fatigued, had a continual leaning towards the left side, and the digestive apparatus was generally out of order. At the age of thirteen her deformity became clearly apparent, although it had probably commenced several years before. Notwithstanding the endeavours of different medical practitioners of high character, it visibly increased, and her bodily activity continually declined.

When I was consulted Miss D. was fifteen. The spinal column had sensibly given way from the top to the bottom; making, besides the double lateral curvature, other great contortions. Every vertebra was removed out of its proper place. The ribs, by their strong attachments to the vertebral pillar, following its irregularities, were also much displaced at the sternal ends. The breast-bone, clavicles, and scapulæ, were, in consequence, sensibly removed out of their primitive stations. From these various derangements, the trunk was greatly reduced in length, and equally augmented in circumference, as may be seen on viewing the cast taken immediately before the treatment commenced. The anatomist will readily understand, that whenever the spine and thoracic bones are much deranged, all the internal organs are necessarily misplaced, and that infirm health must of course ensue. In the present instance every internal function had been impeded for years. Constant difficulty, and shortness of breathing, increased by the slightest movement of the body, or the least agitation: sneezing was often attempted, but could be seldom performed. There was a constant dry cough. The heart beat irregularly, and struck violently against its bony covering. Appetite was depraved, uncertain, and defective; pulse small and weak; bowels usually constipated; menses had never appeared. As the spinal column recovered its natural position, the ribs, sternum, clavicles, and scapulæ, all recovered their proper positions. By this restoration, the trunk is much elongated and more shapely. Among the happy results of this important change in the bony structure, she is not only taller, and transformed into a beautiful figure, but the internal organs being replaced, their healthy functions again manifested themselves. By this simple proceeding, and without the aid of drugs, good health has been regained, thus terminating her otherwise interminable afflictions. Had Sir Benjamin accepted my invitation, he would have been introduced, among others, to this interesting lady, where the triumph of art is so strikingly exemplified. It, however, is only one of many instances, in which the superiority of the new practice is unequivocally displayed.

I truly regret, that Sir Benjamin ventured to hazard the inconsiderate opinion given above under any circumstances; because, in an art pre-eminently conjectural, no one can foresee what improvements will hereafter take place. The declaration was moreover misplaced in an address to young men, since the avowal was more likely

to repress their rising ardour in the pursuit of knowledge, than encourage them to profit by useful hints.

It must, however, be confessed, that, limiting his observations to the routine modes of British practitioners, Sir Benjamin was justified in going still further and saying, "*that once awry, she is awry for life.*"

The above conclusion, the result of experience, has been too often verified to admit of any doubt. In misshapen spines, the obvious indication is, in the first place, to remove the contortions, and thereby restore the entire column to its primitive form. Such, undoubtedly, would have been the mode pursued long ago, had medical men thought for themselves, and not been misled by the fanciful and erroneous notions of the late Mr. Pott.

The vague suggestion of a cure, witnessed by Hippocrates* from the interposition of an accidental sore, induced this surgeon to employ caustic issues and setons, for the removal of ulcerations in the vertebræ. His practice has been almost universally followed ever since, at least in England. As it never effected any beneficial change in the arrangement of the spinal pillar, although the invalids often found temporary ease from the accompanying rest, the patients were left unrelieved at the end of a tedious course of cruel torture. The continual disappointments of the faculty, and the increasing discontents of the sick, forced the former, at length, to think of some other mode, and they substituted *gymnastics,* or *muscular exercises,* but with no better success. These increase the size and the strength of the muscles acted upon, making them clumsy and unsightly; but, however long continued, produced no favourable impression upon the twists and bends in the spine. The distortions always remain unabated, and of the same intensity to the last. Gymnastics have been so long and so universally employed, that the faculty and the public have begun, at length, to discover their futility and uselessness as remedies for spinal maladies. So many disappointed candidates for health have, of late, applied to me and received cures, that I know, from experience, that the other practices never effect any beneficial change upon deformed vertebral columns; and are, therefore, useless expedients. The accompanying rest, as already observed, produces temporary relief in the one mode of treatment; and agitation of the dorsal muscles increases their power in the other. The patients and their friends, perceiving these encouraging alterations, are naturally buoyed up with the hope of ultimate success. The cheering prospect continues for a time, but at length closes, and leads to greater disappointment. Thus disappointed they have recourse to me; and the previous delay, together with the effects of the modes previously pursued, have given the malady the opportunity of acquiring so strong a hold, that its disentanglement is rendered much more difficult and tedious than it would otherwise have been. Such being the result of my own observations, in regard to both external irritants and muscular exercises, I declare my conviction boldly and

* See Mr. Pott's Chirurgical Works, Vol. III.

without reserve. If others are encouraged, by experience, to entertain a different opinion, let them come forward openly and proclaim the reasons for their dissent. The truth will ultimately triumph, and the sooner the more agreeable to me.

Your total silence on these interesting questions inclines me to believe, that your own experience has brought you to entertain similar sentiments to those for which I am an advocate. Both the above-described plans having been fully tried, and having entirely failed, the chief object of this letter is to recommend another, which has been eminently successful with me, and promises to supersede all the rest.

The medical indication set forth in it is drawn from anatomy. Finding the backbone misshapen in every spinal deformity, I direct my whole attention to the affected vertebræ, and with perfect success. In recent cases the contortions are soon removed; in old ones they require longer attendance, but relief is afforded to all. As the distortions abate, not only is the figure rendered more graceful, but the health benefits. Nor ought this to create surprise, the vertebral column is the pillar of support to all the internal organs, and their displacement must follow its aberrations. Change of position in any of the viscera, be the change ever so small, will naturally interfere with its peculiar functions. The secretions will be modified, and the products less perfectly eliminated. Hence, bad health is the natural and immediate consequence. In illustration, any of the larger viscera may be referred to: the lungs, for example, placed in the thorax, protected from external harm by a bony covering. The most delicate and important offices of life are performed by them. They are in constant motion, and effect a great change in the properties of the blood. It approaches the lungs of a dull hue, and acquires in them a vermilion brightness. So necessary are these changes, that a short interruption of the respiration leads to certain death. Where the complete suspension is so injurious, any derangement in the function will be prejudicial to health. In distortions of the superior vertebræ, the figure of the backbone and ribs is always altered.

1st. It has been admitted, from the earliest antiquity, that when the chest labours under any malformation, the source of mischief can be readily traced to the malformation acting on its delicate contents, and thus the medical practitioner is prepared to meet the examples so frequently occurring in practice. Hippocrates* and Aretæus† have recorded, that the consumptive diathesis is associated with a narrow chest, with shoulders projecting or jutting out like the wings of birds.

Aretæus further observes, that the dorsal spine is often unusually protuberant, which he imputes to muscular extenuation. Since my attention has been particularly drawn to the mischievous effects of spinal deformities, I have frequently remarked in phthisical habits, the peculiarities alluded to by Hippocrates and Aretæus. On a

* Epidem. v. p. 1142.

† Aretæi Cappadocis de causis et signis morborum diuturnorum Lib. prim. caput octavum de Phthisi.

careful examination, I have been able to trace them to assignable causes, founded upon anatomical principles. The outward swell, or protuberance of the spinal pillar, drawing with it the connected ribs, gives to one shoulder an increased roundness of form. The dorsum, or body of the scapula, is, by its position and attachments to the ribs, carried backwards. This pushes the acromion process forward. The presentation is said to resemble the wing of a bat, which being generally seen when flying, shows a projecting shoulder-top. The narrow front, usually called *chicken-breast*, is occasioned by great flatness of the ribs; they are articulated with the sternum before, and more firmly to the vertebræ behind. Whenever the spinal column inclines backward, the ribs, drawn along with it, are necessarily flattened and less freely expanded. For the same reason, the cartilaginous attachments to the sternum being drawn backward, the chest in front loses its round form, becomes narrower and peaked, or, in familiar language, *chicken-breasted*.

In the posterior curvature, or hump-back, the backbone and ribs protuberate outwardly. The lateral distortion of the spine, as it has been called, is always towards one side, generally the right; not that the spine turns directly sideways, it is always, more or less, backwards, and the ribs are drawn along with it in the same direction. In both instances the lungs, from their close connexion with the spine, must, of necessity, follow in the train, and suffer along with it. Every change of position in the lungs, enclosed as they are in a bony case, must, in many ways, be prejudicial to health, and even dangerous to life. In the natural shape of the thorax, the lungs, during their expansion and contraction, glide easily and freely along the internal surface of the chest, and no harm ensues. No sooner is the bony covering deranged, than the uneven interior is opposed to the sensitive livid membrane investing the lungs. During respiration, and especially in coughing, they strike against hard projecting points, and are more or less injured by the concussion and friction. The lungs becoming in this way irritated and inflamed, give origin to pleurisy, to adhesions between the inner membrane of the ribs and outer one of the lungs; to abscesses, followed by empyema, and to hydrothorax.

2ndly. From consequent displacement of the lungs, the blood-vessels, which convey the sanguineous stream to and from them, are impeded in their operations. Some portions become over-distended, while others contain less than their usual proportions, and dangerous ailments, which often terminate fatally, arise.

3dly. Besides the irregular circulation of blood through the lungs, the nerves, issuing out of the contorted spine to form part of the pulmonic plexus, suffer more or less in their functions. They are rendered unable to co-operate properly in effecting the changes of venal into arterial blood, which is thus imperfectly eliminated and assimilated. The consequences are puny health, and a tendency to several diseases in other parts of the frame.

4thly. The derangement and the distortion of the spine, ribs, and sternum, apparent in deformed skeletons, is a sufficient proof, that

the internal organs suffer from undue and unequal pressure upon them, occasioned by their unnatural position in the chest. I have, in autopsies, found the lungs, in some parts, turgid with blood; in others, nearly empty. The air-cells being condensed and almost obliterated, in consequence of these structural alterations, the lungs are not only rendered unfit to perform their complicated offices, but suffer structurally in various ways. One of the most common complaints arising from this cause is consumption. It has been said, that one-fourth of the deaths, that is, 59,000 lives,* are annually extinguished by this formidable complaint in Great Britain alone. If the estimate were extended to the civilized world, the loss, from this disorder, must be immense, and almost beyond calculation.

May the heart-rending statement be carefully read, and make a suitable impression upon the giddy and the inconsiderate; they will then avoid the shoals and quicksands, where so many have already perished.

> "That death should license have to rage among
> The fair, the wise, the virtuous, and the young!"

Consumption is, indeed, the pestilence that walketh in darkness, sparing neither the old nor the young, the rich or the poor. When we take into account the mass of human misery, created by this direful scourge, and the number of parents who have, through it, been rendered childless, I may say, without arrogance, that every plan likely to reduce the amount of its victims, is deserving of national encouragement. With this view, and carefully referring to the various sources of Phthisis, spinal complaints, more than to all its other causes put together, are to be looked to. In this country they prevail, almost universally, in the higher grades, and with other females who do not maintain themselves by drudgery and hardy occupations. If my suspicions are well founded in this single instance, the prevention and the cure of deformed spines ought to constitute a primary consideration with every government. I have brought forward only one example to illustrate the mischievous influence of spinal distortions upon the viscera. The injurious effects are equally conspicuous in reference to other viscera, and I may truly add, in every portion of the animal frame, as I shall take an early opportunity to demonstrate and explain.

Had I sooner proclaimed my long-cherished opinion of the frequency and extensive bearing of spinal complaints, I might have been denominated an enthusiast, or an "empiric," by ignorant and conceited declaimers, but I should have made no converts. As it is, I fear that many, without the trouble of investigation, will obstinately maintain, that the representations are exaggerated, and otherwise incorrect. They, however, contain my honest conviction, deduced from much inquiry and no inconsiderable experience. I venture, therefore, to submit them to public scrutiny, not doubting that they will be ultimately confirmed in every material circumstance.

In proof of the unaccountable prejudices of the unthinking, who

* Dr. Young on consumptive diseases.
Dr. Woolcombe's Remarks on the frequency and fatality of different diseases.

constitute the great bulk of mankind, and of their reluctant acquiescence in novel truths, even when presented to them in the plainest and most artless manner, I may relate the following conversation: No longer since than last January, a stranger called upon S. Hawkes, and after a few introductory remarks, said, I come from an invalid, who will not believe that your deformity is faithfully described; she thinks you were never reduced to the miserable condition depicted in the prints and models. Mr. Fuller, a highly respectable gentleman, being accidentally present, replied, that he was an old inhabitant of Sarah Hawkes's native place, and asserted, that there was neither aggravation nor misrepresentation. I have myself seen Sally, hundreds of times, in the deplorable state represented. Many medical and other gentlemen, drawn from distant places, visited her at Dunmow, and also on her arrival in London, when the deformity was at its height, although they suggested nothing for her relief.

To return: Sir B. Brodie observes in the concluding part of the sentence before quoted, "*If she be a pretty good figure at the adult age, the distortion becomes very much increased as she grows old, or when attacked with illness at any age.*" This admission, so derogatory to the medical profession, accords with what may be seen every day in elderly persons. Nor is the explanation difficult. Whenever the vertebral pillar has, from any cause, lost its correct figure, *it becomes a weak organ*, and easily becomes subject to injurious influences. We accordingly find, that many persons with whom distortion was scarcely perceptible in youth, are, in later life, distressingly misshapen, from the unceasing operation of constitutional causes, independent of accidents. This deviation of the back-bone affects the sufferers in many ways, detracting from their usefulness. They are less vigorous, are easily fatigued, and are, moreover, rendered unfit for active employments. Nor ought it to be forgotten, that they are ailing and short lived. Their youth and beauty soon fade, as we perceive in the tottering gait, and deep lineaments of the countenance. Several of the most lovely companions of my early days have either sunk untimely into the silent tomb, under the ravages of this inexorable malady, or are sustaining its unremitting assaults, without the smallest prospect of a cure or of mitigation. With a full knowledge, then, of the failures under all other systems of treatment, and the admitted difficulty of correcting them, even under the new, we are called upon to oppose the very commencement of deformity, while the spine retains its natural flexibility, and before the constitution has suffered much from its effects. Strongly impressed with these reflections, I cherished the hope, that Sir B. Brodie would have favoured the profession with the results of his experience, or would, at least, have communicated the remainder of his Lecture, that we might more clearly comprehend the scope and the tendency of his opinions and practice on this very important subject. I am sorry to have to acknowledge my complete disappointment, as will appear in the following correspondence.

THE FIRST LETTER.

August 31, 1835.
7, *Holles Street, Cavendish Square.*

DEAR SIR,

I take the liberty to inform you that I have been induced to revise my Letter to you, formerly inserted in Dr. Ryan's Journal, of which I gave you notice at the time, and to publish it separately. The reasons are stated in the Letter to which I refer. I have, therefore, forwarded a copy for your perusal, if you deem it of sufficient merit. As the profits are to be wholly devoted to the establishment of the contemplated Spinal Infirmary, I am sorry that it will not be in my power to present you with one of them, because I and my colleagues are anxious to promote the interests of the Institution by encouraging their sale. You will confer an obligation by returning the copy sent at a convenient opportunity, or by favouring me with its cost price.

I am, dear Sir,
Your obedient Servant,
E. HARRISON.

N.B. The accompanying circular only reached me this morning, or I should have written to you sooner.

To Sir B. C. Brodie, Bart.

THE SECOND LETTER.

September 29, 1835.
14, *Saville Row.*

DEAR SIR,

Your Letter reached me when I was absent from London; and immediately afterwards I had the misfortune of meeting with an accident, which for some time disabled me from writing. But for these circumstances, you should have received an earlier answer to your communication.

I thank you for sending me a copy of the Letter, which you have thought proper to address to me on the subject of lateral curvature of the spine; as well as for the offer which you have made me, that I should become the purchaser of it at the cost price of two shillings and sixpence. I have, however, no wish to make the purchase, and therefore, in compliance with your request, I return the copy to you.

No lectures of mine on the subject of spinal affections have ever been published with my concurrence, or by my sanction and authority. This I explained to you when you wrote to me formerly.* At that time I took the trouble of looking over the Medical Journal which you mentioned, and in one of the numbers of it I found a report of about half of one of my lectures on lateral curvature of the spine,

* Sir B. Brodie refers to an exchange of two letters, before he had seen his own lecture in Dr. Ryan's Journal, and before my communication appeared in it. My object in writing was merely to inform him of what I intended to do, that he might not be taken by surprise; Sir Benjamin acknowledged the civility towards himself in a prompt and courteous answer. Here the subject dropped, till I revived it by announcing to him the second edition of my Letter.

which appeared to have been taken from the notes of some one of my pupils, and which, at any rate, was very imperfect. This half-lecture was intended to be merely introductory to my subsequent lectures, in which my principal observations were contained; and of these I could not discover that any notice had been taken, nor have I any reason to believe that any account of them has been published since.

Taking all these things into consideration, you will, I am sure, perceive, that as yet you have had no opportunity of learning what my doctrines respecting lateral curvature of the spine really are, and that it would be ridiculous in me to enter into any controversy with you on the subject.

I have the honour to be, dear Sir,
Your obedient Servant,
B. C. BRODIE.

To Dr. Harrison.

THE THIRD LETTER.

September 30, 1835.
7, *Holles Street.*

DEAR SIR,

I last night received my printed Letter, sent to you on the first instant, either for perusal or purchase; and with it a letter, in which you say, that the lecture, published by one of your pupils in Dr. Ryan's Journal, is "very imperfect" and defective. It may be so: but, unless he has also misrepresented your expressed opinions, I am not solicitous about the omissions.

Until you think fit to expose the errors, if any, which you have suffered to remain unnoticed for the last nine months, it is natural to believe, that the lecture contains the true and genuine sentiments of your mind on the subject of spinal curvature, so far as recorded in them.

You observe, that "it would be ridiculous in you to enter into any controversy with me on the subject." Indeed, Sir Benjamin, I can perceive nothing either laughable or out of place in our endeavouring, as I formerly recommended, "by open, ingenuous, and amicable discussion," to promote the health, the comfort, and usefulness of millions of the human race, since we have already voluntarily devoted a large portion of our lives to the duties of the curative profession.

You will excuse my observing, that, in declining the invitation to reply to my letter, you may have other reasons, which you do not think proper to explain.

I am, dear Sir,
Your obedient, humble Servant,
E. HARRISON.

To Sir B. C. Brodie, Bart.

Although Sir Benjamin Brodie has positively declined to enter into any controversial discussions on the subject of his lecture, I hope he will be induced to communicate the remainder of it, in some way or other,

that we may be able to judge of the context, and examine it as a whole. I am the more urgent for his compliance, because he has declared, that the parts already published are so defective, that no proper judgment can be formed of his real opinions from the extract given. I may be permitted to add, that when Sir Benjamin suffered his lecture, and my letter commenting upon it, to remain unnoticed more than nine months, after his attention had been particularly called to the subject by myself, my conclusion, that the statements were not only true, but admitted as such, was natural. With the above brief explanation, which I thought myself called upon to give in justification of the part I have taken, and which, I can truly declare, has been dictated by no hostile or jealous feelings, I willingly conclude my prefatory remarks.

In conclusion, I wish to address a few words to the kind and zealous friends who have importuned me to contradict the virulent and outrageous calumnies invented and circulated by medical men of every grade. While, grateful for their solicitude in my favour, I declare, that I do not in the least feel the poisoned shafts of my mendacious defamers, because I suffer in common with all persons who presume to think and act for themselves. To compare small things with great, such was the fate of our illustrious countrymen, Harvey, Sydenham, Jenner, and still later, Sir Humphrey Davy. These, the first names recorded in science and humanity, never witnessed the full establishment of their respective doctrines, but were assailed through life with the malignant and rancorous opposition of unkind and envious detractors. Surely it is not for me to complain of being associated with the best company, even if I may not be spared to see the full accomplishment of my most ardent wishes. I look with pleasure to the end, trusting that my anticipations will be speedily realized; and therefore ought rather to rejoice than repine at the enviable distinction conferred upon me by reluctant judges. As the healing art contributes more than every other to smooth the rugged path of our earthly pilgrimage, I call upon those of my profession to endeavour to make the journey easy and agreeable to the wayward passenger. In this generous rivalship, I call particular attention to the cases enumerated in my letter to Sir B. Brodie, to those in my "Pathological Observations on Spinal Complaints," and to others published in the Medical and Physical Journal, and in the Gazette of Health. Nor should the models and cases of S. Hawkes, and of E. Wood be overlooked. It will be for the practitioners in this department to say, whether they or any of their friends have succeeded in curing a single patient similarly afflicted. I should say not. I am, I think, justified in asserting this, knowing as I do, that every one of the individuals referred to had been under the care of several eminent practitioners, who left them unrelieved.

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Holles Street, Cavendish Square.
July 5, 1835.

DEAR SIR,

SINCE I addressed you, in Dr. Ryan's Medical and Physical Journal, in answer to your Lecture published in the same periodical, I have given the subject further attention, and have discovered other matters not unworthy of observation. Anticipating the probability of some acknowledgment, when you had perused the letter and examined its contents, I have hitherto remained silent; but, after the long interval which has insensibly passed away, I am led to conclude, that you do not intend to make any reply. This has been forced upon my mind by the following, among other, considerations :—

1st. When I resolved to animadvert upon your Lecture, I deemed it a point of civility to communicate to you my determination privately, and before any thing appeared in print. This courtesy, which you promptly acknowledged, would doubtlessly have been renewed after reading the letter, had you intended publicly to notice it.

2ndly. You would, I am persuaded, in that case, have accepted my invitation to see some of your old patients, and judge for yourself of the correctness of my statements, as well as the mode of treatment pursued. Indeed, when the proposal was made, I supposed that, independent of all other motives, your anxiety to improve our imperfect art, and adopt the best resources for relieving the sick, would have induced you gladly to accept my invitation to witness the several cases alluded to; and in this way decide for yourself upon the efficacy of my curative means. Being at length convinced that you do not intend to favour me with your company, and that you have resolved to remain silent, I determined to revise and correct the Letter, adding to it such further observations as the occasion seemed to require, and my own avocations would permit.

The obstinate character of spinal disorders, according to the established modes of treatment, and their ready submission to a better

system, entitle them in an eminent degree to the consideration of the faculty and the public. Impressed with their great importance, and being, moreover, at issue with you on several points, both of doctrine and practice, I, therefore, made your lecture the occasion of a few remarks in the same periodical.

It has occurred to me, that without altering the form, the materials may be advantageously enlarged, so as to extend beyond the limits of a weekly journal. I determined, upon coming to this conclusion, to publish my observations separately that the work may be more extensively circulated, and better known to persons afflicted with the disorders of which it treats. In following this open course, I wish it to be distinctly understood, that I am actuated by no feelings of hostility, of jealousy, or of disappointed hopes. The professional avocations in which I am engaged, are amply sufficient to gratify any reasonable expectation of mine. I may truly say that, were it not for the unremitting co-operation of my excellent friend, Dr. Serny, I could not find time to visit all the patients who apply to me for relief. My only object, therefore, in coming forward upon this occasion, is to contribute towards the advancement of medical science, and the alleviation of human misery. Actuated by these motives alone, I shall offer no apology for addressing a gentleman of your high professional reputation and character, to solicit from you such further explanations of your practice, as will assist the faculty to arrive at just conclusions upon matters interesting to every description of society, and upon which, at present, scarcely two are agreed.

Of the Lateral Curvature.

"The spine," you say, "is an elastic column, supporting the head, which, so long as the muscles remain strong, it carries erect; but when from any cause these muscles become weakened, the weight of the head tending constantly to bend it, the spine yields to one side or the other, and a curvature is produced. It is to these cases, in which the spine bends laterally, and not to those in which, from *caries, it yields in front*, that I intend to confine my remarks." Further on you observe: "The most frequent cause of lateral curvature of the spine is, however, the deficient action of the muscles; the weight of the head is constantly tending to bend the spine. So long, however, as the muscles retain their proper power, its figure is main-

tained ; but when the muscles become weakened, a lateral curvature is the result." Again : " When the period of growth is completed, she is awry for life ; generally, if she be a pretty good figure at the adult age, the distortion becomes very much increased as she grows old, or when attacked with sickness at any period of life."

The above statements are, I think, incorrect in two leading particulars : in reference first, to the *spine ;* and secondly, to the *muscles.*

You denominate the spine an elastic column ; in my estimation it is much more : it is a jointed column endowed with vitality, and governed by its peculiar laws. Your designation is therefore imperfect, and more likely to mislead the unwary, than instruct the ignorant. The spinal pillar is curiously articulated ; it consists of twenty-four small, distinct, and complicated members. With the exception of the two first cervicals, each vertebra has at least five separate articulations. The dorsals are, moreover, articulated to the ribs, so that the spine is not only jointed, but contains a greater number and variety of parts than any other organ of the body. I am the more desirous to animadvert upon, and correct this incautious admission of yours, because I have reason to believe, that many other eminent practitioners are equally mistaken in their anatomical views ; and have been led, in consequence, to entertain very erroneous notions of vertebral deformities. If I have mistaken the meaning of your words, I shall be glad of your correction, as my only wish is to elicit the truth. Since the jointed structure of this influential member is the pivot upon which all my doctrines rest, I shall, I trust, be excused for expatiating upon what appears to be an inaccuracy in your Lecture, —so that my readers may be enabled more clearly to understand my arguments, and reasons for adopting a new method of treating these perplexing and hitherto ill-understood disorders.

In regard to the *muscles.*

You expressly attribute the erect carriage of the head to the healthy condition of the muscles, and spinal distortions of the lateral species to their enfeebled action. I have no occasion to inform you, that, in this particular variety, the upper bend is almost constantly to the right between the shoulders. You go on to say, that, for want of muscular power, the head loses its proper balance, and inclines to one side or the other. In time, the weight of it forces out the spine, and produces lateral deformity. This explanation appears to be surrounded with difficulties ; some of which I will call to your recollection.

1st. You have, I think, overlooked one of the functions exercised by the particular muscles to which your observations have been

directed. This apparatus, which performs such multifarious offices in the human body, may, for our purpose, be distributed into two great classes—those of organic, and those of animal life: the former are in constant action. The heart always beats, respiration goes on from birth to the termination of existence, whether we be awake or asleep. The digestive and assimilative processes admit of no intermission. The secretory and excretory vessels are always employed.

The organs of animal life, unlike the former, are incapable of continuous action; they require intervals of repose. No effort of the will can keep voluntary muscles in a state of uninterrupted contraction beyond a given time. Relaxation must alternate with contraction. The senses and voluntary muscles are periodically quiescent. Fatigue and unusual exertion claim a cessation of labour to overcome their exhaustion. A protracted walk, or long continued employment of the arms, debilitates the voluntary muscles, to be again restored to vigour by a season of inaction. For the same reason, the muscles of the trunk cannot be always in action. They, like the other muscles of animal life, are refreshed by sleep, and by repose after labour. May we not, then, conclude, that provision has been made, that organs which regularly cease from their exertions during sleep, and also at other times, do not suffer from mere inaction. We cannot doubt that the Author of our being carefully provided that no injury should arise from submitting to his own laws. But if so much care has been taken to preserve the body from harm, when it only conforms to the primeval regulations of our nature, can we believe that a similar state, proceeding from other causes, will be detrimental to the same organs? Such a supposition is in direct opposition to our general experience in other respects, and is therefore inadmissible.

2ndly. On a supposition that the distortion arises from want of muscular action only, how is it possible to explain the fact, that the curvature is so uniform in its direction?

It appears to me, that the muscles being double, and lying equally on both sides of the spine, the bend would have been as often to the left as the right. Nor can I understand, according to your admissions, why the head, acting from its weight alone, does not occasion the spine to protuberate forward rather than to one side.

3rdly. I need not, I know, use many words to satisfy you, that whenever there is a bend to the right, between the shoulders, we always find an opposite one in the loins. This is a constant accompaniment of the former; though you pass it over unnoticed. Were I to agree with you about the distortion between the shoulders, I could

not impute a similar state of the loins to the pressure of the head, or any thing so distant from the affected part. The cause, whatever it may be, is nearer to the disease. You will, I think, not only acknowledge the force of this argument, but will, upon reflection, be inclined to admit, that both curvatures proceed from a common and uniform source.

4thly. I desire further to add, that I am opposed to your declaration, that whenever the muscles lose their healthy tone the head inclines sideways. The truth of your assertion can only be decided by observation, and to that ordeal I willingly appeal. I boldly declare, from no inconsiderable share of personal experience, that I never saw the head disposed more to one side than the other, either before the commencement of lateral curvature or afterwards. The erect position and centre of gravity are preserved in all these cases by the *curve* and *counter curve*. They commence simultaneously, and increase together. This I have often remarked, and could furnish, were it required, numerous examples. Had you said, that in delicate habits, the head and shoulders generally push forward, giving to the back an unsightly prominence and stoop, I should have coincided with you in opinion, though I might not have so readily admitted your explanation.

You appear to me to lay more stress upon the muscles than experience warrants. Muscular or gymnastic exercises are at first highly imposing. The discipline occupies a few hours daily, in a way that is not unpleasant to patients: they find powerful movements produced in the back and limbs, which inspire them with confidence, that much benefit will ultimately result from regular perseverance. To increase their confidence in the plan, they perceive that the muscles acted upon, enlarge and are more powerful. The health, often puny and delicate at the commencement, becomes stronger and more robust from the discipline. These improvements naturally inspire hope, and encourage them to continue the operations. Under these favourable omens, the faculty meet their confiding patients and enjoy their smiles. In this way matters proceed, till at length, for some reason or other, the exercises are discontinued. The patients and friends still contending for their usefulness, although they admit that the spine, the source of all their misfortunes, remains equally misshapen, or has probably increased in deformity under a mode of practice imprudently denominated curative. At length the spell is broken, for as months and years pass away, the health of the patient gradually declines, and gets worse and worse as age advances. In these unhappy circumstances, if the patient be affluent, she consults

physician after physician, and goes from Spa to Spa, as fancy directs or officious advisers recommend: she is always in search of health, and continually disappointed. Happily, under these distressing circumstances, hope does not entirely forsake the wretched, and it would be cruel to delare, that the time to obtain a cure has been suffered to pass away; that what would have been easily accomplished in youth, is irremediable in age; that the symptoms, under which they suffer, proceed from *interminable disturbance in the spinal nerves, and displacement of the viscera--the necessary consequences of a distorted back.* Such is really the fact in these heavy afflictions, and the opportunity for administering effectual relief should never be neglected, because *when once lost it cannot be recalled;* all that art can then do, is to relieve pains as they arrive, by diet, suitable remedies, and quietude, which is often the best and only remedy.

In the common form of lateral distortion, the vertebral column inclines towards the right between the shoulders, and to the left in the loins. These two bends constitute what is called the curve, and the counter-curve; not that the spine ever passes directly sideways —it always bulges outwards, as well as laterally. This deviation produces enlargement of the right shoulder, so conspicuous in many females of rank. I desire to call your particular attention to the twist, or rotation, of the spine, which is most apparent between the shoulders, though I have known it form a waving line from the neck to the sacrum. You will find, on examination, in these cases, that the spinous processes of the upper dorsal vertebræ, instead of being erect and standing upright in the centre of the back, slant and turn towards the right; the transverse processes, on the same side, are also considerably elevated, while those on the left, sink as much inwards and forwards. By this derangement, the ribs, in consequence of their double articulation with the vertebræ, are forced outwards; hence the protuberant scapula and projecting acromion. Mr. Ward, the late Mr. Shaw, Dr. Dods, and many others, as well as yourself, have imputed lateral curvatures to some defective or irregular action in the muscles, though, as already remarked, scarcely two agree in opinion. What I most complain of is, that when called upon, as they have often been, by me, to name the particular muscles which operate injuriously upon the spine, and explain their mode of action in producing curvatures, they have invariably observed a profound silence. No efforts of mine have been able to elicit a reply—not a word comes from them, however they may be urged; much less

any thing in the shape of argument or explanation. This, I hesitate not to declare, is a mode of proceeding unworthy of educated men. When assertions are deliberately made on any subject, the authors should be ready and prepared to defend them, if called upon for that purpose. As you have, on the occasion referred to, voluntarily embarked in the controversy by advocating the same views, I trust you will act with more candour and propriety, than hazard declarations which you afterwards decline to maintain.

With this impression upon my mind, I apply to you most earnestly, that considering the cause is that of science and of humanity, you will favour us with the reasons for your opinion upon this interesting question, that it may at length be set at rest by open, ingenuous, and amicable discussion.

In order to afford materials upon which this discussion can take place, I shall conclude this division of my letter with a case of lateral curvature, which I conceive is reconcilable neither with your opinions, nor with those of any other advocate who considers the muscles as the grand agents. This variety of curvature, and there are several other varieties, was never noted, before I communicated my observations and descriptive plates to the Medical and Surgical Journal, in May, 1824.

The following case came under my notice on September 15, 1820: Miss D. J., aged twelve years and a half, of the sanguine temperament, with a soft skin, and fair complexion, is suffering from lateral curvature of the spine on the right side, commencing with the first dorsal vertebra, and extending in a similar form to the last lumbar. It passes under the right shoulder blade, and is very considerable. The scapulæ, at their lower edges, nearly touch, and she can strike them together with great ease and force; the right is most prominent. The ribs, in the right hypochondrium, are thrust down; in the left they stand prominently forward, making an oblong swelling in front. The chest is peaked, and the left shoulder top has sunk below its fellow. The countenance is contracted, looking aged and careworn. She is become very inactive and desponding, under a strong apprehension that her malady is incurable; as many gentlemen of the faculty have declared, that nothing could be undertaken with the smallest expectation of removing the curvature. The complaint is of three years and a half duration. Menses appeared, for the first time, four days since.

This young lady, being placed upon her crib in the manner directed in other cases, had her chest and back well rubbed for an hour. The vertebræ and heads of the ribs were afterwards forcibly urged towards

their proper situation, while this was doing, one person pulled at the shoulders, another being employed to stretch her legs and feet in an opposite direction. The usual bandage was then placed round her chest, and she was ordered to remain constantly flat upon her back.

October 21. The frictions and bandage have been repeated daily, the manipulations every other day. A wooden shield, adapted to her back, and contrived so as to rest against the most projecting parts, being fastened under her bandage, she was put into the usual position. The lumbar curve is nearly effaced, the other is already much fainter, and the scapulæ are separated to a greater distance from each other. The depression of the ribs is less; the oblong ridge in front has nearly disappeared; the ribs on the right side have risen higher; the chest looks rounder and more expanded.

November 13. The features have recovered their natural aspect, and the health is particularly good; the lumbar vertebræ are entirely rectified; the front ribs on the left side are quite restored, those on the right are more elevated. She looks better in every respect, and the spine is become nearly straight. Menses re-appeared within the last fortnight.

March 10, 1821. The spine and ribs have returned to their natural situations; the form of the trunk, which was originally very fine, is entirely restored, she looks extremely well, is in excellent spirits, and good health.*

June 5. The patient is plumper, and considerably taller, since she adopted the reclining posture. Her face is become florid, open, and juvenile; she preserves her excellent figure and good health; appetite, menses, and bowels, are all regular.

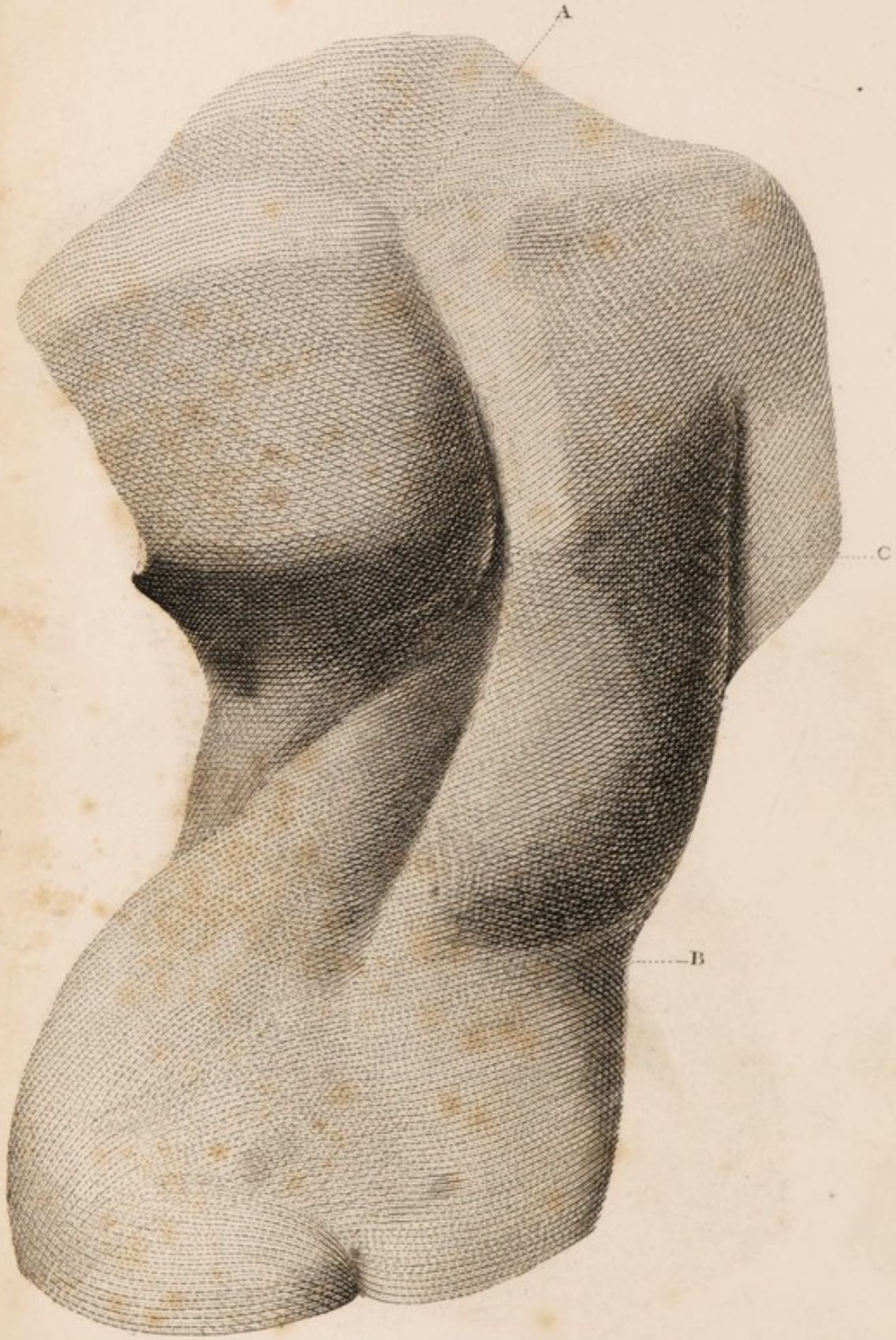
May 1, 1822. She has been completely recovered by the process adopted, from hideous deformity, and strongly marked precursory symptoms of pulmonary consumption. The latter had made considerable progress towards the second stage, but soon began to abate (as I have seen in other instances) after the treatment commenced.†

* The treatment of spinal disorders situate in the ligaments, of which this case offers an example, to be successful, must be conducted according to the rules observed in other dislocations. These, and their application to deformities of the backbone, are explained in my "Pathological and Practical Observations on Spinal Complaints," to which I refer the reader for more particular information.

† Several cogent reasons may be given for the improvement of general health, and removal of constitutional diseases, during the cure of spinal complaints. 1st. Patients under the treatment are kept in a state of uniform repose. The sanguineous circulation is regular, tranquil, and exempt from violent or sudden emotions. The living powers are,

8

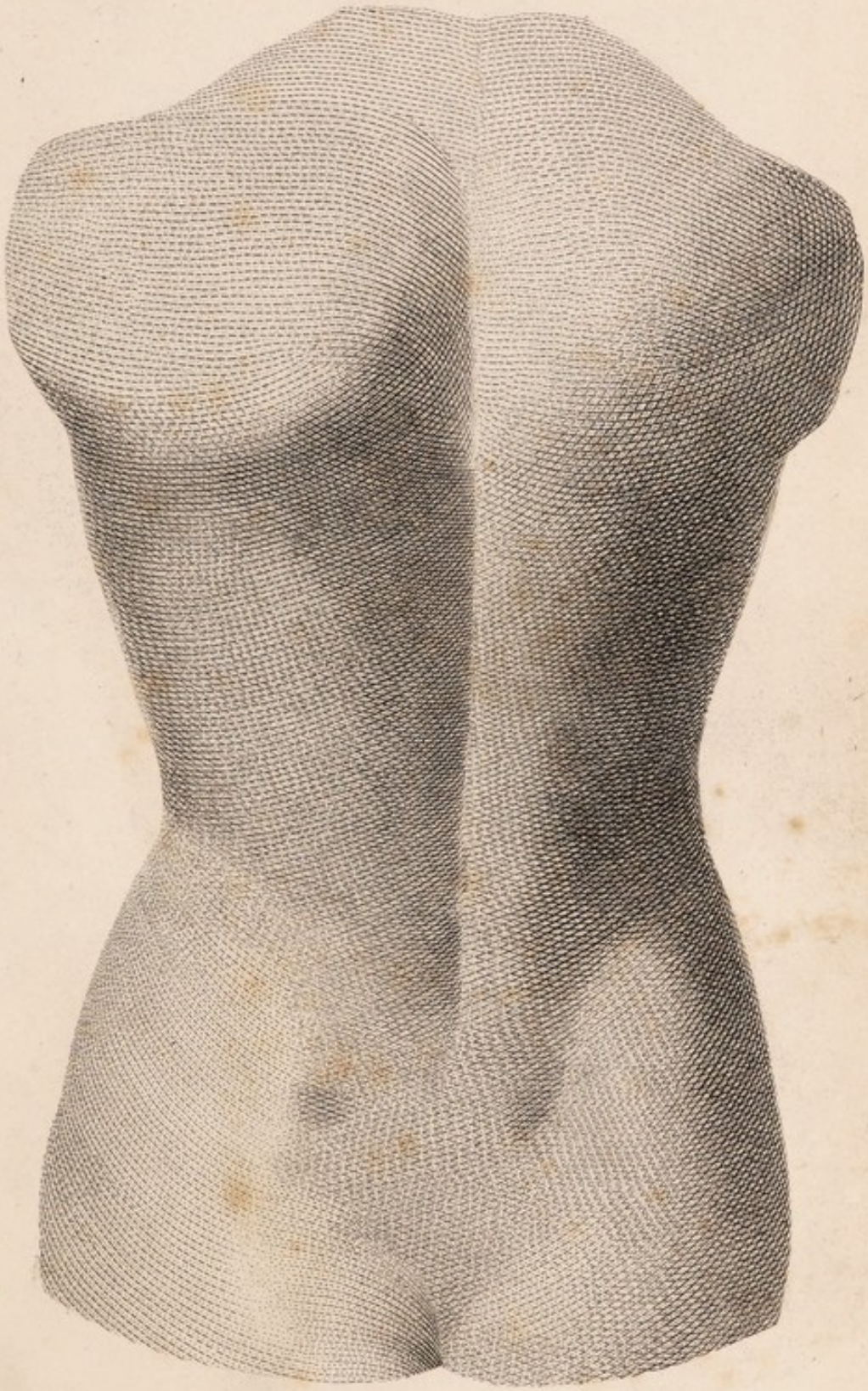
Spinal Distortions.



R. Grant, Lith.

J. Rollin, sculpt.

Spinal Distortions.



B. R. Green delt. S. Bellin sculp.

June 5, 1833. This lady retired to the continent shortly after the last report, and has visited several places of fashionable resort. She is, I am told, for I have not seen her since, an attractive belle, and particularly distinguished for the symmetry of her person.

April 1, 1835. I have little more to communicate concerning this young lady. She lives constantly abroad with her mother, and goes from one fashionable place to another. Persons who have accidentally met with her in their travels, say that she is very lively, looks well, and enters freely into the amusements of the places where she resides.

Plate I. represents this case:—A. The upper, B. the lower part of the spine; C. the greatest bend towards the right.

Plate II. was taken after the cure. The prints, illustrative of this case, were engraved from casts in my possession, of which they are faithful representations. If a straight line be drawn on the first between the corresponding letters, A. and B., of the print, it would extend an inch and a half below, or before C. The spine, moreover, dips and sinks inwards, or forwards, an inch and three-quarters at the point C. This internal projection, though scarcely discernible in the engraving, is quite apparent on the model. The two incurvations and deviations from the perpendicular are occasioned by a double flexion of the back-bone; one lateral, the other internal, or anterior. Both curvatures are so considerable, that we can only explain them by admitting a twofold departure, or removal of the spinal column out of its natural situation in the back. I cannot agree with Dr. Dods, that these are simple contortions, or rotations of the vertebræ. Much more is required to explain the changes. In my judgment, they proceed from a real alteration in the position and location of the vertebræ themselves. On no other supposition can I under-

therefore, enabled to recover their natural activity, and to shake off any bodily derangements that may have commenced, but which have not yet advanced to structural alteration.

2nd. In spinal deformities, the internal parts are more or less forced out of their proper situations to follow the course of the displaced column. In this way, the circulation in the blood-vessels becomes impeded, leading to the formation of aneurisms in the arteries and varices of the veins. The viscera are also forced into new places, which prevents the free circulation of blood in them; hence the secretions are imperfectly formed, become deteriorated, and the vessels are often surcharged with blood. Thus is laid the foundation of organic mischief, which gradually undermines the stoutest frame. For the same reason the nervous influence is retarded in its progress, and many members suffer grievously from a defective supply of this subtle material. As it is the primary intention of the new practice to restore the spinal pillar to its original situation, to replace the great blood-vessels, the viscera, and every other part, it follows, as a legitimate inference, that no mode of cure promises so effectually to benefit the health as the one now recommended.

stand how this extensive and complicated distortion could have arrived at its present alarming height. We have further to remark, that the right scapula rises more than two inches above the dip or hollow, and is more elevated by an inch than the left. Taking it for granted, that the spine had actually moved out of its original place in the back to the distances mentioned, we have yet to inquire, by what agency these extraordinary removals are effected. Had the case above described been a solitary instance of the kind, it would have afforded greater scope for speculation and controversy; other similar examples might have been called for to establish the fact. Happily no such difficulty presents itself on this occasion. Numerous lateral and protuberant gibbosities, of equal magnitude, may be seen in my collection, some of which will soon be communicated to the public. In the mean time, I wish to refer my readers, should they be desirous of additional testimonies, to the histories and prints* explanatory of the deformities in the cases of Mary Rafter, Mr. George Andrews, and Miss Tarrant. In none of them had the vertebræ protruded strictly backwards, there is a little obliquity in all, nor have I met with a single example where the vertebræ were driven immediately outwards, or sideways. The deviation is always inwards or outwards, and this varies considerably in different protuberances. Sometimes the curvature is almost exactly backwards, at other times it is nearly lateral, but never entirely either one or the other.

My attention was forcibly drawn to this circumstance at an early period of my inquiries, and I have had them confirmed on so many occasions, that I have long entertained an opinion, that the projecting vertebræ are constantly extruded in a slanting direction. This necessarily gives them a twist, or rotatory movement. Dr. Dods, perceiving this irregularity, was led to believe that it proceeded from some anomalous muscular action; whereas the appearance is wholly occasioned by the manner of the vertebral presentation. I have, accordingly, found it sometimes much more considerable than at others. Whatever may be the true cause of distortion, it seems to me, that the affected vertebræ assume an oblique direction, because they are constrained equally by the spinous and transverse processes, with their ligamentary connexions, from protruding immediately either backwards or sideways.

Having, I think, proved that a simple twist or partial turn of the

* For particulars, I refer to my "Pathological and Practical Observations on Spinal Complaints," where they are fully explained.

vertebræ could not have depressed the column a whole inch in Miss D. J.'s case, or thrust it sideways a full inch and a half out of the direct line, some other cause, besides rotation or contortion, must be looked for to explain the incurvations with which this interesting patient was afflicted. Should you, or Dr. Dods, endeavour to reconcile this deformity with your favourite hypothesis, I wish to inform you that the other cases enumerated will require explanation, before the proofs can be deemed complete. Hitherto, as already observed, no one has ventured to fix upon the particular muscles supposed to be affected, and to show by what irregular movements the malady was produced. Dr. Dods boldly declares that nearly three hundred are so engaged; on what authority he has hazarded such a preposterous assertion, I know not, nor shall I enter further into his calculations till he has condescended to fix upon the muscles referred to.

On the Inequality of the Limbs.

You made some remarks intimating that you have observed the disproportion of the lower extremities in spinal complaints. This is a common accompaniment, not as the cause but the consequence, of deformity in the back. Perhaps you may recollect being consulted little more than a year since, for an interesting girl of about seven years old, the daughter of a clergyman residing in the Isle of Wight. She came to you moving on crutches, with one leg three inches and a half longer than the other. You recommended a heavy instrument to be fitted to the projecting limb, but, as I was told, never desired to look at the back, whence the disease really proceeded. After this interview, she was brought to me. I found a decided lateral curve in the lumbar spine, elevating one side of the pelvis, and depressing the other. This crook, when pointed out, was so apparent, that the friends immediately confided her to my care. By the usual practice of recumbency, frictions, elongation, and machinery, the back-bone soon became straight. The two sides of the pelvis were parallel; from that time the inferior extremities were exactly of the same length, a convincing proof that the variation was merely a consequence. I had the gratification to hear her father, on visiting the metropolis a few months afterwards, and seeing the correction, exclaim with ecstasy, "This is indeed nature's perfection!" She has returned home, where she continues to enjoy excellent health, with the perfect and entire command of her limbs.

You say, in another part of the lecture, "in these cases, which depend upon a shortening of the limb, you may do good, by

causing the patient to wear a high-heeled shoe." This is a clumsy and unsightly contrivance, and should never be adopted where perfection is of such easy attainment. I have shown that in a great majority of instances, the malady is in the back; cure that, and the limbs will become even and straight. Whilst I was engaged with this division of your lecture, a girl only five years old was carried into my room, unable to stand alone, with the right leg an inch shorter than its fellow. She had been several months under the management of an eminent hospital-surgeon, who, amongst other things, directed leeches to the hip-joint, although it had really not been affected; he never desired to see the back. The moment it was exposed, the bend in the lumbar spine, and inequality of the pelvis, became so evident, that it could not be mistaken. No doubt remained in my mind, or with her parent, that all the mischief proceeded from the crooked and projecting spine.

I desire to encroach upon your valuable time to relate the case of another paraplegic patient,* Miss Maria Howard, aged 13, of the sanguine temperament, lax fibre, and with her left leg an inch longer than the right, began the usual treatment the 4th of June, 1834. She had lost the entire feeling and use of the lower extremities; strong frictions to the limbs, or a smart stroke upon the soles of her feet excited no sensation. They were always cold, the skin was mottled and of a dull hue; she had been some months under the treatment of a talented and experienced surgeon, who declared, when the toes were insensible and without motion, he had never witnessed a cure. On examining the naked back, which he had neglected to do, I found most of the dorsal vertebræ twisted towards the right, and the ribs forming an elevated wreath in the same direction; the lumbar hollow was more than obliterated, the spine actually projected. I did not hesitate to say, that from the displacement, or subluxation of so many vertebræ, the spinal cord was compressed, so as to prevent the usual communication between the brain and paralyzed members; hence the will had lost its power over the parts, and impressions made upon them could not be carried to the sensorium. By correcting the deformed spine, she soon gained her feeling. It afterwards became so morbidly acute, that she shrunk from the touch. In a few weeks, the sensibility was rendered natural, and remains so. In less than a month, a very slight action was per-

* I offered, in the former letter, to introduce this patient to you, whenever you expressed a wish to see her. I can no longer repeat my proposal, because since it was made, the young lady has obtained a perfect cure, and is returned home.

ceptible, first in one foot, and then in the other. The motion of the limbs has kept pace with the improvement in her back.

February 28, 1835. The action of the limbs, and natural figure of the spine, being completely recovered, the primary treatment is to be discontinued, and tonic remedies substituted.

April 2. The patient was this day suffered to rise from her couch, and indulge in a short walk, which she performed with ease, and without feeling inconvenience from the exertion. Although she had remained constantly on her crib, since last June, she experienced no difficulty in leaving it, nor uneasiness from being erect. Here it is clearly established that the cause of paraplegia was in the back; the notion of its ever proceeding from the brain has been so often refuted in my successful practice that this opinion, like that of the hump-back being always indicative of caries in the vertebræ, will be remembered only as one of the reveries of the late and passing age. Having called your attention to this fertile source of lameness, I do not hesitate to declare that wherever disproportion of the inferior extremities occurs, the medical practitioner will in future neglect his duty unless he examine into the condition of the back-bone. Although this cause of deformity and bad health has hitherto been unaccountably overlooked, it must soon obtain its full share of professional solicitude. The junior members of the faculty are fully awake to inquiry, and will not be diverted from it.

It follows from the preceding statements, that three eminent hospital-surgeons and popular instructors of youth had been completely deceived and misled by neglecting to premise the requisite inquiries before they determined the curative means. One of them, not yourself, without taking the trouble to see the naked thigh, ordered leeches to the hip-joint, with a declaration that the malady was there fixed. The rashness of his hasty conclusion reminds me of Dr. Hoffman's admirable reply to a friend who was in search of a medical adviser, "Give your preference to the physician who bestows most time, and takes the greatest pains to make out the disease, before he ventures to direct the method of cure." I have no occasion to add that if the back-bone and hip-joint had been carefully examined in this instance, the affected organ could not have escaped detection. The investigator would have found the hip-joint quite sound, and the bent spine forcing the pelvis downwards on one side, and raising it equally on the other. These deviations are always striking and obvious, if the disease be in the vertebral column.

It is to me a matter of astonishment that this particular cause of

lameness should have been so long misunderstood by the faculty, since it must have often occurred in practice. Of this I feel confident that when medical men shall have made themselves fully acquainted with these cases they will see the folly of fixing instruments upon the legs. They will at once direct their applications to the source of mischief in the back. The reader will perhaps be surprised to hear, that in almost every spinal distortion the limbs are unequal, and remain so, more or less, till the vertebræ are entirely replaced. This is an undoubted fact, and the explanation is not difficult. I have already observed, that as the vertebræ, in deserting their natural stations, do not protrude either directly backward or sideways, the contorted pillar is never straight. In consequence of this obliquity, the pelvis loses the horizontal disposition, and the hip-joints cease to be parallel; one is higher than the other. The head of the thigh-bone, from its position in the acetabulum, elevates or depresses the limbs; hence in spinal complaints they are seldom, if ever, of the same length. I have met with so many examples in practice, that notwithstanding assurance of equality from the parties, I proceed to examine for myself, and find one shorter than the other. This disproportion is such an unerring guide, that I have recourse to it with the incredulous, and often succeed in convincing them of vertebral irregularities, after they could see nothing amiss in looking at the back-bone. Many otherwise good anatomists have unaccountably overlooked the spinal pillar, under a mistaken notion that it is too firm to give way, and that the enclosed chord is a subservient appendage to the brain. In consequence of this erroneous opinion, they have made themselves very imperfectly acquainted with the external appearance of the spine, and are therefore unable to discover small defects in it. This is really the case with several talented surgeons, and good operators. The following case which I attended, and which remains permanently cured, will, I trust, convince the most sceptical that still much is to learn in the treatment of spinal complaints.

A case of Partial Palsy, affecting the right leg, cured by correcting the lumbar spine.

Master T. C. nine years of age, of the sanguine temperament, and in possession of good general health, although he has a delicate constitution, with soft, fine skin. He is afflicted with a protuberant curvature, six inches long, in the lower part of his back, which comprises the three last dorsal, and two or three of the upper lumbar vertebræ. All these bones have suffered a partial turn upon their axes towards the right, by which the transverse processes on

Plate 3.

SPINAL DISTORTIONS.

A is the top, and B the bottom of the Gibbosity: C. Crown of the arch.

1, 15

that side are considerably depressed, while the opposite ones are proportionately elevated. He experiences great difficulty in walking a few steps, and is obliged to use crutches when he goes further. The right leg is nearly useless, and is much shorter than its fellow. He cannot stand upright unless supported, nor stretch out the right foot, even in bed. The great weakness and want of sensibility in this limb are probably occasioned by the sinking and partial turn of the luxated vertebræ towards the same side; the nerves, in consequence of this displacement, issue from the vertebral holes at unfavourable angles; by this deviation, the nervous energy is impeded in its way through the openings of the vertebræ to the affected members.

The distortion first showed itself three years and a half ago; the bones destined to form the protuberance were then merely rotated and turned towards the right, but not at all arched; three months subsequently, a large issue was formed on each side of the last dorsal vertebra. After the issues had discharged a great deal of purulent matter, and *weakened him very considerably, a slight elevation was first discovered between them.* He persevered in the use of the recumbent position for nine months, and in the issues for the same period of time. Finding that the distortion continued to increase under this treatment, and that his strength rapidly declined, the issues were closed, and he went to Brighton for the benefit of sea-air. No other means, except shampooing, and the repeated application of blisters to the back, have been subsequently adopted. As the disorder commenced before the sufferer could give any particular information to his parents, they are unable to account for its origin otherwise than by conjecturing that it might proceed from the boy falling among some loose wood a short time previous to the appearance of deformity. He complained a great deal at the time; but as the pain soon left him, the accident was forgotten until the idea was revived by the distortion showing itself. Besides the gentleman who made the drains, three eminent practitioners have been consulted at different times, who approved of the issues, and the copious discharge proceeding from them. They all, moreover, declared positively that the cause of the complaint was wholly subdued by the remedies employed. They also asserted, that although the protuberance could not be reduced, because the vertebræ were joined together by a bony connexion, it would never get worse. Notwithstanding these positive assurances, and the incessant anxiety and care of the boy's distracted parents, the swelling visibly enlarged. In the alarm and despondency consequent upon this state of things, I was applied to. After a careful examina-

tion of the parts, I gave it as my opinion that so far from osseous union having taken place, the vertebral structure had never been affected; I stated openly, and without reserve, that the complaint was entirely fixed in the articulating fibrous compages of the joints, and that it admitted of an easy and speedy cure. Encouraged by this explanation and assurance, the boy was forthwith confided to my care, and I placed him in the recumbent position. I then proceeded, in the usual way, to stretch the spine, and press the elevated vertebræ.—July 1, 1823.

The spinal swelling is greatly diminished, and includes only three vertebræ. He has nearly recovered the sensibility and use of his right leg.—October 2nd.

The tumour is reduced so much, that only one vertebra protrudes; the transverse process may be easily felt on the left side.—November 17th.

The lumbar spine has recovered its natural figure, and the inferior extremities their lost sensibility and action: they are of the same length. The cure was, therefore, pronounced to be complete, and the strengthening plan was adopted.—April 20th, 1824.

Not having seen my juvenile patient for the last three or four years, I called upon him March 15, 1835. He is become a tall, stout youth, with a rosy complexion, and is in the enjoyment of excellent health. As the vertebral pillar remains in good order, he continues erect in his carriage, and perfect in his gait. His mother* reminded me of a promise, made to her during the treatment, that I would publish the case. She urged my speedy compliance, from a benevolent desire, on her part, to encourage other helpless cripples to adopt proper means for restoring their health and usefulness. She wishes also to convince the incredulous, that her son, instead of remaining a heavy burden and distressing object to his parents, now holds out to them the prospect of his filling a respectable and efficient station in society.

Remarks.

Partial palsy is a species of paralysis affecting less than half the body, and is often confined to a single organ. It appears under a

* The Lady resides in London—she does not wish her name to be publicly announced; but if any person desires to see her or her son, she has requested me to state, that she will be most happy privately to give her name, and to answer any inquiries made to her.

great diversity of forms. Sometimes the part loses only the power of motion, at other times only the power of feeling; more frequently both are deranged.

In the present instance, with a loss of motion, the sensibility was impaired. The causes of this complaint are numerous and various.

It is not intended, at present, to enter upon a general inquiry; but, confining myself to the case before us, I shall merely add a few observations which bear upon the subject, and are necessary for its elucidation.

The history of this case records the erroneous, though confident, prognostics and declarations of several eminent practitioners. To their repeated asseverations, that the progress of the distortion had been arrested by the interposition of a bony union, or anchylosis, the progressive advancement of the malady afforded a direct and mortifying contradiction. The gibbosity extended over at least six vertebræ; they formed an elevated arch, which, bulging outwards, prevented the sufferer from raising himself erect for a single moment. The dipping of the right transverse processes, as already observed, produced a permanent compression of the lumbar nerves, at their exit from the vertebral notches on the same side. Hence, paralysis of the member, so long as pressure continued upon the nerves, was the result. The affected limb was fully two inches shorter than its fellow, owing to a corresponding obliquity of the pelvis. Whenever the spinal column gives way, it seldom remains correctly perpendicular. An inclination, either way, destroys the regularity of the pelvis, and agreement of the limbs. In the present instance, the deviation of the spinous processes being to the right, the arch, necessarily turning to the left, produced derangement in the pelvis, and, in consequence, a difference of the lower extremities.

The disagreement of the limbs from this cause, although a frequent attendant on spinal complaints, had not, as far as I know, been observed, till I pointed it out, and defended my opinion against some incredulous opponents in 1820. Since that period, others, having adverted to the circumstance without reference to the authority, it is no longer doubted. Still the importance of the discovery is not fully understood; nor have the mischievous consequences of this derangement been sufficiently exposed.

When lumbar deformity commences in a growing person, one of the lower limbs is generally blighted. It increases slowly, and, never arriving at the full size, is, in after life, more detrimental than serviceable. Although the malady is usually confined to one extremity,

I have seen examples where both were so much shrunk and blighted, as to be nearly useless. "I was consulted, along with a highly respectable physician, on the case of an amiable gentleman of about thirty, who was severely afflicted. Both limbs were disproportionately short, were unsuitably slender, and much too feeble to bear, unaided, the incumbent weight. As the spinal derangement, affecting the lumbar region, commenced in early life, we could not do much more to his limbs than relieve them by a mechanical contrivance. Although he had consulted many of the faculty, both in his own neighbourhood and in the capital, no benefit resulted from their exertions."*

I can however, assert, from my own experience in similar instances, and from the case here detailed, that a complete cure would have been accomplished had proper means been adopted at the first. The limbs would then have increased together, and kept pace with the other members of his body. As it was, notwithstanding the long delay and postponement, we succeeded in removing several distressing symptoms —both internal, and also affecting the lower extremities—by restoring the lumbar concavity.

WHEN WE TAKE INTO ACCOUNT THE SHOALS OF DESTITUTE CRIPPLES, FROM DISEASED BACKS OR LIMBS, WHO ARE CONDEMNED THROUGH LIFE TO STUMP ABOUT, OR LEAN UPON STICKS AND CRUTCHES, IT IS NOT MERELY AN AFFAIR OF REAL BENEVOLENCE TO ALLAY THEIR PRESSING WANTS, BUT THE POLICY OF A WELL-REGULATED COMMUNITY TO INSTITUTE PROPER MEASURES TO LESSEN THE CALAMITY.

The facts above stated, although well known to Hippocrates, have been wholly disregarded by the moderns. He traced the lameness in these particular cases to vertebral distortion, while they, overlooking the true cause, impute it to an affection of the hip-joint. By thus confounding maladies varying essentially from each other, and requiring different modes of cure, they neglected the affected part, and employed cruel and torturing applications to a sound organ. This mistaken practice, as might be expected, has led, in numberless instances, to irremediable mischief.

The barbarous and useless fashion of opening issues, which constituted the chief practice with this amiable youth, is already less encouraged than formerly. It will, I am persuaded, ere long, cease to be numbered among the remedies applied for the cure of spinal curvature. When caustic issues, or setons, prove serviceable, more ought to be ascribed to the accompanying rest, than to the application itself.

* See Dr. Harrison's Essay on Impotence and Sterility.

It is stated in the history of the case, that all the gibbous bones had "suffered a partial turn upon their axes towards the right." They moreover protruded in a slanting direction: however difficult the explanation of these phenomena, the bones really presented in the manner described. Being myself unacquainted with any muscles in the lower part of the back, capable of rotating the spine, or forcing it to project in this particular way, I willingly leave the interpretation to the admirers of muscular exercises in the cure of spinal deformities. I only wish the advocates, when they enter upon the task, to name the particular muscles concerned, and to demonstrate their mode of acting upon the cortorted vertebræ.

The most distressing symptoms under which this youthful sufferer laboured, when I first saw him, were the uselessness and the torpor of his right leg. It was actually more than two inches shorter than the other, not, as already stated, from any inherent or acquired defect in the member itself, but from obliquity in the pelvis, occasioned by the lumbar protuberance. This was clearly ascertained; because no sooner had the spine recovered its natural figure, and the pelvis its former level, than the two limbs corresponded in every part; neither was longer than the other. They became, from that time, equally sensitive, strong, and active. Had the spine been suffered to continue unrelieved, the member would either have ceased to grow, or would have increased much slower than the other.* It is to this cause alone that the greater number of stunted limbs, which are so prevalent and conspicuous in both sexes, owe their deformity and defects.

While constant pressure is made upon the nervous trunks, at their beginning, the organs to which they run are slowly and imperfectly developed. This is the natural effect of long endured compression, and where it remains unabated the limb is sure to be, through life, short, small, and crippled.

I am the more desirous to arouse the attention of my brethren and the public, to this distressing circumstance, because, in its early stage, it admits of an *easy and certain remedy*. Nosologists have found it convenient, when treating of paralysis, to subdivide it into *hemiplegia*, affecting the body longitudinally; *paraplegia*, when the disorder strikes across the back; and *partial*, when its operations are limited to a few muscles, or single member.

On taking a more enlarged view of these several species, at a suitable opportunity, I shall prove, contrary to established doctrines, that hemiplegia, is not always cerebral. A remarkable example of spinal

* Pathol. and Practical Observations, &c. Page 137.

hemiplegia was lately under my care, which shall, in due time, be made known.

I meet daily with examples of spinal paraplegia; but having never yet seen a single case of the cerebral variety, I am more and more inclined to contend, that paraplegia always fixes its dominion in the vertebral pillar.

The subject of the present article laboured under the third or last species of paralysis, and its seat was clearly in the lumbar spine. The commencement of his debility and impaired sensibility, their manifest dependence on the gibbosity, and their disappearance along with it, leave no doubt in my mind of their real origin.

After the happy result of my practice, in this and many similar instances, upon a species of lameness hitherto deemed irremediable, it is surely unnecessary to adduce further proofs of success, in order to recommend its imitation on all similar occasions.

Of the Posterior Curvature.

You say, "I recollect having a child under my care, with such a sharp projection behind, that I conceived it to be the *effect of caries, and treated it with setons*, but the child died, and *on examination, no caries was to be found!*" Here you admit, on the authority of your own dissection, that the spinal column may, as you express it elsewhere, *yield in front* (I suppose you intend to say jut backwards), without any caries. I am truly sorry, after such a convincing proof occuring under your own eyes, that you omitted to acknowledge in a former part of your lecture, that the backward curvature does not always imply the existence of caries. The omission shows how much we are the creatures of habit, and with what pertinacity the most honourable minds are wont to adhere to early impressions, however slender the evidence on which they rest. This species of deformity, usually denominated the hump-back of Pott, was, on my removal to London, universally attributed to caries of the vertebræ, by the metropolitan faculty. There was not, I believe, a single dissentient, and the most distressing expedients were uselessly adopted to eradicate what was oftentimes an imaginary mischief. The health suffered from the pain inflicted, and *death often resulted from the severity of the practice.*

The third case in my "Pathological and Practical Observations on Spinal Diseases, illustrated with four plates," records the almost unexampled deformity of Mary Ann Rafter. She became my patient

in January, 1820, unable to stand without the support of crutches. By the usual treatment, she recovered the use of her limbs, so that she could walk unassisted, and carry a basket filled with small wares more than thirty miles in the day. She married, and after giving birth to her second child, died of hydrops pericardii, in November, 1826. The post-mortem examination established, in the most satisfactory manner, that the vertebræ were all sound and healthy; yet, so great was the distortion at first, that no two of them were in their proper places. I could adduce many other proofs, but the lamented death of Colonel Sibthorp in 1822, and his dissection by an implacable group of unbelievers ought to have convinced the most sceptical that they were in a false position, and should lose no time in submitting to the new light. The following case and plates, selected from a great variety of similar ones, explain the true character of this species of spinal pathology, and the indications of cure to be employed for its removal.

Case of Posterior Curvature in the Dorsal Vertebræ.

Master William Turner Wood, Æt. 5, of the sanguine temperament, with bright hazel eyes, a soft skin, and fine complexion, is easily fatigued; he becomes fretful after remaining only a few minutes upright, often complains of pain in the back, and always feels easy and cheerful when placed in the recumbent position. He is small for his age, and has slender bones; his appetite is good, the bowels are regular, and he sleeps well.

Examination has discovered the thorax to be misshapen both in front and behind. The lower part of the sternum, and false ribs are pushed considerably outward: the upper division of the abdomen is enlarged, and rather prominent, from its connection with the lower part of the chest. The spine is exceedingly distorted, forming an inclined plane from the first to the seventh dorsal vertebra. The sixth and eighth of these are also considerably elevated; the descent from the latter being very abrupt, while the loins appear to be unusually hollow.

The following statement, prepared by the father of my little patient, was delivered to me when the treatment commenced.

William Turner Wood was born on the 23rd of March, 1821. He was a diminutive but healthy child; when about a year and three-

quarters old, two or three small hard knots or swellings (about the size of peas) were observed on the left side of the neck, under the ear, but which at that time were not considered of any consequence. At the age of two years, he was attacked by measles, and having been delicate for some time previously, they were rather severe. The complaint left him in a debilitated state, and one of the knots or swellings just mentioned increased considerably in size, it was lanced, and there was a great discharge from it, which, after long teazing him, disappeared, and the sore got well. The parents were advised to take him to the sea-side; and accordingly went to Brighton, in August, 1823. During the time he was there, they noticed that he walked in a particular way, but attributed it to a bad habit that he might have contracted.* During his stay at Brighton, the swelling in the neck healed; but his health was not otherwise much improved. In October following, his nurse perceived an enlargement of one of the dorsal vertebræ which was then about the size of a split pea, and she very properly mentioned it to the parents, who immediately consulted their medical attendant. He advised a short delay, in order that it might be ascertained how far the spine was really diseased. The vertebra continuing to protrude more and more, at the suggestion of the same medical gentleman in November, the advice of a distinguished physician was taken. An attempt to invigorate the constitution generally was recommended by means of generous living, and strengthening medicines; the health improved, but the deformity increased. In March, 1824, the same physician advised an issue to be formed on each side of the spine, near the part affected. This was done, but, in consequence of the violent irritation produced, it was not kept open more than a fortnight. In fact, had it been persevered in, the child must have sunk under its effects. About the same time, two more swellings formed in the neck, similar to the one mentioned before, and each of them increased to the size of an egg. They were suffered to break of themselves, and both got well in about six weeks. The child continued extremely weak, and in July, 1824, a metropolitan surgeon of the first eminence and experience was applied to; the deformity by this time had increased very considerably. This gentle-

* Parents, by imputing to a bad habit what is really the effect of spinal debility, or of a small deformity, often lose the opportunity of employing curative means, by which the complaint might be speedily and wholly eradicated. In the present instance, little more than constant recumbency, with stimulant frictions to the back, tonic medicines, and nutritious diet, would have soon restored the delicate sufferer to good health, and saved him from a protracted course of medical discipline.

man gave it as his opinion, that it was impossible to remove the protuberance, but entertained a hope that by paying attention to the general health of the little sufferer, and by rest, the progress of the disease might be arrested. He likewise recommended a steel instrument to be applied, so as to cause pressure on the ribs, with a hole in the centre opposite the most projecting vertebra, to prevent its injuring the back bone, which *he said was diseased.* This was to be worn constantly as a support to the back, and the child was to be placed on a reclining board, and advised to be laid on the back as much as possible. All these directions were strictly attended to. His general health certainly improved under this treatment, but the deformity continued to enlarge up to March or April, 1825. Since which time, he has been in excellent health, and the gibbosity does not appear to have increased, which may be attributed to his being generally recumbent. It has, however, certainly not diminished.

The above is written at the request of Dr. Harrison, who has undertaken the care of the child, and was consulted on the 1st instant.

Feb. 26, 1826. (Signed) W. B. Wood.

The Case Continued.

This day, Feb. 24, 1826, Master Wood was placed upon the usual couch, his back and chest were well rubbed, with an emollient liniment for an hour, the spinal column being extended during the whole time. After carefully pressing the projecting vertebræ, a wooden shield stuffed and shaped to the gibbosity, was firmly fixed upon it. He was then laid flat upon his back; this plan was steadily continued from the commencement of the treatment till June, 1828. The deformity being then removed, the process was relinquished. During all this period, and I never attended another spinal patient for so long a time, he continued in a state of uninterrupted good health. He was, moreover, uniformly cheerful, contented, and happy. He never once expressed a wish to leave his couch, or appeared to have any inclination to do so. The detumescence of the gibbosity having left the parts weak and relaxed, his parents resolved to continue the recumbency long enough, to enable the ligaments to contract and regain their lost tone. They felt less reluctance in persevering because he remained well, and never expressed any impatience from the confinement. Their determination to keep him longer than usual on the crib, proceeded from the fear of his wishing to enjoy more freedom than it was safe to allow after he had once tasted its pleasures.

Actuated by these prudential motives, Master Wood was steadily confined to the couch from Feb. 24, 1826, to Feb. 4, 1829. His limbs were not rendered incapable of performing their destined office by this long disuse. He had scarcely left his couch, before he proceeded to traverse the room, backwards and forwards, supported by two persons.

Description of the Plates.

Plate I.—The model of the trunk taken immediately before the treatment began. 1. Length of the back from the first dorsal vertebra A to the top of the cleft B, taken over the top of the projecting vertebræ from A to B, 11¼ inches. 2. The column taken perpendicularly from A to B, 10 inches. 3. The depth of the chest, measured from the most projecting vertebra C, to the corresponding part of the chest D, by means of a gauge, 7⅜ inches. 4. Circumference of the trunk, from the same points, 21¼ inches.

Plate II. Model taken after the treatment was discontinued. 1. Length of the back, taken from the first dorsal vertebra A to the top of the cleft B, following the form of the back, 12¾ inches. 2. The column taken perpendicularly, from A to B, 12 inches. 3. Depth of the chest, taken, as in Plate I, from C to D, 5⅜ inches. 4. Circumference of the trunk from the same point, 21 inches. E, the left shoulder rendered visible by the treatment.

General Remarks.

In proceeding to give an account of the sufferings of my youthful patient, I have to premise, that partly through his own amiable disposition, and partly through the continued attention of his excellent parents, my directions were strictly followed. The unusual length of time required to subdue this formidable gibbosity, must therefore be imputed to some unexpected rigidity, or unusual obstinacy in the deranged materials, rather than to any ordinary or anticipated difficulty. As he uniformly enjoyed good health during the whole treatment, and prosecuted his studies without interruption, the slowness of his cure never became the subject of anxiety, much less of dissatisfaction, to his friends. I had the gratification to see him rise from his couch, Feb. 4, 1829, after undeviating recumbency for almost three years. He stood a few minutes leaning upon the crib, and then walked about the room, supported between two attendants; feeling, as might be expected, a little agitated, he soon complained of fatigue, and desired to lie down. In this posture, he speedily regained his usual composure and cheerfulness.

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Plate 1.

SPINAL DISTORTIONS.

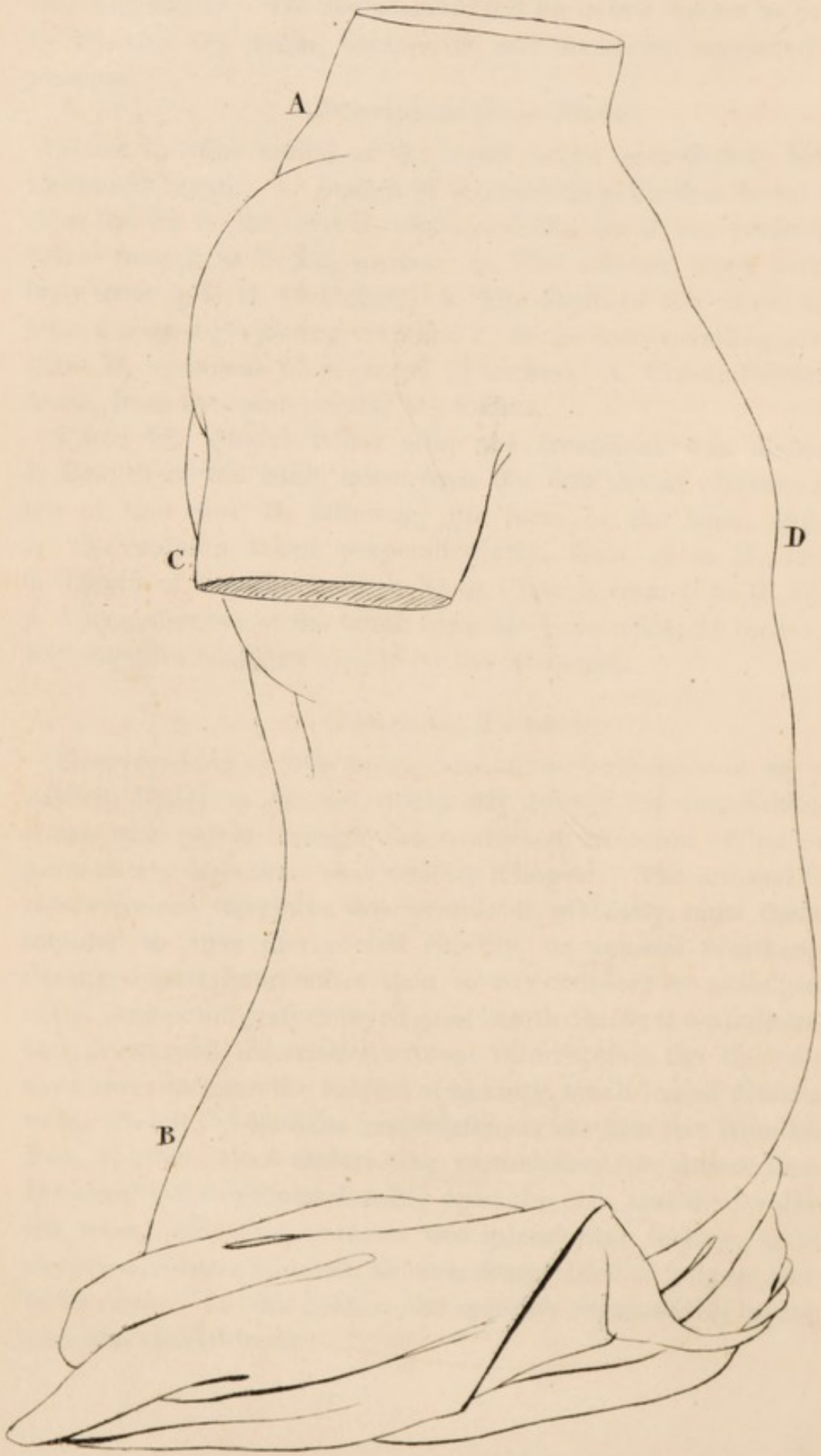
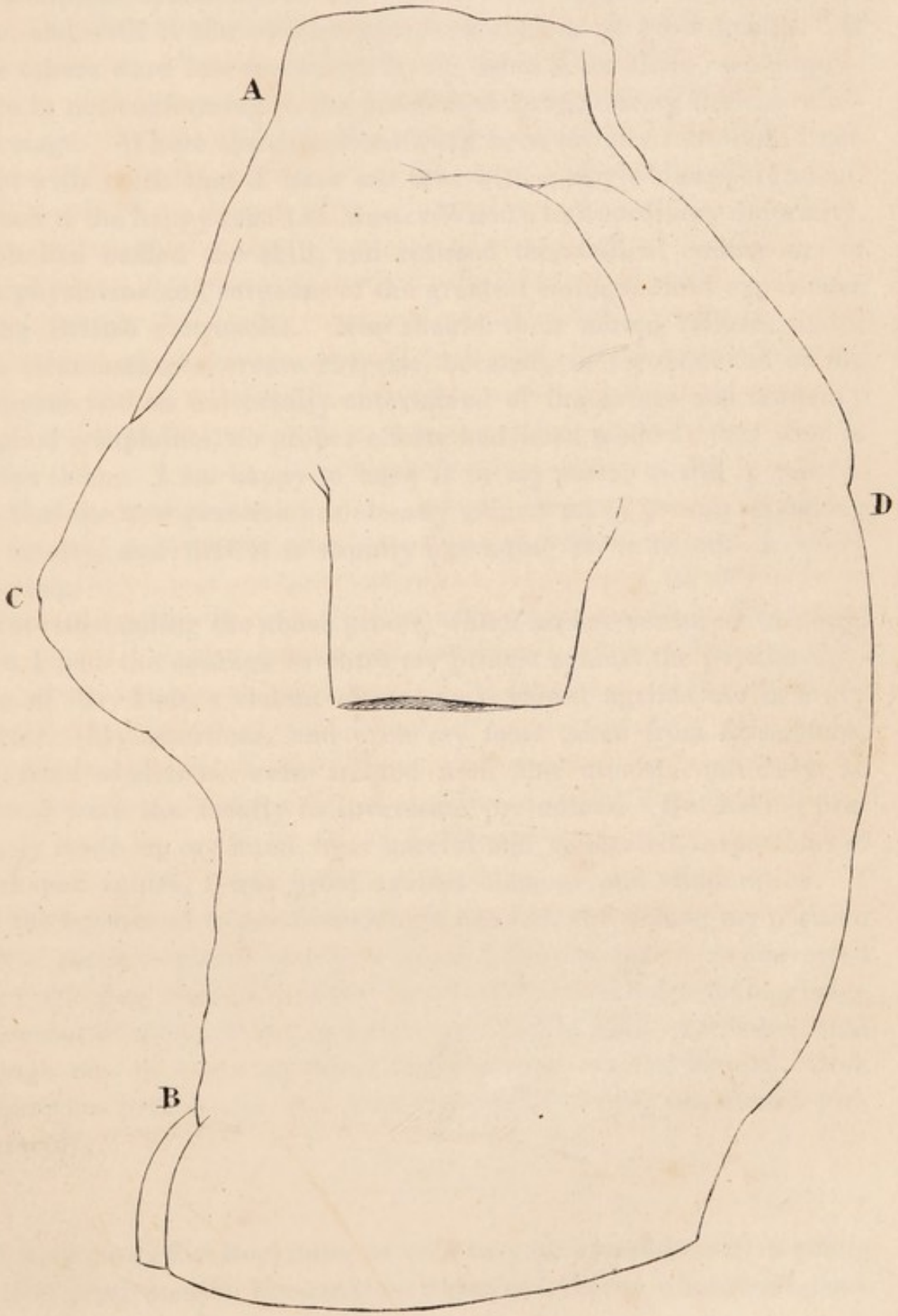


Plate 2.

SPINAL DISTORTIONS.



From the above date Master Wood continued to leave his crib almost daily, at first he was restricted to a few minutes. His walks were gradually increased, as the affected parts recovered their lost power, until he was at length permitted to remain off his couch through the whole day. By proceeding cautiously he has preserved the complete symmetry of his figure, as it appears in the second plate, and with it the uninterrupted enjoyment of good health. If some others were less fortunate, it has been from their own imprudence in not conforming to the prescribed rules, during the convalescent stage. Where the directions have been strictly followed, I can assert with truth that I have not met with a single disappointment.

Such is the happy result of Master Wood's extraordinary deformity, which had baffled the skill, and resisted the medical endeavours of both physicians and surgeons of the greatest eminence and experience in the British metropolis. Nor should their united failure, under such circumstances, create surprise, because, in consequence of the erroneous notions universally entertained of the nature and tendency of spinal complaints, no proper efforts had been made at that time to subdue them. I am happy to have it in my power to add in conclusion that the new practice has already gained many proselytes among the faculty, and that it is rapidly extending its influence in every direction.

Notwithstanding the above proofs, which no one ventured to deny, when I had the courage to enter my protest against the popular doctrine of Mr. Pott, a violent clamour was raised against me in every quarter. My assertions, and even my facts taken from dissections, and from skeletons, were treated with the utmost contumely, so rivetted were the faculty to inveterate prejudices. But having previously made up my mind from careful and reiterated inspections of misshapen spines, I was proof against clamour and vituperation. I had the hardihood to persevere single-handed, and defend my position with so much resolution that first one and then another were converted to my opinions, though very few have had the candour to acknowledge the author of them. I am, however, gratified beyond expression, that through me, in some measure, the torturing and ineffective, often mischievous practice, of Mr. Pott is gradually losing confidence with the faculty.

I have now, Sir Benjamin, to call to your remembrance a young medical gentleman, in Kennington, whom you visited, whose back-bone

was extremely mis-shapen; among other inequalities, the lower dorsal, and all the lumbar vertebræ were particularly depressed, and bent inwards or forwards. Several distortions of the like description have at different times come under my notice. I have introduced this case because it constitutes another species of deformity.

We have, then, first, to explain the cause of lateral curvature; second, of the hump-back; third, of the inward deflexion. In each of these examples, the spinal column may lose its correct figure, *without any accompanying structural mischief of the vertebræ.* Where, then, let me ask, is the malady fixed in these different cases? Not in the muscles, certainly; since they are capable of one action only, viz., of shortening and drawing their extremities in a straight or right line, nearer to one another. As they never act in any other manner, it follows that they cannot assist in making either the *projecting or hollow* curvature. They are, for the same reason, equally unable to contribute towards the lateral deflection. If, in these difficulties, which are, in my judgment, insuperable, we wholly discard the muscles, and look only to the ligaments, we shall succeed better. These are really the suffering organs, provided (as generally happens) the bones and cartilages remain sound. This truth has been fully established, by careful dissections, and successful practice, in so many instances, that the time for its universal reception and adoption is fast approaching. We may then look forward with confidence to the disappearance of hump-backs, lateral twists, and crippled limbs. For this delightful improvement in personal appearance, which will promote, in an eminent degree, the health, and increase the usefulness, of succeeding generations, it is my pride and happiness to have prepared the way. Feeling, moreover, that the peaceful arts, and amelioration of our race, are destined, under an amended condition of society, to supersede the din of arms, with its attendant horrors, I am content to bear the professional stigma of the divine bard, and continue, as heretofore, mutas agitare inglorius artes.*

The ligaments surrounding the joints constitute the articulating apparatus every where. They are the structure to be most considered and attended to in spinal complaints.

In wholly discarding the muscles to place the disease among the ligaments, I know that I am directly opposed to popular doctrines, and to many eminent practitioners; such, however, being my deliberate conviction after careful investigation, I cannot either recede or compromise the question. All that I desire of you and others, who

* P. Virgil, Maron, Æneid, Lib. 12, lin. 397.

differ from me on these points is a full, candid, and ingenuous examination of the whole subject at issue between us. When that course has been taken on both sides, let a dispassionate public weigh the arguments brought forward, and decide between us. That is the tribunal to which I again appeal, and by which I wish, and am sure, to be finally judged.

While the ligaments continue healthy and vigorous, the joints retain their natural firmness. When they are strained, or weakly, the bones recede from one another, and the composition of the joint becomes deranged. This alteration constitutes a true dislocation, which, in technical language, is said to be complete or partial, according to the extent of the separation.*

For the reasons already given, my own inquiries are chiefly directed to the vertebræ, and their location. So long as the articulating ligaments remain firm and compact, the vertebræ retain their exact position in the spinal column; but when they are relaxed, and elongated, by indulging in awkward postures, long-continued or frequently repeated, the vertebræ first vacillate, and afterwards slip sideways, or backward, or inwards, as accidental circumstances incline them one way or the other. Such, in my judgment, is the true cause of all our mis-shapen backs, *when the bony structure remains uninjured.* This notion of spinal affections was first promulgated in the Medical and Physical Journal, more than fifteen years ago. As no attempts have hitherto been made to prove the inaccuracy of my statement, I now repeat it with increased confidence, derived from no inconsiderable additional experience.

If, notwithstanding all that has been said, you still retain a lingering predilection for the antiquated doctrine of Mr. Pott, I should wish

* The modern arrangement of dislocations into complete and incomplete, or luxation and subluxation, is artificial and incorrect. It has misled the faculty, in numberless instances, to the irreparable injury of their patients. The smallest removal of articulating bones is as much a true dislocation, or luxation, as their greatest separation. The difference is only in degree; there is none in kind. No such distinction occurs in the writings of Hippocrates. Even the term subluxation is not of Roman origin, being introduced to serve a special purpose. It is nowhere to be found in the pages of Celsus, or of any classical authority. I have thrown out these hints to encourage some person with more leisure than either you or I possess, to undertake what is much wanted—a general treatise upon dislocations, and their cure. Though we have in this department several splendid monuments of talent and industry, I know of no complete publication either in our own or any other language. The Lectures of Baron Boyer, and the elegant work of Sir A. Cooper on Dislocations are extremely valuable. It is to be lamented that these accomplished writers and practitioners, by almost entirely overlooking partial luxations, should have left this important subject unfinished and defective.

you to visit the anatomical treasures of the Capital, and then decide for yourself. In them you will find abundant proofs of monstrous deformity with a sound condition of the spinal column. I have the good fortune to retain several valuable specimens of this kind. Some of them were purchased at the sale of the late Mr. Heaviside, who nevertheless continued his routines through life; and it will, I think, surprise you still more to learn that they had formed part of the museum of Mr. Pott himself! I venture to point out to your notice two other specimens which are, in my judgment, worthy of especial regard. The museum of the London University possesses an excellent example of the outer curvature, or hump-back, including every dorsal and lumbar vertebra. The select museum of your highly accomplished neighbour, Mr. Pettigrew, contains likewise a mis-shapen spine of the most extraordinary description and character. It is unnecessary to pursue the subject further, as no one can, I think, after viewing these characteristic specimens retain his opinion, that a distempered state of the vertebræ, when it does occur, constitutes any thing more than an accidental and an unessential concomitant of the distorted spine.

Having briefly animadverted upon the prominent divisions of your lecture, I have to express my unfeigned sorrow that you have not brought forward your large experience, and pointed out to your juvenile auditors the earliest symptoms, the first dawn of this insidious and proteiform malady—a malady seldom discovered until the health is visibly impaired, and the figure deteriorated by its ravages. I regret your silence the more on this perplexing occasion, because, although no complaint is more tractable, and more easily cured in its approach, and early developement, few are more obstinate and tedious at a later period. With this impression strongly fixed in my mind, I will endeavour, however unqualified for the undertaking, to supply the omission.

It has been remarked, that when a growing girl loses the brilliancy of her complexion, and the animation of her countenance—when she becomes pale, languid, and inactive, without an assignable cause, something mischievous is going on in her constitution. The suspicion will be increased if she be unable, as heretofore, to sit or stand erect, or if she should cross her legs in walking, or soon fall into a lounging posture when at rest. Still greater is the danger, when the watchful looks and nods of anxious mothers to raise the head, and carry the body erect, produce only a momentary compliance. No time should be lost, in this alarming predicament, to obtain medical advice, and to get the spinal column properly examined. This pre-

caution is the more necessary, because, however slightly the back-bone may be deranged, it never, unaided, recovers its lost figure. In making this assertion I am warranted by my own experience. I have seen a great number of patients in an early stage of suffering, who had been prevailed upon to neglect my admonitions, on a confident assurance that they might of themselves overcome the deviation, and that strong measures would injure the constitution.

Such advice was of course generally preferred. After an unsuccessful trial many of these disappointed individuals have been induced to return to me with their deformities increased, and generally in bad health. Nor ought we to be surprised that such consequences arise from the mode pursued. The spine is a strong and powerful organ, held together by ligamentary bands; these are able for a time to make great resistance to force applied; but, having once given way, and suffered the vertebræ to recede, they possess no contractile power like muscles to counteract the deviation. The best that can happen in such circumstances is, that the displaced vertebræ shall remain permanently fixed. This is, however, rather to be desired than expected. They are liable to slide further and further on the recurrence of a moderate force, or whenever the parts are relaxed from any cause. In this way, the back becomes gradually more and more contorted, so that what was only trifling in early youth, becomes a very formidable evil in advanced age.

One of the first circumstances to engage our notice in lateral distortions is that the mammæ seem to differ in size, neither are they parallel and of the same height, nor at equal distances from the arm-pits. One shoulder-top, commonly the right, is lower, and projects forward. There is accompanying enlargement of the same hip. One limb is also longer than its fellow. The step is uneven, and the feet present unequally in walking. The trunk appears, to an observant eye, thicker, and shorter, than it should be. The shoulders are seemingly of disproportionate bulk, and the front of the chest opposed to the swollen shoulder sinks inwards. With these appearances, the spine resembles the Italian letter S inverted, shewing what is called the curve and counter-curve.

2ndly, In the posterior distortion, or hump-back, the protuberance is said to be backward, or from within outwards. The deformity is scarcely alike in two persons. With some it makes a semicircular bend the whole length of the back. In others it rises to a point in the middle of the tumour. Frequently, too, the lumbar cavity is partially, wholly, or even more than obliterated.

3rdly, The chest and abdomen occasionally project in front, giving to the back an unsightly hollow. This derangement extends from the superior portion of the dorsal spine to the loins, or it may be confined to the lower dorsal and lumbar regions.

4thly, I have also met with the vertebræ protuberating in lumps like embossed work from one end of the column to the other. Or the prominences are confined to a few vertebræ on the lower part of the neck, and top of the back. Nor is it an uncommon thing to see a few of the lower dorsal, and superior lumbar vertebræ, standing outwards, in a continuous line.

The various deformities just enumerated have not hitherto been sufficiently distinguished, owing to preconceived opinions and notions. Since they are not only true but can be confirmed by further proofs, we may reasonably presume, that the anatomical figure and structure of the spinal pillar, must soon obtain a greater share of attention. The faculty will then be no longer led astray by their prejudices, or find any difficulty in discovering the slightest irregularities in the vertebræ, or in correcting them, since they are at first so easily moved and replaced.

As all the sufferings and irregularities enumerated proceed from derangements in the spinal column, it has become requisite for medical men to make themselves familiarly acquainted with the anatomical figure and external appearances of this influential organ in its sound condition, that they may be at no loss to detect the smallest aberrations. With this information they will be able to distinguish between diseases of a similar aspect, but which proceed, sometimes from the spine, and sometimes from other causes. These complaints are often confounded together, to the manifest injury of both. In the confusion of ideas incident to such a state of things, a mischievous practice is too often adopted instead of a consistent and efficacious one. Several palpable mistakes of this kind, have been pointed out in my "Pathological and Practical Observations on Spinal Complaints," to which I refer such of my readers as wish for information upon this very interesting question.

The following case, published in the Medical and Physical Journal for May, 1824, shows how easily the health and figure might have been preserved with proper care and good management, in reference to a young lady who became my patient, she suffering from an alarming deformity of the lateral species.

Miss Norton, aged fourteen, of the sanguine temperament, has been observed lately to stoop forward, and frequently to stumble in

walking. She has grown much shorter within the last six months. The top of the right shoulder, projects considerably. The right leg is three inches longer than its fellow. She has for the last few days been afflicted with Hemiplegia on the left side. She raises her arm and moves her leg with difficulty; has no pain in the head; the mental faculties not affected.

On examination, I found the spine, between the shoulders, turned considerably towards the right, and in the loins equally to the left.

The mother and the other relations are convinced that she was quite straight at the end of the last midsummer vacation. Her father frequently remarked that she had been very inactive, and had contracted the habit of leaning, and resting herself after the slightest exertion. The mother participated in the same fears, and carefully examined her daughter, but could discover nothing amiss any where. As she continued to get worse and worse, during the holidays, several experienced female friends were requested to give their assistance in determining upon her situation. They did so, and declared unanimously, that the back and limbs were quite sound, and in good order. With these assurances, the young lady returned to school, and pursued her studies. A report of her altered condition having been communicated to the parents, she was immediately removed to London, and placed under my care, November 26, 1823, when I observed what I have already described.

The spine having entirely recovered its natural figure by the means adopted, and her health being also restored, the treatment was discontinued in less than a month from my first attendance, viz., December 21, 1823. I have been informed that Miss Norton married a few years after her restoration to good health, and is become the mother of several fine children. Being at a considerable distance from home when the complaint first appeared, a medical practitioner in the neighbourhood was first applied to, and afterwards the family surgeon. Both these gentlemen deeming her recovery impracticable, disapproved of every attempt for that purpose. In this advice they were zealously seconded by an affectionate uncle, who having made inquiries among the faculty of his acquaintance, was led to consider her restoration impossible; and, moreover, that the health would probably sustain further injury by the trial. The anxiety of her parents could not be restrained; they determined to leave no effort unattempted for the recovery of their daughter's person and health. In little more than a fortnight after her arrival in London, the uncle called, and, having carefully surveyed his niece from head to foot,

declared, unless he had witnessed the alteration with his own eyes, he could not have been prevailed upon to give credit to the improvement which he saw. Besides deformity, she had, as already observed, the misfortune, at my first visit, to be afflicted with paralysis of the arm and leg. The latter complaint probably arose from pressure upon the axillary and crural nerves, near to their spinal ends. I have been led to this conclusion from having observed the deleterious effects of pressure upon the spinal nerves, in many other instances, and because the functions of the brain were not in the least disturbed, either before or during the seizure.

Though it may be difficult to fix upon the exciting causes in this case, the predisposition was doubtless laid in general debility. The rapidity of the cure shows with how much ease and safety recent cases admit of removal; it is, therefore, very desirable that recourse should be had to medical advice, on the first appearance of indisposition; as the malady will otherwise increase in virulence, and become more obstinate from delay.

Of the Cure.

In your method of treating the lateral curvature (I cannot say curing it, since you make no attempt to abate the distortion) you merely recommend attention to the general health, and add, "in this manner you will produce a *decided effect* in three or four years." Thus it appears, by your own admissions, that after a tedious course of medical discipline, the further increase of deformity may be arrested until the decline "of life, unless bad health shall sooner intervene." I shall be glad to ask whether such a result may be expected to satisfy anxious parents, when they have been assured, on the credit of experience, that in recent cases the whole deformity can be eradicated in less than one-sixth of the time consumed in producing only a "decided effect"?

Of the Gymnastics.

I was much disappointed at your silence concerning the gymnastic exercises in this species of vertebral contortion, of which you have had so much experience. Have you at length discovered their total inefficiency, and discontinued them?—or do you confine this attractive recreation to your opulent patients? At all events, I wish you had furnished your youthful audience with the fruits of your ample expe-

ence, and told them what to expect from these exhibitions, in complaints hitherto deemed incurable. They are, I believe, useful in preventing deformities, by giving tone to the vertebral column, but they have not the least power over what is already formed. I have witnessed so many failures in the hands of our most eminent practitioners, that I proclaim my dissent boldly and without reserve.

I desire to add, that until some abettor of this deceptive, and misleading system, ventures to favour the public with authentic cases, and models taken from life, which I have often urged unsuccessfully, I shall not only remain an unbeliever myself, but I shall never cease to require from its admirers something better than empty declamation, and fallacious assumptions.

Cases of Lateral Curvature.

Perhaps you may remember Miss Collier being an inmate of the "Asylum for the Recovery of Health," though she was, I believe, chiefly under the direction of your able colleague, Mr. Money. Hers was a strongly marked lateral curvature of the spine, to the right, between the shoulders, and to the left, in the loins. In order to reduce this formidable distortion, the back, according to the statement of Mr. Bruce, the house-surgeon, was rubbed very hard every morning and evening, for half an hour each time, with hair-powder. This part of the process being finished, she was subjected to gymnastics, or muscular exercises. The mode of performance was to swing backwards and forwards, suspended by a cross bar of wood held in her hands; she was also ordered to carry weights on her left arm, and to rub the tables, &c. with her left hand. These occupations were intended to strengthen certain muscles on the left side of the back, which were supposed to want power. Having finished the gymnastics, she put on Sheldrake's "support stays," and wore them for the rest of the day. She persevered in this mode, without either interruption or deviation, during her residence of ten months in the asylum. Upon interrogating Mr. Bruce particularly, he gave it as his opinion, that a muscle or two near the left arm-pit was a little enlarged when she left the Institution. He said, and the anxious mother entertained the same opinion, that no other alteration was perceptible in any part of the back. He did not hesitate to declare *that the bends or distortions in the spinal column, and derangements in the ribs, remained*

precisely the same through the whole period, and were no better at the last. Here we have a circumstantial account of the different operations performed upon a young lady for ten months, to overcome the lateral curvature. Its complete failure under the management of talented practitioners is a convincing proof that muscular exercises are unable to effect the desired object, or even to reduce, in the smallest degree, contortions already established. It will not, I think, be urged in favour of the preceding plan, that the trifling enlargement of a muscle or two near the arm-pit manifested any real benefit, or can be advanced in favour of the treatment. Muscles much employed always increase in size, as we see in the porter's legs and the blacksmith's arms. Improvement in the back-bone and ribs would have shown that the muscular exercises had done some good; but since they remained unaltered to the last, we must record this as a complete failure, where no means had been left untried, or effort neglected to produce a favourable result. In this dilemma, and almost heart-broken, she became my patient. A cast was taken of her back before my treatment began. This will enable you, if you express any desire, to see the condition in which she left the asylum, and I shall have much pleasure in submitting her present figure to your critical examination. Mr. Bruce added, that he carefully attended to all patients with mis-shapen backs admitted into the asylum, and treated them according to the directions he received. He concluded by asserting that of all the patients with curvatures, who came under treatment, he never saw the smallest good follow the means adopted in a single instance, nor any abatement of the deformity effected during the long period that he had been connected with the Institution. The proceedings at the asylum are more worthy of observation, from the acquired eminence of the attending practitioners and their avowed objects in founding it. Among other things, the consideration of spinal complaints made a conspicuous figure in the prospectus issued at the time, from which I conclude, that the cure of these disorders was intended to form a prominent feature in the arrangement of the Institution. It continued in existence about ten years, and therefore flourished long enough to enable the faculty to admit many cases of contorted spine, and to decide upon the relative merits of the different plans. Since they have neglected to lay the results of their experience before the public, you will, perhaps, take the trouble singly to supply the omission, and thereby confer a lasting obligation upon many practitioners who know not how to act in these perplexing emergencies.

It may not be superfluous to repeat once more, that although gymnastics have no power to reduce existing deformities, they are of service in weakly habits by imparting tone to the muscles, and promoting the healthy actions of the body. The anatomical structure of the trunk shows, that they can exert no peculiar or beneficial operation upon the contorted back-bone, as their advocates maintain. Several other modes of exercise are equally useful in debilitated habits, such as billiards, dancing, the dumb bells, fencing, &c. These amusements are to be preferred, especially in rainy weather, since they are practised under cover. On fine days, recreations out of doors should be encouraged, because, while the muscles are exercised, the open air assists to invigorate the whole frame. Of these, the best are the hoop, the ball, the shuttlecock, battledore, &c. They are, besides, easily procured, and may be practised alone; they are, therefore, preferable to games requiring much preparation, and the aid of several persons. These modes may be varied at pleasure, but should be persisted in with regularity, and for a long time, to accomplish all the good to be obtained from them. If I comprehend your meaning, they will co-operate with other things in promoting the *decided effect*, upon which you seem ultimately to rely for success, not, indeed, by abating distortion, but by preserving the person in continual good health, which I hold to be impossible, for any great length of time, with a misshapen spine.

If doubts be entertained of the injurious effects of my curative means, the healthy aspect and uniform cheerfulness of my patients, without a single exception, will surely convince the most incredulous, that their constitutions are greatly improved by the practice adopted for rectifying the spinal column.

In recording the names of severe sufferers, you will, not, I should suppose, omit to mention the undetected spinal complaint of Miss Goulding, who had a long time been your patient at the Asylum, and also in St. George's Hospital, labouring under an almost endless variety of the most distressing symptoms. Many will suppose hers to have been a case of peculiar obscurity and difficulty, to elude the vigilance of Mr. Cline, Sir E. Home, and more than twenty eminent practitioners who, unfortunately for the sufferer, both mistook the complaint, and the proper treatment for its cure. To me, the nature of the disorder was so clear, that at first sight I pronounced it to be spinal. After I left the patient, a colleague of yours, who had attended her in the above Institutions, and afterwards in private lodgings, during the preceding fifteen months, boldly asserted, "that the

back ailed nothing, but she would never be well." Disregarding his confident assumption, I directed all my operations to the contorted spine, and by correcting it, restored her, from hopeless decrepitude and constant misery, to good health, with the free use of her lower limbs.*

If for holding the above opinions, you and those who think with you, and whose honesty and ability I sincerely respect, are still pleased to differ from me, all that I can say is, that so long as uniform success accompanies my humble endeavours, I shall continue my dissent from you and them. With these remarks, which have been indited amidst continual innterruptions, I take my leave, and in doing so, desire to subscribe myself, with the greatest esteem for your private worth, and becoming deference for your professional experience,

Dear Sir, yours, very truly,

E. HARRISON.

Holles Street, Cavendish Square,
July 10th, 1835.

* For a full account of this anomalous and very interesting case, see the Gazette of Health, No. 149, for May, 1828, page 133.

WORKS BY THE SAME AUTHOR.

1. PATHOLOGICAL AND PRACTICAL OBSERVATIONS ON SPINAL DISEASES, with Cases and Engravings; also, AN INQUIRY INTO THE ORIGIN AND CURE OF DISTORTED LIMBS.

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