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COURSE OF LECTURES

ON THE DEFORMITIES OF THE HUMAN FRAME.

BY

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Delivered at the Orthopædic Institution,
Bloomsbury-square, in 1843.

LECTURE XVIII.

Distortions of spinal column analogous to contractures in other parts of the frame. Spinal distortion from spasmodic and paralytic destruction of equilibrium of spinal muscles; from unequal length of the lower extremities. Ordinary lateral curvature. Remote and proximate causes; its nature and treatment. Congenital distortion of spine. Inapplicability of tenotomy as a means of curing lateral curvature.

IN the last lecture I described, as completely as the time permitted, angular deformity of the spinal column, consisting of partial or complete ankylosis, being the condition of the spine analogous to angular deformity and ankylosis of a limb from inflammation, the result of scrofula or accidental injury. I also demonstrated the nature of rachitic angular or posterior deformity, in which, you remember, the column bends through want of firmness in its component parts, the bones, ligaments, and muscles. The numerous models on the table illustrated the combination of angular curvature from these causes, with a certain amount of lateral deviation, angularity predominating.*

* It is unnecessary in lectures, of the limited extent of the present course, to trace rachitic deformities of the spine into as many subdivisions as was considered necessary in rachitic affections of other parts of the body. Rachitis in some individuals chiefly affects the osseous structures, as when curvature of the long bones is the sole deformity; in others the parts more immediately concerned in strengthening and moving the articulations are relaxed, as in genua valga; whereas, in some cases, the joints and shafts of the long

I have, in the next place, to treat of those distortions of the spinal column which, in their nature, correspond with *contractures* in other parts of the frame. *Contractures* are those distortions which result from the operation of causes which *indirectly* affect the articulations. You have witnessed contractures of every articulation of the extremities induced by destruction of equilibrium in the muscles, from spasm on the one hand, or paralysis on the other. We have studied the operation of burns, abscesses in the soft parts, gangrene, and ulceration, in the production of contractures; and we can apply the information thus derived to the comprehension of the deformities of the spinal column. In the general remarks at the beginning of the last lecture I laid down the proposition that, having in the spinal column bones, ligaments, and muscles, similar to those in other parts of the frame, we should expect to meet in the spine with pathological states.

Contracture of the hand and foot from spastic muscular action is very common; it may, therefore, be asked, Do we observe spinal *non-congenital* deformity resulting from spasmodic action of muscles? In my opinion, very rarely. Others have proceeded on the contrary assumption, and have resorted to tenotomy of the spinal muscles as freely as in the extremities. Stromeyer, the inventor of subcutaneous tenotomy of tendo-Achillis, who first recommended tenotomy in strabismus, was also the first to practise (anno 1835) section of spinal muscles. He operated in a case of active retraction of the rhomboidei muscles, with which a lateral inclination of the upper dorsal vertebræ was conjoined. But although the authority of Stromeyer confirms the existence of non-congenital distortion from abnormal activity of particular muscles, I believe that the occur-

bone are simultaneously affected, as in the combination of genua valga with curvature. (See Lecture XII.) In like manner, the spine may be affected with rachitic want of firmness, either in the bones only, in the fibrous structures only, or in both simultaneously. The diagnosis is more difficult in the spinal column, from the greater complexity in the structure and function.

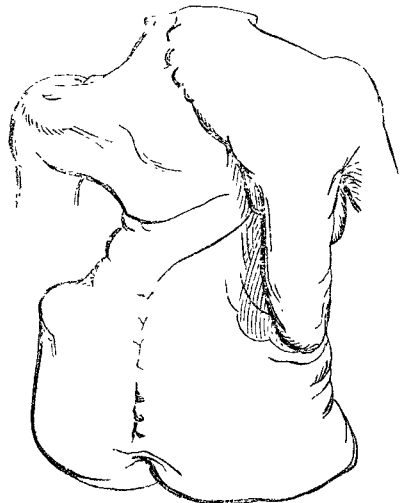
rence is exceedingly rare. Stromeyer does not, like some other practitioners, regard ordinary lateral curvature as the result of active retraction, the cure of which they have attempted by tenotomy.

It may next be inquired whether spinal distortion results from paralysis of particular muscles. My friend, Stromeyer, regards paralysis of the respiratory muscles as the primary cause of ordinary lateral curvature. I am unable to agree with him on this subject. Observation has convinced me that the debilitated condition of the inspiratory muscles on the concave side of the chest in lateral curvature is a secondary lesion. In well-marked cases of partial paralysis of the voluntary muscles, affecting the upper and lower extremities of one side, and of those muscles of the trunk on one side which are interested in the movements of the shoulder and hip, and attached to the spine, even in children, I have been surprised to witness an absence of spinal distortion. In fact, excepting the distortions which may affect the cervical vertebræ from altered equilibrium of the muscles of the head and neck, distortion of the spine from spasm or paralysis of opposing muscles is exceedingly rare. Should any of you meet with cases of this nature I shall be much interested in knowing the result of your investigations, and shall be happy to have the opportunity of examining them.

Spinal distortion from burns, wounds, attended with loss of substance and subsequent cicatrices, are rare, because the spine is less exposed than the members to accidental injury. You can comprehend the manner in which cicatrices may distort the spine as well as other regions of the body. Inequality in the length of the lower extremities has been assigned as a frequent cause of distortion of the spinal column. I have several times witnessed lateral inclination combined with actual difference in the length of the lower limbs, as when the growth of one had been impaired in childhood from scrofulous abscess in the leg and foot, but I have examined no case in which, notwithstanding the shortening, other causes of lateral curvature did not exist. On the contrary, it is very remarkable that, according to my experience, difference in the length of the lower extremities is so rarely accompanied with deformity of the spine. Amongst many hundreds of cases of congenital and non-congenital spastic and paralytic deformity of one foot, submitted to my examination, in which a difference of half an inch to several inches in the length of the lower extremities existed, I have, with two or three exceptions, not witnessed the concurrence of spinal curvature. Some circumstances have operated in the exceptional cases to produce the spinal curvature. You should be cautious not to confound apparent with positive distortion. On examining the back of a person having,

for example, one lower limb deficient one inch in length, you will frequently remark that a serpentine curve in the vertebral column exists, but on placing a book or other substance of the requisite thickness beneath the shorter limb, the curvature of the spine will disappear. It is a fact of considerable importance in determining the causes of these distortions, that shortness of a lower extremity may exist during the twenty years preceding adult age without producing spinal deformity. Having rejected spastic muscular action, paralysis and inequality in length of the lower extremities, as primary and ordinary causes of deformity of the spinal column, you are prepared to consider what is really the rationale of the production of the distortion of the spinal column, denominated *the lateral curvature*. I shall not minutely examine the modifications of this curvature which occur, as, when you understand the ordinary form, you will, from your knowledge of the anatomy of this region and of animal mechanics, comprehend the origin of supplementary curves. For the same reason, the treatment of a case in which several causes exist, requires to be conducted with reference to the primary distortion; if this be removed the secondary changes in form spontaneously disappear. You perceive, in this series of models of ordinary lateral curvature, that the part of the column principally affected is the dorsal region, and that, in the great majority, the vertebræ of this part incline from the perpendicular position towards the right side. For a nearer appreciation of the phenomena presented in this deformity we will select this severe case of a young girl, thirteen years of age (see fig. 42). The peculiar character will be more evident than if I take an example of

Fig. 42.



Severe Lateral Spinal Curvature viewed behind.

slighter deformity. You perceive that the whole of the dorsal vertebræ have, in various degrees, yielded from the straight line, the fifth, sixth, and seventh vertebræ being situated three inches to the right of their proper position. The upper lumbar and the lowest cervical vertebræ project towards the left. The pelvis is situated obliquely, the left ilium greatly elevated, whilst the corresponding shoulder is depressed, the space between the axilla and ilium on this side not exceeding five inches; the ribs on this side are necessarily in close contact with each other, respiratory movements of the part being proportionately impeded. On the right side posteriorly the ribs are altered in form, and, with the scapula, form a large projection, the surface of which is three or four inches above the plane of the remainder of the dorsal region.

Anteriorly the deformity produced by severe lateral spinal curvature is even more considerable (fig. 43). In the left anterior

Fig. 43.



Severe Lateral Spinal Curvature viewed in front.

mammary region the ribs are prominent. The head inclines forwardly through yielding of the upper part of the column, the highest point of which corresponds to the seventh cervical vertebræ. The result of the large dorsal lateral curve, and of the secondary curves, is a great reduction in the entire length of the column; the lower ribs are in contact with the ilia, through which considerable diminution of the capacity of the abdominal cavity results. In studying, then, the anatomical relation of parts, you have to consider the diminution of capacity of the thoracic and abdominal cavities consequent on the sinking down of the vertebral column, the impeded development of the left side of the thorax more especially, and the obliquity of the pelvis. If you attentively study this series of models you will observe (as in figs. 42 and 43) that posteriorly the

right side of the thorax, and anteriorly the left side, project beyond the plane of the contiguous part of the chest; this is only explicable by observing that a movement of rotation of the vertebræ on their horizontal axes has taken place, the articulating and transverse processes of the vertebræ on the right side being thrown backwards, whilst those on the left side are thrust anteriorly. This abnormal rotation constitutes the principal obstacle to the cure of severe lateral curvature. Having thus described to you the severe form of the affection, you can hereafter in practice have no difficulty in recognising it in the earlier stages, the principal points you will observe are unequal elevation of the shoulders, especially of the scapulæ, incipient prominence of ribs on one side, and of the ilium on the opposite side.

I will now endeavour, briefly, to explain my opinion of the mode of origin of this lateral curvature. In the last lecture I demonstrated to you that when the bodies of one or more vertebræ are destroyed by scrofulous or other forms of vertebral disease, the strong muscles of the spine cannot advantageously resist the falling forwards of the column, hence a posterior projection of the region denominated angular curvature. In like manner, when all the component parts of the spine, bones, ligaments, and muscles, are deprived of their proper firmness and tone, the spinal column, incapable of maintaining itself erect, and of withstanding the influence of the weight of the thorax and the contained organs, which naturally tends to bend it forwards, yields, so that an angular or posterior curvature results. But in less severe rickets, or when constitutional debility exists, or when a child or young female is simply said to be delicate, the organisation of the more lowly organised structures, the bones and ligaments, suffers in a greater degree than the muscular system. The muscles of the spine participate in the debility, but they remain susceptible to application of the stimulus of volition, they are throughout the day instinctively occupied in the maintainance of the erect posture. This ability sufficiently to react against the natural tendency of the thorax to incline anteriorly prevents posterior curvature, but the same muscles do not possess sufficient power to prevent the operation of lateral displacing influences. That during the production, or in existence of lateral curvature, the efficient action of the spinal muscles is capable of explaining the absence of posterior curvature of the dorsal vertebræ, is shown by the remarkable concavity which sometimes exists in the middle dorsal region. I have witnessed severe lateral curvature in young females who were particular in their endeavours to maintain the perpendicular position of the spine by drawing inwards the dorsal and lumbar vertebræ, and throwing the shoulders backwards. But as the firmness of the

osseous and white fibrous structures of the spinal column is impaired in debilitated or delicate individuals, and the tendency to posterior yielding is resisted by the yet comparatively powerful spinal muscles, if any cause capable of disturbing the equilibrium of the powers which laterally maintain the perpendicular line of the spinal column be applied, the result will be a lateral deviation. The rarity of lateral deviation of the spine, even in delicate boys, is well known; it appears to me to be equally uncommon amongst the children of the poorest classes of society, who are, notwithstanding, frequently affected with posterior curvature. But in females of the richer classes, whose time is much occupied in sedentary amusement and instruction, and in those of the poorer classes who obtain their livelihood by sedentary employment, in over-worked, overgrown, and badly-fed boys, who labour at manufactures in which particular parts of the body are more excited to activity than others, spinal lateral curvature may be produced. It is apparent that the curvature is preceded, and often accompanied by an imperfect nutrition, or imperfect assimilation of food, diminished vigour and power of the nervous system, either from hereditary influence or from disproportionate abstraction of nervous energy from the animal and vegetative functions of the system and expenditure thereof upon the intellectual. Very many young women, of large stature, and otherwise well developed, become the victims of lateral curvature from "outgrowing their strength," as it is termed, or, more strictly speaking, from the necessities of the system being insufficiently supplied by proper digestion and assimilation of food, out-door exercise, and amusement. These are the remote causes of every case of lateral curvature, the proximate cause correctly assigned by the majority of writers on the subject being the undue exercise and development of the muscles attached to the ribs and spinal column of one side, subservient to the movements of one upper extremity, usually the right. I have already remarked that the spine is liable to be influenced, particularly in youth, by every movement of the extremities; when the remote cause of spinal curvature,—debility, however produced,—exists, the spine is disposed to yield, and the direction in which it will yield will be determined by the nature and mode of operation of the proximate cause. When the right upper extremity is disproportionately exercised an undue traction upon the dorsal portion of the spinal column takes place, succeeded by an inclination to the right side. When, therefore, the equilibrium between the muscular powers which laterally support the column is once destroyed the increase of lateral inclination is rapidly effected, through the co-operation of numerous other injurious influ-

ences. Of these, particular positions of the body, as in writing, drawing, sewing, may favour the deformity. The habit of resting the weight of the frame, whilst standing, almost entirely on the right lower extremity, the pelvis being then depressed on this side, is calculated greatly to facilitate increase of the curvature. The normal lateral movements of the spine become impeded on occurrence of morbid inclination to one side, hence those muscles affixed to the ribs and spine which effect these lateral movements are thrown out of exercise. Those situated in the concavity of the curve, or curves, being relaxed, gradually contract, and become ultimately structurally shorter, those on the convexity of the curve being in the first instance stretched, elongated, become ultimately debilitated and powerless. The total length of the column being diminished, the muscles which are principally concerned in preventing flexion of the column become, in time, structurally shorter, through the approximation of their points of origin and insertion. This structural shortening of muscles tends rapidly to increase the curve during the period of the growth of the frame. For as the muscles cease to be exercised, they do not keep pace in growth with the development of the skeleton; the individual bones of the column continue to enlarge, but as the muscles are structurally shorter, the addition to the aggregate length of the spinal column, consequent on the enlargement of the individual bones, cannot take place in a straight line, the curve is consequently increased.

The constitutional debility attendant upon lateral curvature continues during the entire period of the augmentation of deformity; often towards adult age an improvement is manifest, but in many cases, after a few years, the health again gives way, and the increase of deformity becomes a source of renewed anxiety. The appearance of the catamenia is usually deferred, and confirmed chlorosis occasionally coexists. In slight lateral curvature the health may appear unaffected to a superficial observer, or to some parents, who are more willing to attribute the deformity to an accidental cause than to constitutional disturbance. As I have already observed, the general disturbance, when slight, may be comprehended in the expression of the individual having outgrown her strength. In many cases the remote cause—debility—is too apparent to be overlooked, as when the deformity appears during convalescence from measles, hooping-cough, or other disorder of childhood.

I trust the brief remarks I have made on the remote and proximate cause of this deformity will have rendered the subject intelligible. When speaking of posterior curvature from rickets I alluded to its occasional combination with lateral deviation; I should also remark that lateral curvature, when

severe, is usually complicated with posterior yielding of the column. If you have fully understood my observation, you will perceive that the remote causes of the lateral and posterior curvature (from debility or rachitis) differ only in the degree of constitutional affection. If the latter be comparatively slight, the spinal muscles which, in health, maintain the erect position of the trunk, prevent posterior curvature, but are incapable of preventing the column being unequally acted upon, and drawn laterally by preponderance in the use of certain muscles. When the constitutional debility is so great that the spinal muscles are incapable of preventing the anterior flexion of the column, posterior curvature results.

Many secondary evils to the general health result from severe curvatures in any direction. The antero-posterior and the transverse diameter of the thorax are often enlarged, so as, in some degree, to compensate for the diminution of the perpendicular extent of this cavity more frequently, however habitual dyspnoea, especially on exertion, exists; hypertrophy, and other derangements of the heart sometimes result from mechanical interference with its action; in more numerous instances morbus cordis results from the constantly augmented efforts necessary for increased propulsion of blood to compensate for the diminished capacity of the lungs. I have in several instances observed attacks of acute bronchitis and pneumonia more fatal than in persons unaffected with spinal distortion. Heart disease also follows a more rapid course. Copious depletion is consequently more urgently required for *mechanical reasons*, than under ordinary circumstances. The functions of the organs in the abdominal cavity are not less frequently deranged than those of the thorax, although the symptoms may be less violently marked. Subjects of severe lateral curvature are in later life martyrs to indigestion and hepatic derangement. Constipation is a source of great annoyance, and the liability to inflammatory lesions in this region is considerable. Should any of you be enabled to add something to the statistics of this subject, you will confer a benefit on science. The average duration of life in persons affected with spinal deformity might thus be ascertained. I believe that it will be found much below the average general mortality.

I have sufficiently swelled the catalogue of primary and secondary evils resulting from these deformities, independently of the mere disadvantage arising from being deformed, to urge you to study well the means of affording relief. When consulted in these cases you will proceed to treatment, not only with the view of affecting a beneficial change in form, but with the gratification of endeavouring at once to relieve a physical infirmity, and avert a series of lesions dangerous to life.

The indications of treatment of lateral spinal curvature may be arranged under three heads; the first in importance consists in endeavouring to remove the primary cause of the deformity—debility, by improving the constitutional powers of the individual; in the second rank may be placed the application of mechanical means adapted to prevent the increase and to remove existing deformity; and the third indication consists in application of means to act dynamically on the spinal column, such as certain exercises.

It is unnecessary to devote much time to description of the measures calculated to improve the general health. As medical practitioners and students you will anticipate my remarks on this matter. Food, in proper quantity and quality, good air, moderate bodily exercise, the exhibition of steel, iodine, vegetable tonics, and laxatives, according to the peculiarities of individual cases. In very severe cases occurring at the period of life when the general growth should be most rapid, particularly if very great debility be present, you may for a time forbid exercise altogether. In these cases the patient should have the benefit of carriage exercise, or in the summer season be permitted to recline in the open air during a large portion of the twenty-four hours. Entire suspension of corporeal exercise is highly prejudicial to persons in vigorous health, and has consequently been commonly considered equally inexpedient to persons debilitated, as in severe spinal curvature. The cases of persons in health and debility widely differ. The debilitated individual possesses little vigour to expend; if this be exhausted in corporeal exercise, none will remain for due performance of the vegetative functions of the system. You will often be surprised to observe that a person extremely weak, labouring under spinal curvature, who has long struggled to improve her health by exercise and nutritive diet, continues daily to get worse, until entirely confined to the couch, after which a manifest improvement in every function ensues. Do not mistake the import of the advice I now offer you. Use entire repose in these instances during a limited period as a means of improving the general health. It may be advantageous as a means of fulfilling the second indication, which I shall presently consider. Do not imagine that I recommend a confinement of months and years to the recumbent position as a means of curing spinal curvature.

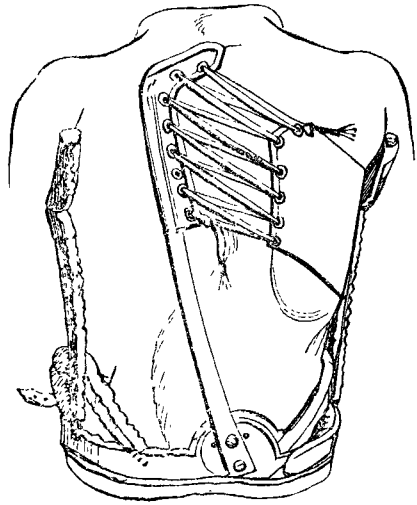
The means of fulfilling the second indication (the application of mechanical means adapted to prevent increase and remove existing deformity) will be more intelligible if you reflect on the physical condition of the spine. You perceive a weak column unable, through want of firmness and tone, to support itself in the erect position, daily yielding from the perpendicular line, through

the combined influence of gravity and unequal muscular traction. You further observe, when the curvature is not of long standing, that the column is straightened on the assumption of the recumbent position. Is it not proper, under these circumstances, greatly to abridge the period during which the erect posture is attempted to be maintained, and thus be content to follow the course pursued by every nurse or parent who perceives a child's spine to bend beneath the superincumbent weight. Undoubtedly the most certain plan would be to confine the patient during the whole of the remaining years of growth, with the hope that if the column remained straight, or nearly so, at the period of completion of growth, it would not subsequently yield. This is an important part of the plan adopted by a gentleman now deceased, whose zeal in behalf of humanity and science is proved by the legacy of a large sum of money for the treatment of sufferers from spinal disease. Dr. Harrison, to whom I allude, attributed too much, in my opinion, to the adjuvant means contained in his "*system*," and too little to the influence of mere repose. I shall sufficiently discountenance absolute repose during long periods, as one of the means of curing lateral curvature, when I state that, in Dr. Harrison's hands, seven years did not always suffice for the attainment of his object, and that when persevered in during a much shorter period the wasting of the muscular system generally is so considerable that fears may reasonably be entertained that recovery therefrom may never be effected. According to the urgency of the case you may, however, have recourse to recumbency during four or six hours daily, divided into two or three portions.

Other mechanical means of partially or completely effecting the restoration exist. It is important to relieve the column of as large a portion of the superincumbent weight as possible. Numerous spinal supports and corsets, invented by their manufacturers with the specific property of curing lateral spinal deformity, have, at all periods, been brought under the notice of the profession. Some of these inventions, on the contrary, enjoy a dishonourable privacy, their nature, if not their merits, being carefully concealed. The greater number of them answer, in some degree, the purpose of supporting the spine, being applied whilst in the recumbent posture; they resemble a cuirass, against which the tottering or inclined spine finds a resting point. They are not curative, and rarely prevent increase of deformity. Springs similar to a hernia truss are often applied, through the intervention of the ribs, to the projecting parts of the column, but their utility does not equal the ingenuity of their application. Tavernier's lever belt, which I have for some time past, employed with some modifications,

approaches more nearly to a scientific apparatus for cure of lateral curvature than any other I have examined (see fig. 44).

Fig. 44.



Lever Belt and Support for Lateral Spinal Curvature.

Tavernier's lever belt consists of a band to encircle the pelvis, and should be made of light metal and furnished with semi-circular pieces to rest on the ilia. Attached to this pelvic band is a long steel lever, the angle of which may be arranged by means of a screw. This lever is directed towards the depressed shoulder (usually the left), and is intended for the attachment of a broad belt, which, taking its origin in front, at the pelvic band, opposite the left ilium (in the ordinary curvature to the right side), passes upwards across the abdomen around the prominent right side of the thorax. Part of the weight of the head and shoulders is removed by means of the crutches. The mode of operation of this apparatus in *rectifying* the position of the spinal column is simple. The pelvis affords a fixed point, so that the traction exercised upon the upper extremity of the lever by means of the laced belt, acts powerfully and continuously, during all the movements of the frame, in compressing the ribs of the right side, and, through their intervention, propels the lapsed dorsal vertebræ into the perpendicular position. The restoration is facilitated by the weight of the upper extremities being partially removed. This apparatus possesses the advantage of not subjecting the thorax to any circular compression; the wasted left side of the thorax is perfectly free, and one of the earliest signs of improvement consequent on use of the apparatus is an evident enlargement of the capacity of this side. The relief experienced is so great that patients spontaneously remark the diminished fatigue with which they take exercise, the greater freedom with which they

respire. I have witnessed no instances in which the health of the patient has not, at the same time, improved. It is unnecessary to remark that, in the use of this apparatus, as in that of all mechanical contrivances for the relief of deformities, as much will depend upon the manner of application as upon the apparatus itself. Do not hastily attempt too much, but gradually accustom your patient to its use. It is well to remember the maxim, *arte non vi*, in this as in other deformities. Benefit may also be derived by causing a shoe, with raised heel, to be worn on the side on which the ilium is depressed. It counteracts the habitual sinking of the side through the improper attitude instinctively assumed. It rectifies the position of the pelvis, and compels the spinal column to attempt, as it were, its own restoration.

Modifications, frictions, suitable exercises, modified calisthenics, as they are termed, by which the muscles of the upper part of the frame, particularly those of the left side, may be excited to activity and strengthened, serve to fulfil the third indication. It is necessary, however, to guard against too great exertion or fatigue. By judicious application of the principles I have laid down, and by availing yourselves of the practical hints I have given you, you may, in the majority of spinal lateral curvatures of not more than three or four years duration, succeed in re-establishing the straight line of the spinal column. It is more difficult to remove the deformity of the ribs; those on the right side of the thorax are absolutely larger than those of the left, which have been imperfectly developed, through the distortion having so long existed during the growth of the body. They are not only larger but altered in form, and no means exist by which they can be wholly restored. This circumstance, is of little moment, beyond the traces presented of former spinal distortion, as proper arrangement of female dress and the skill of the corset-maker may conceal it. The principal object, *straightening of the spinal column*, being obtained, relapse of the form of the trunk, and the secondary evils of spinal curvature formerly enumerated, need not be apprehended.

I have scarcely alluded to congenital distortion of the spine, its occurrence being extremely rare. I have never witnessed it except as a complication with other congenital deformities. The hour is nearly expired, or I would fully state my reasons for not recommending tenotomy or myotomy as a remedy for lateral curvature. It is sufficient to remark, that operation is unnecessary for the cure of moderate curvatures, and is ineffectual in the more severe forms of the deformity.

I shall conclude this subject by an extract from the work of Stromeyer, — “ Ueber

Paralyse der Inspirations-Muskeln,” and apply it to the views promulgated in these lectures:—“ With the conclusion of these remarks the question may be asked, Whether these pathological notions will facilitate the cure of lateral spinal curvature? I believe I may answer in the affirmative, provided they tend to excite an interest in the study of this affection among medical practitioners, for the majority of these have hitherto spurned the investigation and treatment of these complaints, and have preferred leaving them to the shoemaker and machinist. The early recognition and successful treatment of lateral curvature can only be effected by a general diffusion of clear ideas of its nature. A correct pathology will exercise little influence upon cases of many years duration, as these are incurable; but they may be alleviated, or their progress arrested, a fact which neither the public or practitioners have sufficiently recognised.”

With these remarks the course of lectures on deformities of the human frame, which I undertook to give during the summer session, is terminated. I regret having been compelled to treat many matters less perfectly than their importance merited.

It will be a source of great pleasure to me if, by the delivery of these lectures, I shall have succeeded in awakening your interest in a subject not usually considered attractive.

LECTURES

DELIVERED IN THE THEATRE OF
ST. GEORGE'S HOSPITAL,
IN THE SESSION 1843-44,

BY

SIR BENJAMIN COLLINS BRODIE.

ON FATTY OR STEATOMATOUS TUMOURS.*

THERE are different kinds of fatty tumours, but the most common is the following:—The fat resembles ordinary fat, except that it is rather of a more delicate and of a looser texture, and of lighter colour. It is composed of lobules with very thin membranes between them; and externally there is a thin membranous bag in which the whole mass is contained. This bag has a very loose adhesion to the parts in which it is imbedded, but the adeps which it embraces adheres pretty firmly to it.

These tumours, for the most part, form under the integuments in some part where there is naturally adipose structure. You never find them where there is no adeps originally; as, for instance, in the scrotum,

* Owing to an error of our reporter we were not able to publish the above lecture at the time it was delivered.