

ers. Fabulous tales were told of the wealth piled up in this way, and when the light was turned on this practice, the Legislature enacted a law that all persons engaged in this business should wear a badge. This put an end to this scandal. There is little difference between these now obsolete methods and those now practiced in many of our Northern cities, only that professional men are employed as drummers and the slice of the fee is larger.

Another variety of this commercialism has reached the hitherto honest practitioner in the country. The plan is this: Dr. A. brings a patient to Specialist B. or General Surgeon C. A. says, "here is a man abundantly able to pay a good fee, charge him liberally, but I want one-third or one-half." Should the specialist or the general surgeon refuse to accede to this proposition, the patient is taken elsewhere to some less scrupulous brother.

The wrong is to the unsuspecting victim; he trusts his family physician to send him to the specialist of his selection to be sure, but he has a moral right to expect that selection to be made on honest judgment and not with regard to the division of a great fee. Nor is this practice fair to the specialist and surgeon, for they get the credit of charging an exorbitant fee, only a part of which they actually receive.

No. Let each practitioner have his regular and proper fee, and if any division must be made, let the patient know exactly whom he is paying.

THE WAR INVESTIGATING COMMITTEE.

The War Committee of Investigation visited Chicago this week and took testimony of various volunteer medical officers. Colonel SENN, Dr. CUTHBERTSON and others testified. As the testimony was of general interest we will reproduce it in our next issue.

CORRESPONDENCE.

Braces in Spinal Curvature. A Discussion of a Few Points found in an Editorial of Sept. 10, 1898, in the Journal of the American Medical Association.

NEW YORK, Oct. 31, 1898.

To the Editor:—I observe in the JOURNAL of September 10 an editorial on "Curvature of the Spine," which is so far at variance with clinical observations, scientific facts, and known truths, that I believe, in the interest of the profession and the unfortunate individuals afflicted with this deformity, that a short discussion of the editorial and its subject-matter, will not be wholly out of place.

I quote from the editorial: "What greater mistake can there be in medicine than that of fitting a brace to a child suffering from spinal curvature?" . . . "What folly, what total lack of reason it would seem to put a splint on a weak muscle!" . . . "The fault is entirely one of nutrition and development."

These statements are misleading, both to the profession and to the patient. They are arbitrary in their inception, empiric and unscientific as an edict. These statements would lead the reader to believe that all cases were attended with weak or paralyzed muscles as an etiologic factor. Now, I am prepared

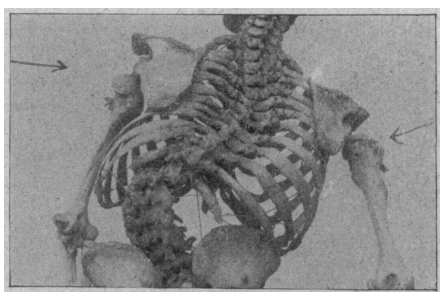
to state and demonstrate that not all cases of lateral curvature of the spine are attended with weak or paralyzed muscles as an etiologic factor. Cases of lateral curvature of the spine, due to a short leg or bad position in sitting, have their origin primarily in bone changes. Many cases of lateral curvature of the spine begin in bone disease located on one side of the body of the vertebrae, which disease leads to a lateral curve by the destruction of bone, and in other instances by the absorption of the intervertebral cartilages and bone from pressure. In such cases the muscles have nothing whatever to do with pathologic changes which take place in the bone. Such cases are not by any means rare nor in the minority, and I would like to ask whether these wholesale edicts which are promulgated in the editorial are intended to apply to such cases as I have just mentioned, which clinical observations demonstrate, and the entire orthopedic profession, perhaps, with an occasional exception, will verify. In such cases, the weakness of muscle occurring on one side (the convex) of the curve is a secondary result, depending entirely on the primary curve in the bone, and surely, to prevent further destruction by absorption of the vertebrae or intervertebral cartilages, a support to relieve pressure is of paramount importance. In deformities of the extremities caused by paralysis of muscle, and more especially so-called spastic paralysis, the only way to prevent bone and ligamentous changes, which would result in hopeless deformities, is by applying appropriate braces and even resorting to extensive tenotomy or myotomy to weaken the strong muscles; thus establishing normal compensation between the muscles. The same rule holds good in lateral curvature of the spine. The spinal column is a flexible lever operated upon by masses of muscle on either side of it. If one set of muscles is two or three times stronger than the antagonizing ones, lateral curvature will result, in spite of gymnastics, massage or electricity, unless the spinal column can be reinforced by a proper brace to hold it in a straight position, to prevent absorption of bone by pressure. I, therefore, can see no "folly nor lack of reason," in applying a suitable support to lateral curvature of the spine, any more than I can see "folly or lack of reason" in applying a brace to a foot paralyzed, to prevent talipes varo equinus.

It may be argued that massage will prevent a clubfoot occurring in spastic paralysis. This I know, with an occasional exception, is impossible, because I have tried it in a large number of cases. It may also be argued that massage and gymnastics, without bracing, will cure all cases of lateral curvature of the spine. This I also know to be an error, because I have seen scores of cases treated with gymnastics and massage by our best orthopedic surgeons in this city, and still these cases have gone on increasing in curve, due to pressure absorption. Proper bracing, together with gymnastics and forcible redressment, should be the rule of treatment in cases requiring it. One may as well attempt to straighten a crooked mast of a ship, which had become warped and bent by the weather, by tightening the shrouds and stays, as to straighten cases of lateral curvature of the spine of the second degree with gymnastics and massage without proper bracing.

Another quotation from the editorial: "There are in medicine and surgery a number of conditions which are hidden from observation and palpation, perhaps they are further obscured by a feeling of uncertainty in the anatomy of the part, and at no time in the course of the disease can we see, feel or measure in millimeters the exact extent of the lesion. The physician will invariably draw down the curtain of obscurity before such a case, lose his clearness of vision and make haphazard thrusts at both diagnosis and treatment." There are many factors in the etiology of lateral curvature of the spine, which the profession know but little about. We are perfectly familiar with pathologic conditions which take place in lateral curvature of the spine. The dissecting-room has told the story. We also

know of something like eight or ten different causes of this curvature, but we do not know the whole of them. It is for this reason that I believe your editorial makes a mistake in its dictum in stating: "What greater mistake can there be in medicine than that of fitting a brace to a child suffering from spinal curvature?" This edict would imply a *perfect knowledge of the etiology of all forms of lateral curvature and that it was always to be found in the muscles alone*. This together with, "The fault is entirely one of nutrition and development," is a mistake.

In many cases changes due to nutrition and development are secondary, the curve not being caused by weak or paralyzed muscles, but by other potent agency, e.g., rachitis, bad position, a short leg and even a diseased vertebra. Surely these conditions require bracing, together with proper treatment, after bone changes in the vertebral columns have taken place. Then a little further on, I find all the causes of lateral curvature summed up in the following sentence: "The predisposing causes are prolonged ill-health, rapid growth and rickets, occurring in girls between 12 and 20 years, while the exciting causes may be a one sided position at school, a faulty position in standing, an obliquity in the pelvis, and it would seem from the fact that it is usually right-sided that a hypertrophy of the muscles on this side acts as a prominent factor." Now, as a matter of fact, the hypertrophy of the muscles is not upon the side of convexity. If the hypertrophied muscles were upon that side they alone would strengthen the spine, and there would be no occasion for gymnastics or other exercises. The paralyzed or weak muscles are always upon the side of convexity and not on the side of concavity.



When the deviation from the median line amounts to more than one-half of the diameter of the vertebræ, it will invariably increase, under any form of treatment short of proper bracing to relieve the pressure at the point of curve, for the reason that the weight of the head and shoulders, upon the flexible spine, while the patient is in an upright position, will constantly exert pressure on that point, and absorption will go on as many hours a day as the patient is in an upright position, no matter if the muscles are developed in strength and size to those of a gymnast.

The illustration appended represents an advanced form of double lateral rotary spinal curvature with its attending bone changes. On the left side the ribs are approximated and even overlapping. The intercostal muscles and ligaments on the left side are put upon the stretch while upon the right they are contracted and have become shortened or destroyed. In the lower curve the transverse processes upon the concave side of the curve have become firmly locked together, as also they have in the upper curve, while upon the convex side of both curves, the transverse processes are as widely separated as the ligaments will permit. In both these curves the vertebræ have become thin and wedged-shaped, the point of the wedge being directed toward the concave curve. The muscles in this specimen were found to be degenerated and almost entirely destroyed over the convexity of the curve, while they were shortened and nearly normal in the concavity of the curves.

The spine is rotated in the direction of each of the curves, following the law that "rotation takes place in the direction of curve." Gymnastics could only be harmful in a case of this kind; nothing but appropriate bracing could arrest the progress of the deformity, and *nothing could be done to change the pathologic curves in the bone*. It would be necessary to change the shape of the thorax and ribs, and lengthen the intercostal muscles and ligaments to effect a cure, which is impossible.

Muscles do not hold the spine erect. There never was a greater error taught. Muscles only balance the spine. Ligaments and the bony construction of the spinal column, together with intermittent action of the muscles to balance the spine, hold the spine erect. Muscles would tire out if they were put upon the stretch for any length of time, as can be illustrated by an effort to hold the arm in a horizontal position from the body; it will quickly fall to the side, and the muscles become temporarily paralyzed. Then, again, poliomyelitis paralyzes groups of muscles, which is a very frequent cause of lateral curvature. How are we going to restore tone to these muscles short of curing the lesion in the spinal cord, inasmuch as we know that these lesions are usually permanent, paralysis of muscles on one side allows of lateral deviation, and the weight of the head and shoulders producing pressure at the point of curve must necessarily result in absorption of the vertebræ by pressure through the lifetime of the individual? On the concave side of the curve will be found the shortened ligaments and shortened fibrous elements of the muscle. We know that when similar conditions exist in the muscles in the lower extremities, and spastic changes have taken place, nothing but a tenotomy and possibly an extensive myotomy will relieve the deformity. *Gymnastics and massage are of little use, or positively harmful in such cases*. The knife and proper bracing, together with gymnastics to assist in strengthening the opposing muscles, if they were not totally paralyzed on the convex side of the curve, are truly indicated.

That "the ligaments are lax and insecure," is not the fact; the ligaments are positively put upon the stretch on the convex side of the curve and upon the concave side are contracted and shortened, together with the fibrous structure of the muscles. Pathologic specimens in my possession, which I have dissected out, demonstrate these facts. The idea that ligaments are "lax and insecure" originated in the mind of the "gymnastic" orthopedic years ago. The dissecting-room explains the error, as it has many of the absurd theories in regard to deformities. To the quotation "Apparatus only defeats the object of the treatment in a great majority of cases by preventing development; an apparatus, no matter how skilfully constructed, can not correct a deformity of this kind," I may add that *no amount of gymnastics or other exercises can, or every has, diminished the curve due to bone changes in lateral curvature of the spine*. When the vertebræ have become deformed from destruction of bone, from absorption due to pressure, and changes have taken place in the ribs and intercostal muscles, that deformity will remain; and the sooner writers upon the subject admit this fact the better it will be for both surgeons and patients. The most that can be accomplished is to arrest the deformity by preventing further changes at the point of curve, by pressure, and aid in the formation of compensatory curves. *That apparatus prevents development is as erroneous as the statement is incorrect*. An apparatus which is only worn when the patient is in an upright position, in connection with proper gymnastics and other exercises, does not prevent development, but, on the contrary, such patients will more rapidly develop muscles that are weak than without it. Clinical observations demonstrate this fact. To illustrate: In club-feet the extensor muscles have become weak on account of the feet having been drawn around to an abnormal position, by the stronger muscles putting the weaker ones upon the stretch.

This stretching of the anterior tibial group of muscles produces degeneration and temporary paralysis by pressure. The sheath and fibrous tissue of the muscle are approximated by stretching, making pressure upon the muscle cell. These same pathologic changes take place in the muscle of the back on the side of the convexity, and, as in club-feet, these muscles will not regain their tone until the tension is taken off them, and this is best done, in club feet, by overcoming the deformity immediately, by operating and bracing, and in the spine, by taking the tension off the muscles by putting the spine in an extended position. When the spine is so extended a proper support will hold it so while the patient is erect. This can only be done by an apparatus of some sort or recumbency in bed.

I am very sorry that it was necessary for me to write this letter, but as I stated in the beginning, it seems to me that the points which the editorial mentioned should be open to discussion in the JOURNAL.

A. M. PHELPS, M.D.

"The Jugglery of Statistics"—A Bungling Prestidigitator.
PHILADELPHIA, Oct. 30, 1898.

To the Editor:—In answer to your correspondent who writes under a part of the above title, permit me to quote a reply which appears in the *Philadelphia Medical Journal* of November 5:

"The Jugglery of Statistics, a Reply to an Absurd Editorial" is the title of an article occupying one and one-fourth columns in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION of Oct. 29, 1898, and written by Dr. Charles Smart, Deputy Surgeon-General of the U. S. Army. The writer is very scornful and contemptuous of the statistics of medical men in general, and of the *Philadelphia Medical Journal* in particular, viewing all of us from the lofty point of an expert dealing with ignoramuses. He admits the accuracy of the figures given in our editorial, namely, that in the Civil War 66.6 per cent. of deaths were from disease, and in the Spanish War 88.1 per cent. It was this difference that we thought needed explanation, and with all deference to our cynic critic we still think it demands it. This is the way we are disposed of:

"The absurdity of this may be well illustrated by adding to the statistics and ratios given above those derived from the reports of the engagement of Admiral Dewey's fleet on May 1, 1898, at Manila. Dewey's fight lasted only one day. The figures given for the Spanish War covered a period of five months, and those of the Civil War a period of five years and two months; but as the element of time does not enter into the calculations of the ratios criticised this element need not be considered in the engagement at Manila. Here we find that no man was killed, no man died of wounds received, but that one man, an engineer officer, succumbed to heat exhaustion or insolation. Stating these figures as percentages of the total mortality we find: killed 0 per cent., died of wounds 0 per cent., died of disease 100 per cent., as compared with 88.1 per cent. in the Spanish War, and with 66.6 per cent. in the War of the Rebellion. If it is not needful for the Honorable Sirs to give such high consideration to the greater death-rate from disease as compared with the deaths from wounds and deaths on the battlefield in the Spanish War considered as a whole, how serious is the consideration they ought to give to this frightful rate of mortality from disease as compared with that from battle casualties in the Bay of Manila."

Now, is there a schoolboy of ten years of age who could not see the "absurdity of this?" If so, he should be whipped and put to his "arithmetic" again. What right has Dr. Smart to say that "the element of time does not enter into the calculation?" It is precisely this element of time that gives the subject any intelligibility whatsoever. The figures are for the entire periods of the two wars. Were there not a great many days during the Civil War when, no battles occurring, there were no deaths whatever from battle or from wounds, but in which large numbers died from disease? Will not our critic kindly spare us from the necessity of replying to such utter nonsense in future? And will he not also spare us the dis-

courtesy of applying his contemptuous remarks to himself? The death from the heat exhaustion at Manila, by the way, did not occur during, but some time after the battle. The "element of time" being excluded, the percentages of deaths during the entire Spanish-American War were as follows: killed, 0 per cent.; died of wounds, 0 per cent.; died of disease, 0 per cent. Q. E. D.

We add as a postscript to the above two thoughts which, as it occurs to us, have not been heretofore brought out: 1. The Civil War was longer, and therefore the number of deaths from disease would necessarily be enormously greater relatively than in a war of short duration. 2. The figures quoted of the deaths from disease in our recent war were made up some time ago, but since then additional deaths have been occurring every day. And the end is not yet reached. The percentage given of deaths from disease in the late war is consequently too low. Such considerations will have no weight with expert statisticians who think that "the element of time does not enter into the calculations."

Respectfully yours,

GEO. M. GOULD, M.D.

Retarded Delivery.

RYAN, IOWA, Oct. 29, 1898.

To the Editor:—The writer was called Thursday evening, October 20, to attend Mrs. C., a primipara, aged 21 years, with small but roomy pelvis and fine muscular development. Vigorous pains were established by 11 P.M., with the position right occipito anterior. Dilatation of the cervix was soon complete, and matters advanced steadily till early morning when, with the head well down on the perineum, and strong pains, all progress ceased. At 7:30 A.M., the mother showing signs of nervous and physical exhaustion, forceps were applied and the head easily delivered. The cord was found tightly wound around the child's neck. Traction on the cord resulted in severing its placental attachment and the child was quickly delivered. On measurement, the cord was found to be nine inches in length, and had evidently furnished one, if not the chief cause for the retarded delivery.

A. H. SCOFIELD, A.M., M.D.

BOOK NOTICES.

A Manual of Otology. By GORHAM BACON, A.B., M.D., Professor of Otology, Cornell University Medical College, New York; Aural Surgeon, New York Eye and Ear Infirmary. With an introductory chapter by Clarence Blake, M.D., Professor of Otology in Harvard University. New York and Philadelphia: Lea Brothers & Co., 1898.

This manual, written for students, furnishes in a very compact form all the information they need about the anatomy, physiology and the diseases of the ear. To impress upon the student the close relation of the upper air passages to aural diseases, the author has added a chapter on adenoid growths, enlarged tonsils and diseases of the nasal passages. The book is well written, small and inexpensive and undoubtedly will become popular with the students. It is profusely illustrated, and contains a colored plate representing a brain abscess. If colored plates at all, we should think in a manual of otology a series of colored pictures representing the drumhead in health and disease would certainly be far more appropriate than the picture of a brain abscess.

Medical Communications of the Massachusetts Medical Society. Volume xxvii, No. 3. Boston: 1898.

The contents of this volume are: 1. "Annual Discourses," by William T. Councilman, M.D. 2. "Some Modern Methods of the Treatment of Phthisis and its Symptoms," by Edward O. Otis, M.D. 3. "Types of Habit Neuro-Psychoses," by Edward W. Taylor, M.D. 4. "The Toxin of Diphtheria and its Antitoxin," by Theobald Smith, M.D. 5. "Recent Progress in the