

performance. The marked advance in legislation in dissemination of knowledge of public needs and public dangers, is evident to every one, and in no instance has there been heard any remonstrance from municipalities; while on the other hand, demands are constantly being made for positive knowledge on many points regarding which there

is uncertainty. We recommend the facts herein contained to the careful consideration of those whose special duty it is to deal with these matters; and trust that facilities will be given for supplementing existing public health work in the direction which our practical needs indicate.

## INDEX OF PROGRESS.

### SURGERY.

#### The Treatment of Scoliosis by Massage.

The following interesting article on the above subject, by Dr. Douglas Graham, appears in the *Annals of Surgery*, for December:

"The results obtained from the employment of massage in carefully selected cases of lateral curvature of the spine seem to have been so successful that they deserve more than a passing notice. Dr. Landerer's paper on this subject, together with the discussion of the same at the Congress of the German Society for Surgeons, are worthy of our consideration. Our author regards habitual scoliosis as that arising from superincumbent weight as genu valgum sometimes does, the weight pressing bones and joints in wrong directions and ultimately causing anomalous growth. It is in the earlier stages of this form of scoliosis that he has found massage to speedily bring about recovery, and in the latter stages when the deformity has become fixed, intercostal neuralgia and painful tension of the muscles are relieved, and the patient made comfortable by the same means. This form of scoliosis is to be kept separate from the static, rheumatic, traumatic, empyematic and other kinds, in which it would be well to include that arising from disturbance in the central nervous system.

The production of the natural curves in the spinal column is clearly explained. In early childhood the spinal column is straight. The normal S curve arises from the combined effect of gravity and muscular action, the former alone would cause a simple backward curve, a total cyphosis; the latter modifies this and forces it into a serpentine curve. The action of both is to shorten the spinal column. While our observation would agree with that of the author, that marked serpentine curves, especially deep lordoses in the lumbar regions are frequently found in those of great muscular strength

and in stout people of medium stature, we would beg to differ from him in his statement that those who are tall and slim spare their muscles by throwing the centre of gravity of the upper part of their body as far back as possible. More often the latter stoop or are round-shouldered, and when they maintain an erect attitude the absence of marked curves may be owing to the muscles not being sufficiently strong to curve and shorten the spinal column.

The upper and lower extremities of the cervical portion of the spinal column are approximated by means of the muscles at the back of the neck, the contraction of which changes the former convex backward curve of infancy to a concavity. This result is aided by the effort to maintain the centre of gravity, for the middle and lower parts of the cervical region carry the most of the weight of the chest. The thoracic organs and even part of the weight of the abdominal organs are suspended from the first and second ribs and from the region of the sternum to which these are attached, and these again are held by means of the scaleni muscles and by them raised during inspiration, so that the weight of the thorax is transferred to the middle and lower cervical vertebrae where these muscles are attached.

As the dorsal region of the spinal column has but little strain upon it in either direction it remains convex posteriorly as in infancy. But it is otherwise with the lumbar region which becomes convex anteriorly, owing to the action of the large muscles on its posterior aspect which changes the previous backward convexity into a concavity. The lumbar region carries the major part of the weight of the intestines; it is here that the mesentery is attached and also the psoas muscles. These muscles, when the thighs are fixed as in standing or still more in assuming the erect position, make a downward pull upon the lumbar vertebrae in the same manner as