ART. XIII.—*Researches upon the Anatomy and Physiology of Respiration in the Chelonia.* By S. WEIR MITCHELL, M.D., and GEORGE MOREHOUSE, M.D.—*Philadelphia*, 1863. pp. 42.

THE authors begin their dissertation in a manner very creditable to them, by doing justice to an English inquirer of the latter part of the last century, Robert Townson, whose researches on the subject appear to have been strangely neglected by anatomists and physiologists, and most undeservedly, as in point of correctness his results, it is shown, were more accurate and more free from error than any afterwards published, not excepting those of distinguished names and of leading and living authorities.

Their dissertation, one of the "Smithsonian Contributions to Knowledge," and published by the Smithsonian Institution, consists of two parts, one anatomical, the other physiological. Both afford good examples of careful examination and description, and of well conducted experiments and just reasoning. Taken as a whole the results are interesting and instructing; and the latter especially in one point of view, as showing how men of the highest authority may make mistakes when trusting too much to analogies.

The following are the ascertained points to which the authors desire to call attention as new; and receiving them as such, they must be allowed to be a very valuable addition to comparative zoology:—

"1st. In Chelonians the superior laryngeal nerve is distributed both to the opening and closing muscles of the glottis.

"2nd. The inferior laryngeal nerve is distributed solely to the opening muscle of the glottis.

"3rd. A true chiasm exists between the two superior laryngeal nerves.

"4th. The expiratory muscle lies within the breast-box, and consists of anterior and posterior bellies connected by a strong tendon continuous across the middle line, and common to both sides of the animal.

"5th. The inspiratory muscles occupy the flank spaces on either side.

"6th. Inspiration is effected by the contraction of the flank muscles, which in appearance strongly resemble the diaphragms of superior animals.

"7th. Expiration is effected by the consentaneous action of the four muscular bellies above described, which thus compress the viscera against the lungs. The act of respiration consists of an expiration and an inspiration, during which the glottis remains open.

"8th. The opening of the glottis is effected through the agency of the superior and inferior laryngeal nerves, both of which are distributed to the dilating muscle of the glottis. The superior laryngeal nerve presides over the closure of the glottis, being in part distributed to its sphincter muscle. The elastic contractility of the glottic cartilages aids in closing this orifice. After section of the superior laryngeal nerves, the glottis may still be opened by the agency of the inferior laryngeal nerves, its imperfect closure being then effected by means of the elasticity of its cartilaginous lips. The chiasm of the superior laryngeal nerves enables one of these nerves to open and shut the glottis after section or disease of the opposite nerve, and of both inferior laryngeals.

"Physiologists have therefore been in error when describing the respiration of Chelonians as analogous to that of Batrachians, since it more closely resembles the breathing of the higher vertebrates."

A wish is expressed by the authors in their Preface—a very desirable one :

“That the novel views they have brought forward may induce comparative anatomists and physiologists to examine afresh the respiratory mechanism of other reptiles, and also of birds—a labour they indulge the hope of sharing.”

ART. XIV.—*The Restoration of a Lost Nose by Operation.* Exemplified in a series of cases, illustrated with wood-engravings. By J. HAMILTON.—London, 1864. (Pamphlet.)

THIS interesting pamphlet records an extraordinarily large experience of the somewhat rare operation of rhinoplasty. Mr. Hamilton intimates that, before his operations, this proceeding was almost unknown in Dublin, one case being all that he could find out, and that case having terminated in deformity almost worse than what existed before the operation. Mr. Hamilton, however, has now operated on ten cases, and all have been successful—unusually so, if we may judge by the portraits which are inserted in the pamphlet before us. This great success certainly warrants Mr. Hamilton in recommending the operation to greater favour than it at present enjoys. Many surgeons (perhaps we might say most) are under the impression that, by a little ingenuity in modelling, a false nose can be made which will represent more nearly the shape of the natural organ than anything which can be fashioned out of the skin of the patient, and this can be painted so as very nearly to imitate the natural colour. We well remember a woman who used to model and paint for herself a false nose, which made so good a substitute for that which she had lost, that the surgical staff of a large hospital, to which she applied for advice, unanimously decided that nothing which plastic surgery could accomplish could hope to rival the patient's own handiwork. But this cannot always, or even commonly be effected; so that we regard Mr. Hamilton's pamphlet as a very seasonable contribution to operative surgery, for many of these cases are abandoned which might be much benefited if the operation should turn out as well in the hands of others as in his. We notice with pleasure that Mr. Hamilton has found the new feature acquire additional thickness and prominence with time—a very important consideration in the case. The shrivelling which Mr. Skey has dwelt on as one of the drawbacks to the operation is attributed by Mr. Hamilton to that surgeon's plan of taking the new integument from one side of the forehead, which requires too long a pedicle, whereby the vitality of the transplanted flap is reduced. In thinking over this subject, we have never quite understood why the old method of Taliacotius has fallen into disuse. It would appear (theoretically at least) to involve less risk of sloughing to deal with more healthy parts and thicker skin, and to have the merit of at any rate not extending the deformity, as the large frontal wound might easily do. Perhaps, however, the inconveniences in its practical application might be less easily surmounted than appears before trial.