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ORIGINAL COMMUNICATIONS.

ART. XVII—*A Lecture on the Diastaltic Spinal System.* By MARSHALL HALL, M.D., F.R.S.L. and E., Foreign Associate of the "Académie de Médecine" of Paris; &c. &c.

(Concluded.)

Exp. 2. I now remove the head and all the viscera, and with these the ganglionic nervous system. The phenomena remain unchanged.

There is therefore in this decapitated and eviscerated frog, absolutely nothing but the spinal system—*the diastaltic spinal system*—with its own peculiar and exclusively excito-motor phenomena. This is demonstration.

Exp. 3. But I proceed further. Having isolated the spinal system anatomically, I wish now to shew you the dissection and the demonstration of the diastaltic nervous arcs, of which it is essentially composed. Taking one of these, the phenomena of which has been elicited, I observe, or rather repeat, that the *origin*, or commencement of such arc is in the integument; its in-going, or *eisodic* course is in the femoral and lumbar nerves; its central point in the spinal marrow; its out-going, or *exodic* course again in the lumbar and femoral nerves, and its *termination* in the muscles.

From this lower part of a lower extremity, I strip the skin, removing with it the origin of the eisodic nerve. I now, as you observe, irritate the toe of that limb in vain. There is no movement.

On this other side I divide the lumbar, (or it might be the femoral,) nerve. The same result is observed. There is the absence of all excito-motor phenomena.

Still the anterior extremities preserve their reflex or diastaltic actions. These are annihilated, as you see, by destroying the upper portion of the spinal marrow. In this manner the existence and course of the diastaltic spinal arc, the nervous or anatomical agent in each reflex or diastaltic action is demonstrated, and for the first time.

Exp. 4. I now, in another decapitated frog, irritate the upper portion