

but that both are not necessarily implicated ; and that, in fact, cases occur where there are marked deviations from what may be considered the more common occurrence. Having observed such cases, and not being aware of any satisfactory explanation, the author examined with care the continuation upwards of the anterior and posterior columns of the spinal marrow into the *medulla oblongata* and found that the decussation at the upper part of the spinal marrow belonged in part to the columns for motion, and in part to the columns for sensation ; and farther, that the decussation is only partial with respect to either of these columns ; thus elucidating by the observation of the actual structure what before appeared very unsatisfactory in pathology, and anomalous in disease.

The paper is illustrated by drawings made from the dissections of the author.

“Description of a self-registering Thermometer and Barometer invented by the late James Coggan, Esq., and bequeathed by him to the Royal Society.” By Roderick Impey Murchison, Esq., F.R.S., V.P.G.S., &c.

The self-registering thermometer used by Mr. Coggan is of Six’s construction, and consists of a siphon tube, open at one extremity, and operating by the expansion and contraction of a large body of spirit pressing on a column of mercury in the lower bend of the tube. On the other side of the wooden frame to which this thermometer is fixed, a siphon barometer is attached ; and both these instruments are made to act on iron-floats suspended by a thread, and counterpoised over a pulley. Transverse wires are affixed to these threads, and are forced against a sheet of ruled paper on a frame, which from its connexion with a clock is advanced a certain space each day, by a spring hammer forming part of the striking machinery of the clock.

“On the action of light upon the colour of the River Sponge.” By John Hogg, M.A., F.L.S., C.P.S., &c., Fellow of St. Peter’s College, Cambridge. Communicated by Thomas Bell, Esq., F.R.S.

The author found that the green colour of the *Spongilla fluviatilis*, or river sponge, is acquired solely through the agency of light, and is lost when the sponge is removed from its influence. As this does not appear to be the case with *Actinæ*, the *Hydra viridis*, or any other Polype, the author is disposed to consider this production as being nearer allied to the Algæ or Fungi, than to any tribe belonging to the animal kingdom.

“Researches on the Tides. Ninth Series. On the deduction of the Laws of the Tides, from short Series of Observations.” By the Rev. W. Whewell, M.A. Trin. Coll., Cambridge.

It is very desirable to ascertain whether it is possible to deduce the laws of the tides from short series of observations ; since, if it be so, not only does the construction of good tide tables for different places become more easy ; but also the value of tide tables is much increased, if the predicted tides agree with those of each year as well as with the mean of many years. The object of the author