A Letter from Lewis Weston Dillwyn, *Esq., addressed to Sir* Humphry Davy, *Bart. P.R.S.* Read March 25, 1824. [*Phil. Trans.* 1824, *p.* 413.]

This letter is supplementary to the former one, and contains further observations on the relative periods at which the different families of testaceous animals appear to have been created, and on the gradual approximation, which may be observed in British strata, from the fossil remains of the oldest formations to the living inhabitants of our present land and waters.

The author observes, that the dimyairia of the strata between the transition lime and lias have the ligament external, and that internal ligaments were therefore confined to the monomyairia till after the deposition of the lias. In the beds above the lias all the shells are referrible to existing orders of animals, and it is only in the tertiary beds that any of the cirrhipeda or families of naked mollusca have been found.

What is generally considered as the beak of a sepia, Mr. Dillwyn refers to the cephalopode animal of an ammonite. Every shell of the tertiary strata, the author observes, may be referred to some existing genus; but though this approximation has thus far proceeded in the London clay, yet its numerous species are now extinct, and it is only in the upper beds of crag that any fossil can be completely identified with a living species.

An Account of the Organs of Generation of the Mexican Proteus, called by the Natives Axolotl. By Sir Everard Home, *Bart. V.P.R.S.* Read June 17, 1824. [*Phil. Trans.* 1824, *p.* 419.]

The specimens described in this paper were taken in the month of June, in a lake three miles from Mexico, at an elevation of 8000 feet above the level of the sea. The usual temperature of the lake is 60°, and they are in such abundance as to form a principal article of food of the peasantry. By the assistance of annexed drawings by Mr. Bauer, Sir Everard fully describes the male and female organs of these animals, and is enabled to decide that they are a full grown and perfect tribe. "The attack therefore," says the author, "made upon Mr. John Hunter's sagacity by Mr. Rusconi, in his work *sur les Amours des Salamandres Aquatiques*, retorts upon himself."

An Account of Experiments on the Velocity of Sound, made in Holland. By Dr. G. Moll, *Professor of Natural Philosophy in the University of Utrecht, and Dr.* A. Van Beek. Read March 18, 1824. [*Phil. Trans.* 1824, *p.* 424.]

After adverting to the difference between the celerity of sound, as deduced by theory and found by experiment; and to Laplace's explanation of the cause of that difference, and his corrections of the Newtonian formula,—the authors proceed to consider the influence of

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the variable force of wind upon its velocity, and state their mode of annihilating such cause of error. They then detail their own experiments, for which they selected two open and elevated spots in the plains of Utrecht, distinctly visible from each other, and distant about 9664 fathoms. They measured the interval between seeing the light and hearing the sound by clocks with conical pendulums, which divide the 24 hours into 10,000,000 parts, and one of the indexes of which gives one 100th part of a decimal second. Each station was also furnished with a good barometer, several accurate thermometers and excellent telescopes, and the humidity of the air was determined by Daniell's hygrometer. The authors then describe the means which they adopted to insure the simultaneous firing of shots at both stations, and by which they succeeded in bringing them within 1″ or 2″ of each other, and enter at considerable length into the details of their different experiments, the results of which are given in several tables annexed to this paper; among which will be found one exhibiting a general view of the results of the experiments of those different philosophers who have investigated this subject.

In conclusion, it appears from their researches that at the temperature of 32°, the velocity of sound is 1089·7445 English feet per sexagesimal second.

A Catalogue of nearly all the principal fixed Stars between the Zenith of Cape Town, Cape of Good Hope, and the South Pole, reduced to the 1st of January, 1824. *By the Reverend* Fearon Fallows, *M.A. F.R.S.* Read February 26, 1824. [*Phil. Trans.* 1824, *p.* 457.]

Remarks on the Parallax of α Lyræ. By J. Brinkley, *D.D. F.R.S. &c. Andrews Professor of Astronomy in the University of Dublin.* Read March 11, 1824. [*Phil. Trans.* 1824, *p.* 471.]

The author's object in this paper is principally to form a correct estimate of the absolute and relative degrees of accuracy of the instruments at Dublin and at Greenwich. He first considers the difference of parallax between γ Draconis and α Lyræ, and secondly, the absolute parallax of α Lyræ.

He exhibits, in a table, the whole of the results of 337 observations of Mr. Pond for the intercepted arc, reduced to the 1st of January 1815, chiefly by Mr. Pond's own computations. From 46 observations made in the year 1812, he deduces 0″·28 for the coefficient of the effect of parallax; and from such of his observations as were made in the same day, the number deduced is 0″·54.

In 1813 there is a difference of half a second between the mean of 22 observations in June and July, and of 17 in August; hence Dr. Brinkley was led to examine the observations of this year alone, and he found that 61 of them, from June to December, as reduced by Mr. Pond, gave 0″·42 for the coefficient of parallax; and omitting the last five days of observation 0″·89, which is little less than the result of his own researches.