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Does Maynetism influence the circulation in Chara?

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lets go until forced to do so. I placed a sand lizard within its reach, which it instantly seized, and retained its hold for upwards of two hours, although for more than half that time it was suspended from it.

Before concluding, permit me to mention that the following reptiles have been found by me near Liverpool since August last: *Zootoca vivipara*, *Lacerta agilis*, *Natrix torquata*, *Vipera communis*, *Triton palustris*, *T. aquaticus*, *T. vulgaris*, *Rana temporaria*, *Bufo vulgaris*.

I remain, yours very respectfully,

W. WELLS.

New species of Fossil Bats. By M. H. DE MEYER.

Cheiroptera have but rarely been found fossil in the tertiary formations. Of this family, in the deposits anterior to the diluvian epoch, only the *Vespertilio parisiensis* of the schists of Montmartre was known, a single individual of which is preserved in the Museum of Paris; and two small teeth found in the eocene sand of Kyson, and referred with doubt by Prof. Owen to the genus *Vespertilio*. The species indicated by Karg, at Eningen, appears to be very uncertain, and the original specimen has not been discovered again. Hermann de Meyer has detected at Weisenau, amongst a considerable mass of fragments of bones, some belonging to two *Cheiroptera*. They consist of one half of the right lower jaw, in which, although the teeth are wanting, the alveoli are sufficiently well preserved to give an idea of the dental system; of three humeri, of which two are left and one right, which show the existence of two species, and prove even probably a generic difference between them; lastly, of one half of a radius which likewise can only belong to a *Cheiroptera*. These two species differ from that of Montmartre, and H. de Meyer has designated them under the name of *Vespertilio præcox* and *V. insignis*, until their generic affinities are definitely fixed.—*Leonhard und Bronn's Jahrbuch*, 1845, p. 798.

Does Magnetism influence the Circulation in Chara?

By M. DUTROCHET.

In some experiments made in the year 1837, M. Dutrochet proved that electric currents only affect the circulation of *Chara* by their action as *exciting* causes. The movement of the fluid is only arrested for a few minutes and then recommences, often with greater rapidity than before, as the equilibrium between the electric and vital forces is restored. This action is exactly analogous to that of hot water or solution of common salt.

M. Dutrochet has recently submitted *Chara* to the influence of a large electro-magnet, capable of supporting a weight of about 4000 pounds. The stem of *Chara* was placed a little in front of a plane passing vertically through the poles of the horse-shoe magnet, but quite within the magnetic influence. Careful observation at the moment of establishing the electric current in the coil, proved that the speed of the circulation was unaltered. Left thus for ten minutes, all remained as before—no influence was manifested. The

electric current was then suddenly reversed : the circulation exhibited no alteration. The stem was then exposed to the influence of each of the poles separately, from the base of the stem to the apex ; still no change in the circulation was visible. After each experiment all magnetic influence was suppressed, but no change in the rate of the motion became evident.

It was thus shown that the magnetic force, even when prodigious, exerts no influence on the circulation of *Chara*. Therefore there is no relation between the magnetic force and the vital force producing this circulation.

These experiments, with those of 1837, prove that the circulation is caused by a vital force, which is not electrical, since electricity merely acts like any other *exciting* cause, and which has no relation to the magnetic force, since the latter has not the slightest influence upon it.

It must be admitted therefore that the vital force is a force *sui generis*, of the nature, relations and mechanism of which we are totally ignorant.

These observations must necessarily change the opinion of those who consider the *vital force* as *something imaginary*.

At the same time it must be understood, that all the causes called *exciting* are *debilitating* or *sedative* in their *primitive* or *direct* effect, and only *strengthening*, *stimulant* or *tonic* in their *secondary* or *indirect* effect, by reason of the *vital reaction* which they occasion either instantaneously or after a short interval.—*Comptes Rendus*, April 15th, 1846.—A. H.

New species of Fossil Frogs.

M. Dunker has found some small bones of frogs in shell and coralline deposits of Hellern, not far from Osnabrück, which belong to the tertiary epoch. H. de Meyer, who has examined them, has found in them at least three new species, which may be distinguished particularly by the forms of the humerus. This same bone had already served that able palæontologist to establish twenty-four species of frogs found at Weisenau. Not one of the humeri discovered at Hellern is similar to those of these twenty-four species. The other bones, such as those of the sacrum, of the fore-arm and of the pelvis, appear to indicate more analogy between the species of these two localities.—*Leonhard und Bronn's Neues Jahrbuch*, 1845, p. 798.

Description of Fossil Foot-Prints. By ALFRED T. KING, M.D.

It is now more than a year since fossil foot-prints were discovered in the sandstone of the coal-measures in Westmoreland county, Pennsylvania. Since then, numerous localities have been observed, which contain well-characterized impressions. Some of these are similar to, and a few identical with, those which I first described, but by far the greatest number are totally different from any which have heretofore been observed.

About three miles from this town, near the summit of the first anticlinal roll, west of Chesnut ridge, one of the principal axes of