

their development, have had no need of passing by the stage of *Hipparion* to arrive at *Equus*; their evolution in this direction has given the form of the teeth of *Meryhippus*, *Protohippus* and *Equus*, in the proper sense of the name; and in this chain, it has not been necessary for any of the essential parts of the molars to disappear in order to re-appear later, or to develop parts completely new and different." *Hipparion*, indeed, is to be looked upon as "a form which became separated from the direct Equine series before the evolution of the *Equus*-type was complete, and perhaps even before *Anchitherium aurelianense*."

A study of the milk-teeth of the successive genera supposed to be ancestral to the Horse seems to lead to at least three conclusions, as follow:—1. The milk-molars are not a repetition of the premolars of the preceding form, but, on the contrary, foreshadow the premolars of a new form which is to follow; 2. The difference between the milk-teeth and the premolars of one and the same form is greater in proportion to its antiquity; 3. The resemblance between the milk-teeth and the premolars in two successive forms is closer in proportion to their antiquity."

A table showing the known geographical and geological distribution, with the supposed relationships, of the several Equine genera is appended; and Madame Pavlov promises to supplement the work shortly by a memoir upon the Pleistocene horses of Russia.

The section (III.) upon the Rhinocer[ot]idæ and Tapiridæ is mainly a synopsis of the literature of the subject; and this appears to show that *Systemodon*, of the North American Eocene, is an immediate predecessor of the families under discussion, while *Hyrachyus* also is a missing link.

A. S. W.

CORRESPONDENCE.

A PLEA FOR A UNIFORM SYSTEM OF ABBREVIATION WHEN QUOTING SCIENTIFIC PERIODICALS.

SIR.—It would be not only a great convenience to scientific students in general, but a much more satisfactory proof of the acquaintance of an author with the book he refers to, if some uniform system of abbreviation were adopted when quoting scientific literature. It is exceedingly perplexing to find variants in the abbreviation of a book-title, and has often caused considerable trouble and annoyance to those coming across them for the first time. A few years ago writers had some excuse for these and similar carelessnesses, inasmuch as no list of abbreviations had then been published, but when in 1874 W. Whitaker and W. H. Dalton issued the first volume of the *Geological Record*, they gave an excellent list of abbreviated titles, supplying the want of a book of reference, and leaving no excuse for "sloppy" quotation. This list has been further enlarged and improved in the volume for 1880-84, just issued, and may be taken, with very few exceptions,¹ as an absolutely safe set of abbreviations, each being distinct and

¹ It is always advisable to quote the *place* of publication in full in a scientific title.

definite. In the November Number of the GEOLOGICAL MAGAZINE one cannot help being struck by the slipshod system of reference used by two of the writers; e.g. "Tsch. Min. Mitt." is absolutely meaningless except to those who know the book; "Bull. Imp. Mosc." may refer to any Moscow society as no definite one is quoted.

Another source of inconvenience is seen in the reference to authors:—Prof. Judd, Prof. Bonney, Mr. Teall, etc., for example, how much more definite would it be to refer to these and any writer by initials as J. W. Judd, T. G. Bonney, J. J. H. Teall? We find much fault with our French and German colleagues for the vexatious system of printing surnames only, thus causing endless misquotation and confusion in library cataloguing, and yet ourselves permit it in our own scientific publications. The perfection of quotation, on the other hand, is seen on pp. 496–501 of the same number of the GEOLOGICAL MAGAZINE, and proves unmistakably that the writer is familiar with the books he refers to. C. DAVIES SHERBORN.

CONE-IN-CONE STRUCTURE IN A COAL-SEAM.

SIR,—What is commonly known as "cone-in-cone coal" or "crystallized coal" has, I presume, nothing to do with true cone-in-cone structure here referred to. Through a friend of the writer's, a small concretionary mass of iron pyrites taken from the "Roaster" coal-seam near Ashby-de-la-Zouch, Leicestershire, has come into his hands for examination. Externally the specimen has very much the aspect of a roughly rounded pebble, and is nearly black in colour, measuring $1\frac{1}{2}$ inch in diameter, and about $\frac{3}{4}$ inch thick vertically. Having had the stone cut horizontally through the middle, cone-in-cone structure showed itself in places around the outside; in fact, the specimen appears to be nearly wholly made up of the same structure, though only at all well developed near the surface.

Whether the theory put forward by Mr. John Young, F.G.S., of Glasgow, and published in this MAGAZINE, can or cannot account for the cone structure here seen, I leave others to judge; merely remarking that in my opinion some other explanation of the phenomenon must be found.¹ W. S. GRESLEY, F.G.S.

OBITUARY

PROFESSOR THEODOR KJERULF.

BORN MARCH 30TH, 1825; DIED OCTOBER 25TH, 1888.

WE regret to record the death, in Christiania, his native city, of Prof. Theodor Kjerulf, after a lingering illness. He was brought up and educated in Christiania, and after the completion of his University studies, spent some time in Iceland; he then went to Germany, where he studied in the laboratory of Bunsen, and at the same time pursued some geological investigations in the Harz and Tyrol. Returning to his native city, he commenced the study of the

¹ See W. S. Gresley, Note on "Cone-in-Cone" Structure, *GEOL. MAG.* 1887, p. 17. John Young on "Cone-in-Cone" Structure, *GEOL. MAG.* 1885, p. 283. Prof. J. S. Newberry on "Cone-in-Cone" Structure, *GEOL. MAG.* 1885, p. 559. John Young's reply to Prof. Newberry, *GEOL. MAG.* 1886, p. 139.