

Further investigation along these lines should lead to interesting results.

ARCHÆOPTERYX.—Dr. Petronievics has continued his investigations on the genus *Archæopteryx*, which he began upon the specimen in the British Museum, by a study of the example in Berlin. From a comparison of the two he comes to the conclusion that, so far from being the same species, they represent two different sub-classes of birds. For the British Museum specimen he retains the name *Archæopteryx*, and calls the Berlin one *Archæornis*. The first is considered to be a primitive ratite and the second a primitive carinate. In general *Archæopteryx* shows the more primitive characters of the two. The author comes to conclusions, which are certainly not those of the text-book, that the ancestor of birds is to be sought in a primitive group of the *Lacertilia* and that the resemblances which have led investigators to see some affinity between birds and the *Deinosaurs* are to be interpreted as due to convergence. The paper is published in the *Annales Géologiques de la Péninsule Balkanique*, vol. 8, 1925.

THE MINERAL IDDINGSITE.—The red-brown alteration product of olivine known as iddingsite has become very familiar to petrologists during the last thirty years, but hitherto its nature and properties have been only vaguely realised. C. S. Ross and E. V. Shannon have now presented a careful study of the material in the *Proc. U.S. Nat. Museum*, vol. 67, No. 2579, 1925. They conclude that iddingsite is not a product of weathering, but is the result of metasomatic processes associated with the later stages of a cooling magma. It forms from olivine soon after the close of crystallisation under conditions of oxidation and hydration: MgO is abstracted, FeO is oxidised to Fe₂O₃ and water is added; and the resulting product has a formula of the type MgO · Fe₂O₃ · 3SiO₂ · 4H₂O. The optical properties are distinct and different from those of any other described mineral, including serpentine, which differs in mode of origin, chemical composition, and physical properties. Iddingsite is therefore regarded as a definite mineral species.

THE GEOLOGY OF NORTH LONDON.—Under this title the Geological Survey of Great Britain issues an explanation of one-inch Sheet 256 England, by C. E. N. Bromehead, with contributions by H. G. Dines and J. Pringle. The area comprised includes London north of the Thames, and the surrounding country as far north as Watford and Enfield. The whole ground has now been surveyed on the six-inch scale, but a large proportion of the area has been built over and more is still "under development," so that there are few open sections available for study. Save for brief allusion to the older rocks the formations dealt with range from the Upper Chalk to the Alluvial. Despite the evidence of palæontology, the Glacial deposits are still placed at the beginning instead of the close of the Pleistocene period, and though many of the Pleistocene mammalia are duly chronicled, we miss all reference to *Rhinoceros tichorhinus*, a fine skull of which, now in the British Museum (Natural History), was found at Perivale in the Brent valley, and recorded so far back as 1913.

PERIODIC CHEMICAL CHANGES.—A further paper on periodic chemical phenomena by E. S. Hedges and J. E. Myers appears in the *Journal of the Chemical Society* for May. Typical periodic reactions have now been investigated from an electrochemical point of view. In the case of activated metallic couples dissolving in hydrochloric acid or ammonium chloride,

the potential difference between the couple as a whole and the solution, and that between the two components of the couple, undergo periodic fluctuations which synchronise with the periodic evolution of gas. A potential difference exists between the active and inactive forms of a metal. The periodic deposition and dissolution of iron on magnesium in an acid solution is investigated, together with a few other similar cases. A corresponding oscillation of the electropotential occurs, and often there is a periodic evolution of hydrogen. Examples are given of "autoperiodic" reactions, where one electrode serves both as the reacting metal and as the activating agent. The results are correlated with those of previously published investigations.

A VACUUM THERMO-ELEMENT.—A number of instruments have recently been described for spectroscopic observations, and for the direct measurement of the radiation of the stars, in which a thermoelement, consisting of two thin wires of different metals soldered together with a small receiving plate attached to the junction, is mounted in a vacuum. Messrs. W. J. H. Moll and H. C. Burger criticise this arrangement in the *Zeitschrift für Physik* of June 5, pointing out that it is slow in action, owing to the mass of solder necessarily added at the junction. They describe a method in which the edges of two plates of constantan and manganin a few millimetres thick are soldered together with silver, and then rolled out in the direction of the soldered junction to about 1 μ thickness. The result is a long thin ribbon of foil, one-half of constantan and the other of manganin, soldered together along the length of the ribbon by a thin line of silver. Narrow strips at right angles to the length can be cut from this, and it is even possible by etching to obtain a small receiving disc about the junction, with narrow strips of foil on either side, which can be soldered to the supporting wires. Such an element can be mounted in an evacuated bulb of glass or quartz, which can be sealed off permanently; and when this is enclosed in a double copper vessel with small windows, it makes a very sensitive and rapidly adjusted instrument.

STANDARDISATION OF SIEVES.—In an article in the June issue of *State Technology*, Mr. P. E. Masters directs attention to a difficulty under which British manufacturers who require to sift fine material labour, owing to the absence of any satisfactory standard to which sieve makers can work. A sieve of 80 meshes to the linear inch may be made of wire of gauge from 38 to 42 according to the will of the maker, and the user of the sieve only discovers a change of gauge by some serious modification of the properties of the sifted material. The proposals of the Institution of Mining and Metallurgy for standard sieves involve the use of wires not of standard gauges, and the sieves are so difficult to manufacture that high prices are quoted for them. The author proposes that the standard relation between the diameter d of the wire and the distance D of the centre lines of consecutive wires apart shall be $D = 2.7d$. This gives as the proper wires for 10, 20, 30 and 40 meshes to the inch, gauges 19, 25, 29 and 33 respectively, for 60, 80, 100, 120, 140 and 160 meshes, gauges 37, 40, 42, 44, 45 and 46 respectively, and for 200 meshes, gauge 47 wire.

ERRATUM.—In *NATURE* for July 11, p. 61, col. 1, paragraph 2, line 13, the words "It is also a genus long known only from Europe" should refer to *Balanocrinus*.