

outside correlations for the several formations as have been used by the Geological Survey—for the fossiliferous Mesozoics these were worked out by G. W. Lee. Cheeney (1962, p. 229) has also published a map of the concentric folds of Mull as a whole and this is essentially identical with Pl. V, p. 165 of the Mull Tertiary Memoir (Bailey and others 1924). If these agreements had been referred to in the 1962 paper it would have reassured readers.

A new feature in Cheeney's presentation is that he thinks he has found a local *angular* unconformity dated between the representatives of the Upper Cretaceous and the Tertiary. His evidence is set out in a large-scale map (Cheeney, 1962, p. 231) of part of the eastern limb of the anticline. Here, at one point, he shows Inferior Oolite dipping west at 61° (reversed) only a few yards along strike from Tertiary lava dipping east at 56° (unreversed); and a quarter of a mile to the south, Lower Lias dipping west at 84° (reversed) only a few yards north along strike from Tertiary lava dipping east at 64° (unreversed). As regards this southern locality, we may add that the only dips Cheeney has recorded in the marginal Lower Lias, along the next 200 yards, are E.S.E. at 71° and 66° (both unreversed); and also that a narrow outcrop of Upper Cretaceous is here interposed between Lower Lias and Tertiary. Its dip is east at 51° (unreversed).

It is impossible that so sharp a fold as the Loch Don Anticline could have been developed without important adjustments among several formations concerned. It is next to impossible that these adjustments should fail to manifest themselves at some point or other along the contact of the relatively weak Mesozoic sediments and the relatively strong Tertiary lavas. Cheeney argues against a mechanical explanation of the two dip-discordances cited above, because, he says, "no brecciation or similar indication of dislocation can be seen in the field." Personally I should not dare to reject a mechanical explanation, especially as there are no exposures of the junctions involved.

In the exposures of the Loch Don Anticline, Upper Cretaceous is restricted to the little outcrop mentioned above. Judd was the first to recognize this formation in the Hebrides. Occurrences are widespread, but they are always thin and their distribution tends to be patchy. The general absence of Upper Cretaceous in the Loch Don exposures allows Tertiary lavas in the north to come in contact with Inferior Oolite for about $2\frac{1}{2}$ miles ($1\frac{1}{2}$ in the west limb and 1 in the east). Towards the south the Inferior Oolite fails, and the lavas, in limb and summit exposures 3 miles long, contact Lias, seldom older than Middle Lias. Cheeney gives the maximum thickness of Inferior Oolite as 60 feet, Upper Lias 50 feet, and Middle Lias 45 feet, so that approximate general parallelism of the margin of the Tertiary lavas with the stratification of the Jurassic is self-evident.

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 31st July, 1962.

VALIDATION OF THE NAME *NOTHODISCUS* FOR A GENUS OF CRETACEOUS AMMONITES

SIR,—A recent publication devoted to illustrating the characteristic fossils of the Lower Cretaceous (Aptian) of Madagascar (Collignon, 1962) includes under my authorship a short account of a new genus and species of ammonite (*Nothodiscus planus*) from the Gargasian of the neighbourhood of Ambanjabe (Mitsinjo-Namakia). In order to meet the requirements of the International Code of Zoological Nomenclature for validation of the generic name it is

necessary to add the following information : *Nothodiscus* gen. nov., type-species : *N. planus* Casey (in Collignon, 1962, p. 32, Fig. 976). *Nothodiscus* belongs to the superfamily Haplocerataceae and has characters which place it on the border-line of the Aconeceratidae and the Binneyitidae. It is thus related to *Doridiscus* and *Falciferella*, two genera which have recently thrown new light on the ancestry of the Binneyitidae (Casey, 1961, pp. 137-9). It differs from the primitive binneyitid *Falciferella* of the Albian in the greater persistence of the keel, absence of spiral groove at the middle of the sides, and in the longer series of auxiliary elements in the suture-line. The Aptian aconeceratid *Doridiscus* is a stouter, more evolute genus, keeled to the end, and its suture-line is relatively complex though with fewer auxiliaries.

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GEOLOGICAL SURVEY OF GREAT BRITAIN AND MUSEUM OF PRACTICAL GEOLOGY,
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REVIEW

ON THE EXTERNAL CHARACTERS OF MINERALS. By A. G. Werner, translated by A. V. Carozzi. 118 pp. Published by the University of Illinois, Urbana, 1962. \$4.50.

This is a translation with notes of Werner's own annotated copy of the first edition of 1774. Although Werner was a pioneer in this book and an inspiring teacher, he never produced a second edition in the subsequent forty-five years of his life. The present scholarly and well-produced book is a very useful contribution to the history of Mineralogy. It brings out the importance of Werner's contribution, as well as showing his weakness in the disregard of crystallography and quantitative methods in general.

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