CORRESPONDENCE.

THE OLIGOCENE IN NORTHERN SYRIA.

SIR,—In a recent paper on Oligocene fossils from Palestine it was suggested by one of us (pp. 340, 348 of this volume) that the type-horizon of the species *Chlamys quinquepartita* (Blanckenhorn) (*Zeitschr. deutsch. geol. Ges.*, xlii, 1890, 352, pl. xix, figs. 2, 3), originally described from near Aintab, in northern Syria, would prove to be Oligocene and not Eocene, as believed by its author. With the kind consent of Professor Blanckenhorn we have now examined one of the syntypes of the species, a natural mould of the exterior of the shell from which the " squeeze " illustrated in pl. xix, fig. 3, of Professor Blanckenhorn's paper was prepared. The matrix proves to contain several specimens of *Lepidocyclina* ranging up to at least 11 mm. in diameter. This proves conclusively that it is of later date than Eocene and fully justifies the interpretation of *C. quinquepartita* as an Oligocene species. We thank Drs. L. Picard and K. Winter, of the Hebrew University, Jerusalem (where Professor Blanckenhorn's types are deposited), for the privilege of seeing this type-specimen.

It should be noted that the specimen of this species figured in Pl. xviii, Fig. 2, of last month's paper is a left valve and not a right one as stated.

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PETROLOGY AND THE WESTERN RIFT OF CENTRAL AFRICA.

SIR,—I have read with interest Dr. E. O. Teale's letter in the June issue of the GEOLOGICAL MAGAZINE. I am sure no petrologist would have the temerity to suggest that such reactions as the conversion of hypersthene to garnet in the charnockites, dolerite dykes to garnet-amphibolites, and the production of wide-spread brecciation and mylonization of very resistant gneisses, all took place under a shallow cover such as the Mid-Pleistocene to Recent times would probably have provided in the region under discussion. Dr. Teale is under a misapprehension when he believes me to hold such an opinion. Reference to my second paragraph on p. 505 and again on p. 508, makes it clear: (1) that I recognize the necessity for the " removal of a considerable amount of overburden " before such rocks could be exposed at the surface; (2) that I subscribe to the views of Wayland and Hirst that the tectonic activity which gave rise to

the Lake Albert Depression in Tertiary and Quaternary times must have commenced at an earlier period.

The association of the fine-grained mylonite of Pl. xxxviii, Fig. 1, with the rifting is as clear as that observed by Bailey Willis in the scarp at Kibero (see p. 504). The introduction of some alkaline liquid giving rise to the sodic amphibole, etc., establishes a connection with the Rift Valley movements, though this connection may well be in the nature of an end-point rather that date the movements as a whole.

On p. 504 I referred to the shearing and mylonization along the Nandi Escarpment, which Wayland believes to be a very old fracture—older than the peneplanation—which was in part rejuvenated by the rift-forming forces. He states that " we have primary rift-faults formed during an early stage of continental uplift, subsequent and secondary faults due to gravitational collapse along escarpments and also in consequence of volcanic extrusions, and at any rate one pre-peneplain rejuvenated fault." It seems highly probable that, in the case of Lake Albert, formation of the primary rift-fault zones commenced a very considerable time before the culmination of the movements. Indeed, the instance of the Nandi Escarpment strongly suggests that the primary fault zones may have been commenced in one period to be rejuvenated during a later one, in which case their age may well be considerable and Pre-Karroo.

Lastly, although I believe that the Uganda zone of the Western Rift, containing as it does such a mighty upthrust mass as Ruwenzori, can only be explained by a compressional theory, I do not hold that the other East African rifts have necessarily been formed in the same way. I see no reason why tensional theories should not be applied to some cases while one at least is attributed to compression.

A. W. Groves.

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