

hypothesis to be confirmed or modified by subsequent observation. Wegener's curve is the statistical expression of the evidence for it. Our expectancy, therefore, was great when it was announced, if I remember rightly, by Mr. Philip Lake that Mr. G. V. and Miss A. V. Douglas were about to produce a demonstration that the curve was capable of quite another interpretation. The demonstration is now before us. It is very ingenious, but entirely fallacious. The authors take a single upland and valley profile and show that a height-frequency curve constructed from it has two maxima, like Wegener's curve. Of course it has—one maximum for the upland summit and one for the valley bottom, where there are larger areas at approximately the same distance from the datum than there are on the slopes. It does not need any mathematical analyses to convince us of this. But let them take a number of profiles, in fact the profiles of all the uplands and valleys which might be supposed to be produced by deformative and denudative processes out of a uniform earth crust, and they will get no such curve, unless, and this is the vital point, they suppose that all their uplands approximate on the one hand to a uniform height above the datum and all the valley bottoms on the other to a uniform depth below it. They will get the double maximum to their curve in this case, and this only; but this is the case of the two levels.

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16th March, 1923.

#### THE OIL SHALES OF SOUTHERN BURMA.

SIR,—In Professor Gregory's interesting account of the Oil Shales of Southern Burma in the current number of the *GEOLOGICAL MAGAZINE* there are one or two minor points which call for remark. On page 153 occurs the statement that "the Carboniferous or Permian age of some of the ridges which rise above the alluvial plain is suggested by the reported occurrence in them of coal". As I pointed out in my "Outline of the Tertiary Geology of Burma" (*GEOLOGICAL MAGAZINE*, Vol. LIX, 1922, p. 482), the fossil plants associated with the older coals of the Shan States (at Kalaw) indicate a Jurassic (Liassic) age. The presence of coal is more likely, therefore, to indicate the existence of a pinched-in syncline of early Jurassic rocks—a point of considerable importance when one remembers that the search for new coalfields is being actively prosecuted over huge areas of Permo-Carboniferous rocks in Burma. Those interested in the relation between coal- and oil-bearing strata may care to be reminded that the late Tertiary oil-shales described by Professor Gregory occupy a basin—as casually mentioned by me on p. 482 of my paper—which is one of the series including the newer coals of the Shan States (Lashio, Namma, etc.), of which some are still occupied by lakes.

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10th April, 1923.