

distinguished by the presence of well-developed dicotyledonous leaves"; and further on these are said to occur at "the very base" of the formation. Now though such statements are sometimes loosely made, it should be understood that American geologists generally acknowledge that the base of their Cretaceous is, in some localities at least, only equivalent to the base of the Upper Cretaceous of Europe. In Canada, at least, the strictly Mesozoic flora of the Lower Cretaceous has been clearly distinguished from the angiospermous flora of the middle and upper parts of the series.

The oldest Cretaceous beds known in Canada are, I believe, those of the Queen Charlotte Islands, referred by Mr. Whiteaves, on the evidence of animal fossils, to the Neocomian age. The flora of these, consisting of cycads and conifers only, without any trace of dicotyledonous leaves, was described by me in the Report of the Geological Survey for 1873, and I remarked at the time on its decidedly Mesozoic aspect. It will be seen by reference to my memoir on the Cretaceous floras of British Columbia and the North-West Territories, in the *Transactions* of the Royal Society of Canada for 1883, that the oldest angiospermous flora known at that time in Western America is that of the Dakota group, described by Lesquereux and supposed to be of Cenomanian age. We have not yet found any dicotyledonous leaves quite so old in Canada. Our oldest angiospermous flora occurs in beds referred by Dr. G. M. Dawson and Mr. Whiteaves to the Niobrara group, which is approximately of the age of the Chalk Marl of England, in so far as can be judged by its animal fossils. A detailed table of the beds is given in the memoir above referred to, and the facts are stated in general terms in the "Descriptive Sketch" of the geology of Canada which was distributed to the members of the British Association (p. 51).

It will thus be seen that, though our angiospermous flora may possibly have appeared somewhat earlier than that of Europe, the discrepancy is by no means so great as stated in the abstract referred to. The correct statement would be, in so far as Canada and the western parts of the United States are concerned, that the oldest angiosperms known in America are probably of Cenomanian age, and that the older Cretaceous contains only, so far as known, a flora of Mesozoic character. Concerning the limits of the Cretaceous and the Eocene on the one hand, and the limits of the Cretaceous and Jurassic on the other, there are no doubt some unsettled questions; but these do not affect the facts above stated.

J. WM. DAWSON

Montreal, October 9

SIR J. W. DAWSON'S correction only applies to the published abstract of my paper. The editor of the *Geological Magazine* having kindly offered to publish the full text, it will be seen that its scope was limited to Cretaceous dicotyledonous floras, and the older ones, to which Sir John calls attention, were purposely excluded. The title "Cretaceous-Eocene" was intended to imply that the subject was the border-land of these two formations; but I am greatly obliged for the note and the copy of the work which accompanied it.

J. S. G.

Palæolithic Implements from Cambridge

ONLY two implements of Palæolithic age have been recorded from the neighbourhood of Cambridge. One of these is a rude form picked off a heap of gravel near the Observatory, and the other was bought from some workmen, and was said by them to have come from the Barnwell gravel. There is therefore considerable interest attached to the discovery of an implement of this age on the plateau between Upper Hare Park and the Cambridge Newmarket Road. This plateau is part of one of the old river terraces which formerly abutted against the hills on the east, but is now cut off from them by the valley along which the railroad to Newmarket runs. It belongs to an earlier period than that of the Barnwell gravel.

Further to the south, near Lark's Hall, in gravels which probably belong to the same set of river terraces, remains of rhinoceros, &c., have been found, but hitherto no implements or other traces of the existence of Palæolithic man have been brought to light in that district.

The plateau near Upper Hare Park is all unfenced arable land, and the implement which I found buried in the surface soil with only a small part of its thicker end visible, had probably been turned up out of the gravel by the plough, its surface having the same general appearance as the flints derived from the gravel. It is of the tongue-shaped St. Acheul type, and has

a fine patinated surface. It measures $5\frac{1}{2}$ inches in length, 3 inches across its broadest part, and nearly $1\frac{1}{2}$ at its thickest. One end is rounded so as to be easy to hold in the hand, and from this it tapers gradually with a sharp cutting edge to the point. On each side of the implement the edge is curiously rough and shattered, owing to the original quality of the flint and the way in which the flakes broke off when it was being made.

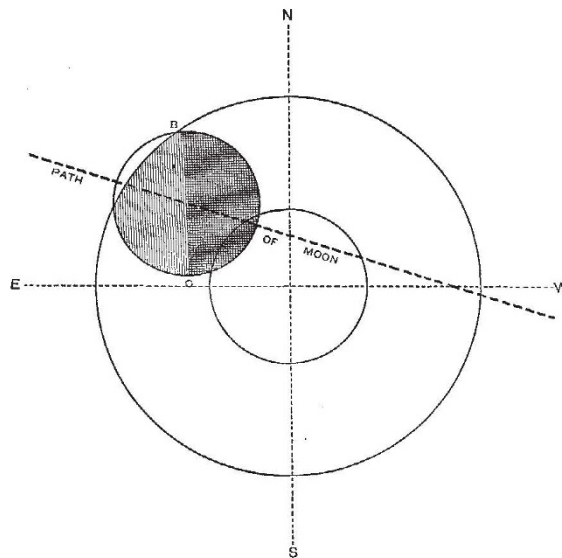
Not very far from the spot where it was found, skirting the carriage-drive which leads up to the house, are several small hollows from which level has most likely been dug. In these hollows and all round their margin the ground is covered with flints belonging to the gravel, and amongst them I found quantities of flint chips, one or two very nicely-dressed flakes, and several scrapers.

Similar dressed flakes and scrapers are found in the caves of the South of France associated with implements of Palæolithic age; but in the case of those found near Upper Hare Park there is not sufficient evidence to prove whether they belong to the period of the gravel or were manufactured on its surface at some later period.

M. C. HUGHES

The Recent Lunar Eclipse

I WONDER whether any of the readers of NATURE who were witnesses to the almost total annihilation of the moon on Saturday night, October 4, noticed a rather strange peculiarity which was visible at about 10.50 p.m., both before and after second internal contact with shadow. When the peculiarity first appeared I cannot myself say, but I noticed it first at 10.43 when I went out to look for the almost invisible moon with the aid of a good opera-glass. In the accompanying diagram, which I have constructed from the data given in the almanacs, the moon is represented as just having emerged slightly from the shadow at 10.50 or so, when the peculiarity showed very distinctly, the moon having the appearance which is roughly represented



in the diagram, being apparently divided into two halves by a tolerably distinct line of demarcation (*bc*) running north and south (or towards the celestial pole), the right hand or westerly half appearing much darker than the left or easterly half. It is evident that an appearance like this, so striking when once noticed, could be produced in two ways, first, by the western hemisphere of the moon being actually darker than the left or eastern half; in which case the moon would have exhibited this appearance more or less throughout totality; but it did not, as I noticed nothing of the sort at 10.15, when looking through the same glasses, so that the second explanation must be resorted to. In the diagram the larger outer circle represents the border of the earth's shadow (in the case of this eclipse about 5750 miles in diameter) which is cast by the earth, irrespective of its atmosphere. The inner circle represents the border of an inner and darker shadow of the earth, cast by those of the sun's