cessories rather than essential factors, all grouped around some more fundamental, unifying, still undefined phenomenon.

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THE FIRST APPEARANCE OF THE TRUE MASTODON IN AMERICA

I have recently published a paper[1] under this title, naming one species *Mastodon matthewi* from the Lower Pliocene of Snake Creek, Nebraska, and another species *Mastodon merriami* from what I supposed to be the Middle Pliocene of Nevada, in honor of Dr. William D. Matthew and Dr. John C. Merriam, respectively.

I have just learned from Dr. Merriam that *Mastodon merriami* is not, as I supposed, of Pliocene but of Middle Miocene age, which makes this species all the more important and interesting as the first to reach America. Dr. Merriam writes, June 24, 1921:

> The locality described by Mr. Hills, namely, that at which G. D. Matheson secured his material, is, however, in the Virgin Valley formation, which is of approximately middle Miocene age, not far from the zone of the Mascall of the John Day region. The opal mines are in the Virgin Valley formation and lie between the two main forks which unite to form Thousand Creek. These streams are Virgin Creek and Beek Creek. They unite on the west side of the great Rhyolite mass which separates the lower part of the Virgin Valley beds from the areas of the Thousand Creek formation lying to the east. The change in the age of *Mastodon merriami* suggested by the data given above will, I am sure, interest you greatly as this evidently brings the appearance of these Mastodons back to near middle Miocene.

I am greatly surprised and interested by the Middle Miocene appearance of the true mastodons in America, if the above report by Dr. Merriam is correct, as I have no doubt it is. Middle Miocene age is, in fact, quite consistent with the structure of the superior canine tusks, which bear a broad enamel band on a *concave* outer side, a fact that puzzled me greatly because Dr. Schlesinger describes the Lower Pliocene mastodons of Hungary as bearing an enamel band on a *convex* outer surface. We should expect the earlier mastodons to show just the difference in the curvature of their tusks which these two observations would indicate.

It now seems that the true mastodons may be traced back to the species *Palæomastodon beadnelli* Andrews, living along an ancient river corresponding to the Nile, in company with a primitive long-jawed proboscidean to which Andrews and Beadnell gave the name *Phiomia serridens* in 1902. This was in Upper Eocene or Lower Oligocene times. In Lower Miocene times the true mastodons appear in North Africa and reappear in the Middle Miocene of France, although far less abundant than the contemporary species of long-jawed animals named *Mastodon angustidens* by Cuvier, which are descended from *Phiomia*. The rarity of the true mastodons is attributable to their strictly forest-living habits. They occur rarely in the Miocene and Lower Pliocene of France and Switzerland, also in Austria as recently described by Schlesinger of Vienna.

If the *Mastodon merriami* of Nevada proves to be of Middle Miocene age, it will demonstrate that these true mastodons came to this country much earlier than we have been led to suppose. The earliest arrivals hitherto recorded in this country are the *Mastodon brevidens* and *M. proavus* of Cope, which hailed respectively from the Middle Miocene of Oregon and of Colorado. It is not yet positively known whether these two species are true mastodons or representatives of one of the other phyla.

Henry Fairfield Osborn
American Museum of Natural History,
June 29, 1921

[1] *Amer. Mus. Novitates*, No. 10, June 15, 1921.

SCIENTIFIC EVENTS

THE SCIENCE CLUB OF THE UNIVERSITY OF MISSISSIPPI

During the academic year 1920–21, the Science Club of the University of Mississippi,