it was thought advisable not to attempt extracting the fetal forms completely from their matrix. They were mounted with the mother skeleton pretty much as found without attempting, however, to place them in theoretically exact position.

The School of Mines has had a collecting party in the White River Badlands during the last six field seasons. The results of this work have been most gratifying in that the institution now has a large collection, representative of this important life period, much of which has been prepared, mounted and placed on exhibition. The collection contains an especially good representation from the Protoceras channel beds.

<div style="text-align:right">CLEOPHAS C. O'HARRA</div>

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## BABYLONIAN MATHEMATICS

IN my address on "Mathematics before the Greeks" recently published in SCIENCE[1] I quoted a statement from Smith's "History of Mathematics"[2] to the effect that "in a tablet from Sennacherib's palace (about 700 B. C.), now in the British Museum, a circle is divided into 480 equal parts." Professor Smith does not give any authority for this statement but informed me privately that he probably learned of the fact during a visit to the museum. On appealing to Mr. C. J. Gadd, of the Department of Egyptian and Assyrian Antiquities, I learned recently that the tablet in question was almost certainly the one numbered K90, discussed by Hincks, and Bosanquet and Sayce, and referred to by more than one historian of mathematics. Mr. Gadd drew my attention also to an important discussion of this tablet by F. X. Kugler, in his "Sternkunde und Sterndienst in Babel," 2. Buch, 1. Teil, 1909, pp. 45–50. The views of Hincks rather than those of Bosanquet and Sayce are here upheld. In this connection Kugler refers to an article by Schiaparelli in *Scientia*, vol. 3, 1908; this is also in Schiaparelli "Scritti sulla Storia della Astronomia Antica," vol. 1, 1925, see especially page 23.

In the paragraph just before the last of my address I summarized, in about a dozen lines, some of the astronomical knowledge of the Babylonians. My friend Professor Cajori inquired if I intentionally omitted any reference to the Babylonian discovery of the precession of the equinoxes. This was a discovery of about 350 B. C. and hence should hardly be included in a survey of "Mathematics before the Greeks." It is, of course, a matter of great interest, and in my recently published "Bibliography of Egyptian and Babylonian Mathematics" I refer to Schnabel's important paper on the subject (1927) as well as to Professor Cajori's review of it in SCIENCE.[3] Schnabel's article seems to have been developed from a part of Kugler's work, mentioned above, published in 1924.

<div style="text-align:right">R. C. ARCHIBALD</div>

BROWN UNIVERSITY

## USEFUL GREAT TOES

A NUMBER of years ago, in the Louvre Galleries, in Paris, an artist who was born without any arms was a familiar sight. He was painting copies in oil of the principal masterpieces in the gallery and made thereby a comfortable living. That fact shows that the copies were of good quality.

But every one would ask at once how *could* he copy these paintings in oil without any hands? It was done entirely by means of the, to us, useless great toes and their next neighbor, the second toes. He held the brushes between these toes.

One morning when I happened to be in the gallery at the usual hour for the *déjeuner à la fourchette*, I saw him just finishing his meal. He seized a pint bottle with the left toes and grasping the cork with the corresponding toes on the right foot uncorked the bottle, lifted it to his mouth and after drinking all that he wished replaced the cork with the right toes and then with the sole of the right foot gave it a smart tap to replace it firmly.

<div style="text-align:right">W. W. KEEN</div>

# SCIENTIFIC BOOKS

*Revision of the American Chipmunks.* By ARTHUR H. HOWELL. North American Fauna, No. 52. U. S. Department of Agriculture, Bureau of Biological Survey. November, 1929. 157 pp.

THE appearance of the "Revision of the American Chipmunks," long known to be in course of preparation, is a zoological event of importance. These animals, so attractive to every lover of nature, are of more than ordinary interest to students of evolution

on account of the great number of local forms. Modern methods have made it possible to deal with the subject very thoroughly, no less than 14,554 specimens having been examined. Sixty-five species and subspecies are recognized in North America, including Mexico. There are chipmunks also in northern and northeastern Asia, and it is found that the whole series falls into three main groups, the Asiatic *Eutamias*, the western American *Neotamias* (defined

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[1] SCIENCE, 71: 109, January 31, 1930.
[2] Vol. 2, p. 230.

[3] SCIENCE, 65: 184, February 18, 1927.