cisive evidence that the pes of *Coryphodon* was intermediate between the nearly plantigrade *Pantolambda* and the sub-digitigrade *Uintatherium*.

In general *Coryphodon* had a very short back and short, spreading limbs, with a very clumsy, shuffling gait.

Henry F. Osborn.

THE MYTH OF THE OZARK ISLE.

The Ozark uplift, which occupies nearly all of south Missouri and northwestern Arkansas, has long been known as the only noteworthy elevation existing in the whole continental interior plain. Geologically all of this vast region, stretching out from the Appalachians to the Rockies and from the Great Lakes to the Gulf, is made up largely of late Paleozoic or younger rocks, save in one spot, the Ozarks.

As a geographical feature the Ozark uplift is a great, broad dome. Its general surface still preserves the outlines of the great peneplain that existed in the region before the country was affected by mountain-making forces and bowed up. The margins of the elevation are marked approximately by the Missouri river on the north, the Mississippi on the east, the Neosho on the west and the Red river.

The geological structure of the uplift is relatively simple. In the highest or central part are the oldest rocks exposed in the entire Mississippi basin. These are the Algonkian granites and porphyries, the commonly called Archæan nucleus. Surrounding these massive crystallines and occupying nearly all of the central portions of the dome are the Cambrian and Silurian dolomites, the so-called great magnesian limestone series. Farther outward lie successively the Devonian, Lower Carboniferous and Coal Measures. The latter also form the principal surface rocks of the surrounding plain, beyond the margins of the uplift. Thus the great dome presents the oldest rocks in the central and highest parts, and towards the margins and foot younger and younger belts in concentric rings.

This striking and peculiar arrangement of the geological formations around the Ozark dome has long attracted notice, and it has always set forth as one of the direct proofs that the uplift is very old and that the region has remained practically unchanged above sea-level since pre-Cambrian times, forming in the midst of the broad and shallow continental sea a large, ever growing island around which sediments were constantly laid down during all the Paleozoic period. Starting with these premises there have been based recently a number of broad generalizations and rather fantastic hypotheses regarding the deposition and origin of various ores found in the region, the courses of Paleozoic ocean currents, the formation of unusually thick sediments of certain geological age, the distribution of some ancient and peculiar faunas, and even the isolated and independent development of life in the region. These various hypotheses are very attractive in themselves. Based wholly on the assumption of the existence of a large land area in the middle of the continental sea, the colateral evidence used in several of the arguments are strangely corroborative. But going back of the original proposition that has been taken for granted and that has served as the foundation for the several hypotheses advanced, a question naturally arises as to the real grounds for the premises and for the assumed great antiquity of the 'Ozark Isle.'

If there is one thing that modern geography teaches before all else in regard to the existence of an elevated land area, such as is claimed for the Ozark region during all the long span from the pre-Cambrian to the present, it is that it would have been long since worn down to a low-lying plain of faint relief, indistinguishable from the vast

plain around it. But there is a more direct method of finding out whether or not the Ozark uplift really does possess the great age ascribed to it. Marbut, Davis, Griswald and others, who have recently given the region special study from both the geographic and geologic standpoints, all agree in regarding the uplift, as it now stands, as a very modern feature of relief—that is, they assign the age as not earlier than middle or late Tertiary. The proofs that these authors bring forth seem indisputable. Furthermore, there is ample evidence for believing that there were two periods of uprising—one in which the region was bowed up and then reduced to a peneplain, and the other in which the peneplained surface was again uplifted to near its present position. The remnants of the once level plain are still plainly discernible in the existing general surface.

There is another wholly different line of evidence, going to show that during all Paleozoic time no island existed in the present Ozark region, and that the formations later than Cambrian were not laid down in concentric zones around the central crystallines. It is believed that there is ample proof that all Paleozoic formations now represented around the foot of the uplift extended in unbroken sheets over the entire area now elevated, and were not removed until Cretaceous or Tertiary time. Part of the evidence has been published for many years, though it appears to have escaped notice, but much new information bearing directly on this point has been obtained lately. It is essentially this: Far up on the back of the dome—more than three-fourths of the distance from the foot, where the main bodies of the several formations exist, to the central part of the elevation—there are still preserved outliers of Devonian, Lower Carboniferous and Coal Measures. Some of those of the age first mentioned occur very near the summit of the great dome, while those last referred to extend to within 300 feet of the crest. Abundant fossils leave no doubt as to the proper reference to the age of these isolated deposits lying on the older magnesian limestones which constitute the main mass of the dome.

Without going fully into details it must be conceded that the widespread idea of the existence, during Paleozoic times, of a wondrous Ozark Isle, in the midst of a vast continental sea, is a trifle mythical, and it, therefore, must be relegated to the realm of the fanciful.

CHARLES R. KEYES.

NEW YORK STATE SCIENCE TEACHERS' ASSOCIATION—SECOND ANNUAL MEETING, ITHACA, DECEMBER 30–31, 1897.

THE growth of this Association during the past two years has been most encouraging to all friends of science in the State. The Ithaca meeting was marked by a deep interest in the objects of the Association; this was manifest not only in the large attendance, especially of college and normal school professors, but in the earnest discussions at each session, particularly after the Report of the Committee of Nine. The meetings of the American Society of Naturalists and their affiliated societies on Tuesday and Wednesday, and the presence of a number of their members at the meetings of the Teachers' Association, created an atmosphere especially favorable to the objects of the convention. If, perchance, anything could have been lacking to make the environment perfectly auspicious it was supplied by the words and spirit of President Schurman's welcome. He showed himself warmly interested in raising science teaching to the highest efficiency and was ready to recognize thorough preparation in science as a requirement for entrance to college. Throughout all the sessions there was abundant evidence that in accepting