the ground. This remarkable lowering of the trunk is chiefly caused by the great reduction of the fore arm, fore leg and metapodials. The humerus and femur are respectively only 90 and 110 mm. shorter than in *R. unicornis*, while the radius and tibia (typically shorter elements) are respectively 140 and 130 mm. shorter, and the metacarpals and metatarsals are respectively 90 and 950 mm. shorter. This limb reduction is very striking. At the same time the abdominal girth exceeds that of *R. unicornis*, justifying Cope's conclusion that this animal had rather the proportions of the hippopotamus than of the rhinoceros. It will be recalled that *R. unicornis* has a lower abdominal line than *R. sondaicus* or *R. sumatrensis*, or than either of the African rhinoceroses. *T. fossiger*, therefore, had a totally different external appearance from any existing form.

It may be briefly characterized as a brachycephalic, extremely short-limbed rhinoceros, partly aquatic in its habits, with a very large brain and no diploë of the skull. It parallels the African rhinoceroses *R. simus* and *R. bicornis*, in the form of the humerus, femur and atlas, and in the terminal position of the nasal horn. The occiput, however, is widely different from that of the African rhinoceroses, as well as of *R. sumatrensis*, resembling rather that of *R. unicornis*, although less pitched forward. The limbs are much shorter than in any living type, and, as pointed out by Pavlow, at once recall those of *R. brachypus* and *R. aurelianensis*. A further comparison of *T. fossiger* strengthens the resemblance to the latter form. The proportions of the skull, limbs and metapodials are very similar. In both the cnemial crest of the tibia is double; the secondary folds of the superior molars are similar, as well as the general form of the skull.*

HENRY F. OSBORN.

## *A NATURAL BRIDGE IN UTAH.*

THE remarkable natural bridge illustrated in this article has, so far as I know, never been called attention to before, and is, therefore, entitled to rank as a new discovery among the curiosities of nature. It is an object rivaling the celebrated natura

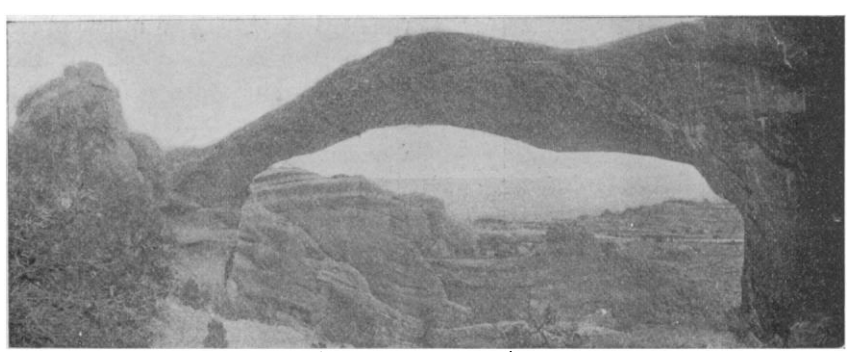

FIG. 1.

bridge of Virginia in magnitude and even exceeding that classic in interest when one considers its probable origin.

The view was taken in southeastern Utah not far from Moab, on the Grand River, in the midst of the great arid region lying west of the Rocky Mountains and some fifty miles from any railway. It was not my good fortune to be able to visit the lo-

* Bulletin American Museum of Natural History, March 18, 1898.

cality myself, but the prints were obtained by me from the original photographer in Moab, when on a somewhat hurried return from a mine examination in the Blue Mountains to the south. The dimensions of the bridge, as estimated by the photographer, are about 500 feet in span and about 150 feet in height. A comparison of the bridge with figures shown in the original photograph in the right-hand corner and with the tree growth near by indicates that these dimensions are quite possible.

The bridge is, in all probability, a monstrous product of wind erosion. The rock appears to be one of the friable Mesozoic sandstones which are widely exposed in this region. Other examples of wind action, such as is illustrated in figure 2, were seen

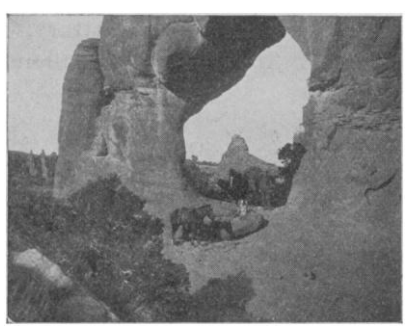

Fig. 2.

by me while travelling through the country, so located that no other cause could be assigned. Strong and prolonged winds are frequent here, as any one who has sojourned in that country can testify to his misery. The sands carried by these winds are whirled about in the depressions of the rocks, and excavate wind pot-holes in the friable sandstones with great rapidity. A wall or slab of such rock is by degrees entirely penetrated, giving rise to the so-called window rocks which are frequently seen in isolated buttes high above the surrounding level. Our natural bridge, I conclude, is simply an extreme or abnormal enlargement of such a 'window.' Possibly some water channel may have assisted in the process, but the view does not indicate this, but shows the bridge to be high above the main water course. The dimensions of the bridge, or rather the shape of the space covered by it, are also against this idea, as the ordinary channel cut by a stream through rock is deep and narrow.

Arthur Winslow.

Kansas City, Mo.,
February 25, 1898.

## *FIFTH ANNUAL RECEPTION AND EXHIBITION OF THE NEW YORK ACADEMY OF SCIENCES.*

The fifth annual reception and exhibition of the New York Academy of Sciences, of which notice has already been made in Science, was held in the American Museum of Natural History, April 13th and 14th, and proved to be the most satisfactory and successful of all receptions thus far given by the Academy. The number of exhibits was not as great as heretofore, but was arranged to show the progress of the last year more carefully than had been the custom previously. Hence the exhibit, as a whole, was worthy of detailed attention in every department and received such attention from the several thousand people who were present during the two evenings and one afternoon on which the reception was held. Beside the exhibit of progress in some fifteen departments of science, of which more particular mention will follow, the program included an address on the second evening by Professor George E. Hale, of the Yerkes Observatory, on the 'Functions of Large Telescopes,' which will appear in a later number of this Journal. Mr. C. E. Tripler gave several demonstrations of the properties of liquid air to an astonished and appreciative audience. Indeed, liquid air was the exhibit of the reception concerning which the most questions were asked.