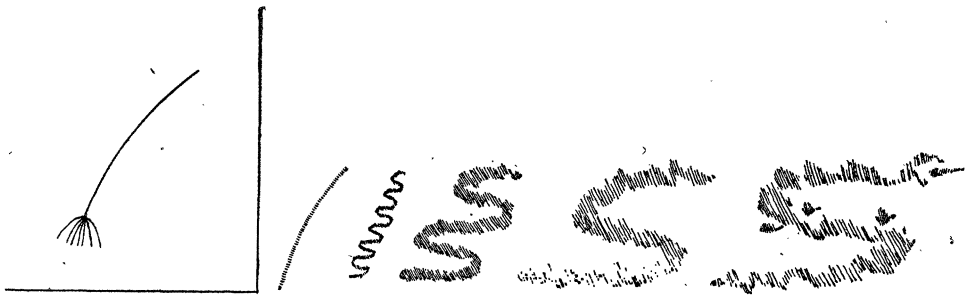

At 5:30 P.M., October 13, 1905, shortly after leaving Cortland, N. Y., on a Lehigh Valley train for Elmira, N. Y., I observed to the south or southwest a meteor of great brilliancy. Its first appearance was about thirty degrees from the zenith and descended very rapidly in an arc to about the same distance from the horizon, when it burst like a sky-rocket. It left a narrow, smoky trail, which gradually increased in size and changed in form to a zigzag, becoming more cloud-like in appearance and growing fainter and fainter until it was entirely dissipated. The smoky trail in its transition was distinctly visible for ten minutes. The sketches indicate its gradual transition.

E. E. DAVIS.

NORWICH, N. Y.

SPECIAL ARTICLES.

ON THE OCCURRENCE OF DESMOSTYLUS, MARSH.

THE genus *Desmostylus* was described by Marsh[1] in 1888 from tooth fragments found in Alameda County, California. It was referred to the Sirenia, and its nearest affinities were supposed to be with *Metaxytherium* from the Tertiary of Europe. In 1899 and 1900 additional specimens were examined by the writer, with a view to obtaining further information as to its affinities, but no material was obtained which furnished more evidence than the type specimens described by Marsh.

In 1902 Yoshiwara and Iwasiki[2] described from the Miocene of Japan a number of specimens showing tooth structure almost identical with that of *Desmostylus*. This material also furnished considerable evidence concerning the structure of the skull. The authors recognized the resemblances of this form to the Sirenia.

Shortly after the appearance of the paper on the Japanese specimens a review of this article was published by Professor H. F. Osborn,[3] who included a short note on recent studies of *Desmostylus* by Merriam. Professor Osborn considered the reference of the animal somewhat uncertain, very properly pointing out that both sirenian and proboscidean characters were represented.

During the past year two occurrences of *Desmostylus* have come to the notice of the writer. In both cases the reference of the specimens to this form seemed beyond question, and in both instances the occurrence furnished evidence of considerable importance regarding the possible habitat of the animals. The first specimen, consisting of two well-preserved columns of a large *Desmostylus* tooth, came into my hands through the kindness of Professor Andrew C. Lawson. It was obtained by Professor Lawson from Mr. W. L. Still, of La Panza, San Luis Obispo County, Calif. It was found in a cultivated field on Mr. Still's ranch. This locality is stated by Professor Lawson to be in a belt of Monterey shale which extends through this part of the country for many miles.

The second lot of material, including numerous tooth fragments, was presented to the university by Mr. C. H. McCharles, of the University of California. It was obtained from a belt of shale six miles northeast of Santa Ana, Orange County, California, and

[1] *Am. Jour. Sci.*, 1888, p. 94.

[2] *Jour. of the Coll. of Science*, Imperial Univ. of Tokyo, Vol. 16, Art. 6, 1902.

[3] SCIENCE, N. S., Vol. XVI., p. 713.

was found in association with a large number of shark teeth.

In both instances the strata in which the *Desmostylus* remains occur are typical marine deposits, evidently of Miocene age. The fauna of these formations is in the main that of the open sea rather than of the shore, and it is difficult to conceive of proboscideans as occurring typically in these beds. The presumptive evidence, therefore, points pretty definitely toward an aquatic type as the one from which these remains have come.

Of the previously described American specimens we have known very little concerning the occurrence. The only one of which we have any definite information is in the collection of Professor Thomas Condon, of the University of Oregon, who informed me that it was 'picked up on the Yaquina beach, which is throughout marine.' Marsh states that the type specimen was found associated with the remains of a mastodon, a camel, a large edentate, and one or more species of horse, apparently indicating that the deposits were of alluvial or fresh-water origin. Unfortunately, there is no record to indicate exactly where or under what circumstances the material was obtained. The occurrence of the other three specimens from California is also very uncertain.

Influenced by the statement of Marsh, the writer inclined originally to the view that *Desmostylus* was obtained in fresh-water deposits. At the present moment, the only definite evidence fails to lend support to this view. In the case of the Japanese material the evidence is of much the same character as that now available here. It was associated with the teeth of the shark, *Carcharias japonicus,* and with the marine shell *Solen.* Impressions of some land plants were also found, and the authors expressed the view that the deposits, though marine, were of shallow-water origin. Possibly the range extends from marine beds through estuary deposits in both America and Japan.

Although the above notes do not give us very satisfactory information as to the habitat of *Desmostylus,* such evidence as is now before us indicates that this form is an aquatic animal and, therefore, probably a sirenian rather than a proboscidean. If *Desmostylus* were a typical proboscidean distributed from Japan to southern California, one would expect to find it ranging some distance inland on both continents. While its non-appearance inland might be due to our having overlooked it in collecting, its appearance in the marginal marine deposits on both sides of the Pacific suggests that its wide range was over the sea.

John C. Merriam.

QUOTATIONS.

The Faculties in American Universities.

In discussing a paper by Professor Andrew F. West, of Princeton University, presented at the seventh annual conference of the Association of American Universities, President Van Hise, of the University of Wisconsin, said:

I believe that unity in a university is more important than administrative efficiency, and just so sure as the president and deans and councils are made superior to the faculty the university will lose unity. Indeed, to control general university policies, I believe in a single university faculty which includes every member of the instructional force, so far as participation in debate is concerned, with every person of professorial rank as voting members. To that faculty the various administrative committees should be accountable, and while they may have full power in carrying out settled policies, important variations of policy should be reviewed by the faculty. This proposal of course does not interfere with the power of the faculties of the several colleges to control their own affairs. It seems to me it would be a profound mistake for the president to depend upon his own initiative. If he is not in close fellowship with his faculty, so that they freely come to him with their best suggestions, the institution will make educational progress very slowly indeed. It has been my privilege to receive suggestions freely from the Wisconsin faculty. For my own part, I would sooner see a measure in which I believe not passed, than to have it passed over the faculty. If I can not present the advantages of the measure so that it appeals to their reason, then, in all probability, I am wrong in my educational policy. It may be that in some cases the faculty may be wrong; educational progress might have gone a little faster, had the faculty been overruled; but the grand