

of one of the churches were broken, and almost every house having windows on the western side suffered from the stones. One of the largest stones was measured, the result showing a circumference of nine inches; it was irregular in form, one and a half inch thick and the edge was deeply indented in places. This was not an exceptional stone, as a great many of this size were found.

W. K. GREGORY.

AMERICAN MUSEUM OF NATURAL HISTORY.

SAUROPODAN GASTROLITHS.

TO THE EDITOR OF SCIENCE: It may be of interest, in connection with Mr. G. R. Wieland's recent description of the gastroliths found with the sauropod remains in Montana, to call attention to an apparently unrecorded similar discovery at Morrison, Colo. In 1877, Professor O. C. Marsh's party, in charge of Professor Arthur Lakes, obtained among the bones of the type specimen of *Atlantosaurus immanis* Marsh, a number of rounded and highly polished siliceous pebbles whose surface peculiarities resembled those of the gastroliths described by Mr. Wieland. No material of similar size, form, surface markings or composition occurs elsewhere in the *Atlantosaurus* clays of this vicinity. Professors B. F. Mudge and S. W. Williston were with us when some of these pebbles were found and considered them as identical in origin with the stomach stones that they had recently found with plesiosaurian remains on the plains of Kansas. With the exception of one specimen, now in the collection of fossils in the Denver High School, these specimens were probably sent to the Peabody Museum of the Yale University and might be found in the collections sent to Professor Marsh by Professors Lakes and Mudge from the neighborhood of Morrison during the years 1877 and 1878. The field notes of Messrs. Lakes, Mudge and Williston, if obtainable, might afford additional data and possibly confirm a suspicion of the writer that some gastroliths were also found in connection with the type specimen of the species formerly known as *Apatosaurus ajax* Marsh.

GEO. L. CANNON.

DENVER, COLO.

THE SMITHSONIAN INSTITUTION AN INSTITUTE OF RESEARCH.

TO THE EDITOR OF SCIENCE: I desire to emphasize the suggestion made by David Fairchild in SCIENCE for June 8, in which he advocates changing the Smithsonian Institution from a museum to an institute of research. It seems to me that this idea ought to appeal strongly to men of science generally throughout the country. It can not be denied that the greatest impetus to research in pure science in the past has been the working together of men earnestly engaged in special lines of research, and the value of such researches has been greater whenever the several investigators have been brought together in one institution or in one laboratory. Experience has shown that under such conditions only as are found, for example, in the Biological Station at Naples, or in the laboratories of the greater German universities, does the most stimulating atmosphere of research exist.

The elaborate and well-endowed scientific projects now in operation, although extremely valuable, can not do for the progress of knowledge what such institutions as the above mentioned are doing. We have in this country large and well-endowed museums that are amply able to care for the work that falls within their respective provinces, but there is no institution that can be looked upon as a common center of research to which the investigator may go to pursue his studies with the necessary equipment and in an atmosphere whose vigor comes from the helpful suggestions and from the keen but friendly criticism of his many colleagues.

Let the Smithsonian Institution, therefore, be the nucleus of such a great national or international institute of research.

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SPECIAL ARTICLES.

EVIDENCES OF GLACIATION IN SOUTHERN ARIZONA AND NORTHERN SONORA.

IN the spring of 1905, during a professional trip to Sonora the writer was interested in observing along the Sonora Railway, south of