Professor J. F. Kemp exhibited and described a new model of Vesuvius.

October 17.—Professor J. F. Kemp reviewed an unpublished paper by Dr. W. P. Jenney on the reducing abilities of different chemical compounds.

Dr. Austin Rogers read a paper on the orientation of the crystals in fossilized echinoderms; and also reviewed papers on this subject by Cesaro and by Hessel.

October 24.—The following papers were reviewed: M. Michel-Levy, 'L'Eruption de la Montagne Pelée et les Volcans des Petites Antilles'; M. J. Thierry, 'La Catastrophe de la Martinique,' and M. F. de Montessus, 'Les Manifestations volcanique et sismiques dans le groupe des Antilles,' by Dr. A. A. Julien. O. T. Hill, 'A Study of Pelée,' by Mr. G. I. Finlay.

October 31.—The following papers were reviewed: A. C. Lawson, 'The Eparchæan Interval,' a criticism on the use of the term Algonkian (*Bull. Univ. of Cal.*), by Mr. C. W. Dixon. J. S. Flett, 'A Preliminary Examination of the Ash that fell on Barbados, after the Eruption of St. Vincent, with chemical analysis,' by Wm. Pollard and J. W. W. Spencer, 'The Geological and Physical Development of Dominica [*Quar. Jour. of Geolog. Soc.* (Lond.)], by Mr. W. Campbell.

H. W. Shimer,
Secretary.

THE LAS VEGAS SCIENCE CLUB.

At a meeting held October 22 several members of the club described the work they had done during the summer. Mr. E. L. Hewett had led a party of five westward across the Jemez Mountains, and had explored the desert in the region of the Chaco Mesa and beyond. The characteristic features of the country traversed were described, and numerous photographs taken by Mr. K. M. Chapman, a member of the party, were exhibited. These photographs included excellent portraits of the two surviving members of the tribe of Pecos Indians who inhabited the old Pecos pueblo some seventy years ago. One of these has since died, and the other is very old, so this tribe will very shortly be extinct. Mrs. Cockerell described her trip to the Truchas Peaks, in the Santa Fé Range, about 13,300 feet above sea level. She exhibited a number of alpine plants found above timber line on these peaks, several being new to the flora of New Mexico. There was also shown a very beautiful and apparently undescribed *Delphinium,* found in the forests on the peaks. Mr. T. D. A. Cockerell described his visit to Roswell, in the Pecos Valley, and exhibited some of the insects and mollusca obtained. Practically nothing was known before of the insect fauna of this region. Among the mollusca, the discovery of a species of *Unio* at Roswell was especially interesting, no species of Unionidæ having been found before in New Mexico. Some account was given of the deep lakes and gypsum bluffs near Roswell, and photographs of these taken by Professor J. D. Tinsley were exhibited.

T. D. A. C.

DISCUSSION AND CORRESPONDENCE.

THE BUREAU OF AMERICAN ETHNOLOGY.

To the Editor of Science: After the death of Major J. W. Powell, director of the Bureau of American Ethnology, the Secretary of the Smithsonian Institution, of which the bureau forms a part, has abolished the title of director, and appointed the head curator of the Anthropological Division of the U. S. National Museum 'chief' of the bureau. Through this action the independence of the two institutions involved has been brought to an end.

No severer blow could be dealt to the anthropological interests of the country than the subordination of the bureau to museum interests, and no means could be devised to hinder the development of the U. S. National Museum more effectively, than its subordination under the bureau. The methods and aims of the two institutions are fundamentally distinct. The Bureau of American Ethnology is charged with the investigation of the life and customs of the North American Indians. In its work it deals with their languages, institutions, religions, customs. So far as the culture of native tribes is expressed by tangible objects, it may be illustrated in museums, but the whole domain of human culture cannot be represented by museum specimens. For this reason no museum can undertake to de-

velop systematically the whole field of anthropology. A museum may, in special cases, undertake a full investigation of a special region which it may desire to represent exhaustively in its collections, but the primary objects of the museum forbid the systematic investigation of such subjects as mythology, primitive law, languages, etc. The history of anthropology in our country shows clearly the predominant influence of museum interests. The publications of the Peabody Museum, of the Field Columbian Museum, of the U. S. National Museum, of the American Museum of Natural History, of the Free Museum of Arts and Sciences in Philadelphia, except in so far as they deal with explanations of specially full collections, refer to the tangible side of human culture. Other researches find their places in museum publications only accidentally.

The rapid development of American anthropology is largely due to the fact that the Bureau of American Ethnology has been unhampered in its plans by museum interest. Therefore, it has been able to produce the linguistic map of North America, its valuable bibliographies, grammars, collections of texts and of myths. Therefore, much progress has been made in the study of the immaterial side of the culture of American tribes. The systematic preservation of languages, of myths, of religious beliefs, has been the prime work of the bureau, and of the bureau alone, and it has contributed more than any other agency towards a harmonious development of all sides of anthropological research.

The interests of anthropology make it imperative that the independence of the bureau from museum interests be jealously guarded, and that it be given the long-desired opportunity to expand its work over fields that are of national importance, and that no museum can touch. The physical and mental characteristics of Indian half-bloods, of negroes and mulattoes, and the effects of adaptation and amalgamation of the many European nationalities that settle in our country, are the proper field of work for the Bureau of American Ethnology. Owing to restrictions imposed by law, this work has never been undertaken, although it is of the greatest practical importance, and requires the kind of training that is found among the experts of the bureau. The bureau requires the strengthening of its resources and of its independence, not the weakening that will result from the combination of its administration with that of a division of the National Museum.

The effects of this combination may be not less disastrous to the National Museum. It is only a few years since the Secretary of the Smithsonian Institution found it necessary to establish the position of a head curator of the Division of Anthropology in the U. S. National Museum. At that time the work of the National Museum had come, in a way, to a standstill. The utter inadequacy of the building, the insufficient number of employees on the scientific staff, the constant demands upon their time for preparing special exhibits for the expositions of Chicago, Omaha, Atlanta, Buffalo, etc., made it impossible for the museum to make adequate use of its magnificent collections, and to contribute its share to the advancement of science and education. We hoped that the reorganization of the divisions of the museum might indicate the intention of the secretary to devote his energies to the development of the museum. In this we have been disappointed. The makeshifts of the last few years have not given us a museum worthy of a great nation. Is, then, the work for the head curator ended? Is not the full energy of an experienced museum man in that position needed just as much as or even more now than it was a few years ago? I cannot believe that the anthropological collections of the National Museum have so much contracted during the last few years that the need for an administrative head should be no longer felt.

The work of the director of the Bureau of Ethnology, and that of the head curator of the Anthropological Division of the Museum is so extended, that each requires the full time and energy of one man. The concentration of their administration can lead only to one of two results: either inadequate super-

vision of both, or nominal control only over the one or the other.

I doubt if the secretary is prepared to carry to its logical end the policy which he has adopted for anthropological work. If it is advantageous for anthropology to make the head curator of that division of the Museum director of the Anthropological Survey—for that is the function of the Bureau of American Ethnology—it will be no less advantageous to make the head curator of Geology director of the Geological Survey, and the head curator of Biology director of the Biological Survey. What would these great surveys be if they were simply appendages of the museum, while in reality it is the function of the museum to preserve the collections made by these agencies, to administer them for educational purposes, and to make them available for detailed study. The museum needs a policy of its own, and deals with problems distinct from those of the surveys. The correctness of this view is borne out by the fact that the recent development of the surveys has taken place independently of the Smithsonian Institution. The Geological Survey has grown to its present importance as a branch of the Department of the Interior, the Biological Survey as a branch of the Department of Agriculture. Their precedents suggest that if the Anthropological Survey were allowed to make itself useful to the practical needs of the government, and to develop in close contact with the needs of the times, rather than continue in a purely academic atmosphere, its usefulness might be greatly increased without taking away from the scientific value of its researches. The experience of the other surveys demonstrates conclusively that we need increased independence for the bureau, not restriction of its independence.

It is quite evident that the work of the National Museum must be carried on in cooperation with all the great surveys. It would seem to be one of the important duties of a director of the museum to establish and maintain such cooperation. Nevertheless, the work of the museum must always remain a unit, and distinct from the surveys that are important contributors to its growth.

Another aspect of the action of Secretary Langley appears to me not less objectionable than the considerations mentioned heretofore. Major Powell was the director of the bureau from the time of its establishment until his death. Since 1893 Dr. W J McGee has been ethnologist-in-charge under Major Powell. For nearly ten years he has been acting for Major Powell, and training to become his successor. According to all principles of good government, he should have been advanced to the position of director. The appointment of another man, no matter how good he may be, to the position, brings about discontinuity in the work of the bureau, which I consider dangerous, not alone to the best interests of anthropology, but to those of science in general. If the incumbent of the position that leads naturally to succession in the bureau had been inefficient, it might be expected that the secretary would have called attention to his inefficiency, and that he would have removed him long ago. By continuing up to the present time the organization of the bureau decided upon in 1893 the secretary has indicated that he agrees with the views of anthropologists who respect Dr. McGee for the ability, straightforwardness and success with which he has conducted the bureau under peculiarly difficult conditions. Therefore, the failure to appoint Dr. McGee to the succession in the directorship is most unfortunate. It introduces again a feeling of general instability in the scientific service of the government which we hoped had been entirely overcome by this time. Personal inclination of the appointing officer has once more outweighed the principles of continuity and stability, which are indispensable for the welfare of scientific institutions. I can only view with apprehension a condition of affairs that places the stability, yes the existence, of a great scientific bureau of the government entirely in the hands of a single man, who has the power to carry into

execution his personal views, uninfluenced by the opinions of the scientific world.

FRANZ BOAS.

COLUMBIA UNIVERSITY,
November 8, 1902.

A CORRECTION OF PROFESSOR OSBORN'S NOTE ENTITLED 'NEW VERTEBRATES OF THE MID-CRETACEOUS.'*

ON page 675 of this article in speaking of *Ornithomimus* Professor Osborn says: 'Mr. Hatcher states that he found Marsh's type of this genus, consisting of a foot and portion of a limb, on Cow Island, Missouri River, at a level which he estimates from 1,500 to 1,600 feet below the summit of the Judith River beds, and 500 to 600 feet below the level of Marsh's type of *Ceratops montanus.*' I certainly did not mean to convey the impression that I had found the type of *the genus,* but rather of the two species, *O. tenuis* and *O. grandis.* The type of the genus is *O. velox* and it was found in Colorado. The types of the other two species are from Montana and were found as Professor Osborn has stated, except that they were not found on Cow Island but near the foot of the bluffs on the north bank of the Missouri River, opposite Cow Island and just below the mouth of Cow Creek. Since this same error occurs also in Professor Osborn's 'Distinctive Characters of the Mid-Cretaceous Fauna' (No. 1, Part 2, Vol. 3, Contr. to Can. Pal.), I have thought it best to make the above correction.

Again, on page 673 of Professor Osborn's note in SCIENCE he says: '* * * the true Judith River beds certainly overlie the Ft. Pierre and are of more recent age.' I do not know upon what authority Professor Osborn makes this unqualified statement as to the deposits underlying the Judith River beds. It certainly does not agree with my own observations made during several weeks passed in collecting vertebrate fossils from these beds, nor with the published statements of Meek, Hayden and others, as will appear from the following: "They (the Judith River beds) appear, as near as could be ascertained, to occupy a local basin in a series of marine deposits, consisting of beds of sandstone and impure lignite, which we have regarded provisionally as of the age of No. 1 of our general section. Lower down the Missouri, near the mouth of Little Rocky Mountain Creek, this last-mentioned series of rocks upon which the fresh-water deposits repose at the mouth of the Judith is clearly seen to pass beneath No. 4 (the Pierre shales) of the general section."* During my work in this region in 1888 and again in 1892 I nowhere saw the Pierre underlying the true Judith River beds, although at that time I believed it belonged beneath these beds, not then being familiar with the work of Dawson, Tyrrell and other Canadian geologists. I remember, however, to have noticed some 300 or 400 feet of shales very similar to the Pierre overlying the Judith River beds along the old Ft. Benton and Cow Island trail between the Bear Paw Mountains and Cow Creek, and I have little doubt but that these are the representatives of the Pierre shales in this region.

The fact that Cretaceous Nos. 2 and 3 are entirely wanting in this region leads to the inference that they are represented by the lower members of the Judith River beds, and that the lower members of these beds are in reality older than the oldest of the Belly River series, a little farther north. Owing to the scarcity and fragmentary nature of vertebrate fossils in the Judith River beds they have not received the attention from vertebrate paleontologists that they deserve and from several points of view no more fruitful field awaits the collector than these deposits. They need to be thoroughly explored for vertebrate and invertebrate fossils, and their somewhat complicated stratigraphy must be carefully worked out in detail before we shall be able to fix with any degree of certainty either their upper or their lower limits. Beds of fresh-water, brackish and marine origin are here known to be interstratified with the upper and lower limits of deposits usually referred to the Judith River beds, and I should not be at all surprised that within the region lying along the eastern base of the Rocky Moun-

* SCIENCE, N. S., Vol. XVI., October 24, 1902, pp. 673–676.

* Meek and Hayden, *Proc. Phil. Acad. Sci.*, May, 1857, pp. 124–125.