

work in a Jurassic dinosaur quarry opened by him during the preceding season at the base of the Freezeout Mountains in southern Wyoming. After successfully completing this work he began, early in June, explorations in the chalk (Niobrara) of western Kansas, where he was joined by Dr. E. H. Sellards as assistant. It is the earnest desire of the curator of this department that the paleontological collections of the museum shall eventually represent in a creditable manner the faunas of all the more important fossil-bearing horizons of our own country at least. It was with the idea of acquiring such a representative collection of Niobrara fossils that the work in Kansas by Mr. Gilmore and Dr. Sellards was undertaken. Already some forty-five boxes of material have been collected and we hope to continue the work in this formation for some years.

Mr. W. H. Utterback completed the unearthing of the splendid skeleton of *Diplodocus*, discovered by him the preceding year in the Jurassic deposits on the Red Fork of Powder River at the foot of the Big Horn Mountains in central Wyoming. In this same region he also secured considerable portions of the skeletons of two other colossal Jurassic dinosaurs. In the latter part of August Mr. Utterback was transferred to central Montana to continue the work in the Cretaceous of that region carried on during the month of August by the present writer. In this field considerable new and interesting material has been discovered, coming chiefly from the Judith River beds.

Research Work.—In research, beside several shorter papers by the curator, Mr. Douglass and Mr. Gilmore, there have appeared or are now in press an important paper by Mr. Douglass on the vertebrate fauna of the Tertiary lake beds of Montana (*Annals Carnegie Museum*, Vol. 2, pp. 145-199 with Plate and 37 figures in the text); a paper by the present writer on the 'Oligocene Canidæ' (*Memoirs Carnegie Museum*, Vol. I., No. II., pp. 65-108, 6 plates and 7 figures in text) and another by the same author on the 'Osteology of *Haplocanthosaurus*' (*Memoirs Carnegie Mu-*

seum, Vol. II., No. I., pp. 1-75, 6 plates and 30 figures in text).

The most important additions to the exhibition series during the year have been the skeleton of *Daphænus felinus* mounted by Mr. A. S. Coggeshall and the skeletons of a Loup Fork camel and of an Oligocene sabretoothed cat (*Hoplophoneus*) mounted by Mr. O. A. Paterson. Two splendid skeletons of *Ichthyosaurus* have also been placed on exhibition.

Considerable progress has also been made in the preparation of casts of the skeleton of *Diplodocus carnegii* for exchange with other museums.

J. B. HATCHER,

Curator Vertebrate Paleontology.

CARNEGIE MUSEUM,

October 6, 1903.

ETHNOLOGICAL AND ARCHEOLOGICAL SURVEY OF CALIFORNIA.

FOR several years the University of California, through its Department of Anthropology and by the liberal assistance of Mrs. Phoebe A. Hearst, has been engaged in an Ethnological and Archeological Survey of the State. A large amount of material, illustrative of Indian life and culture in past and present times, has been obtained and will form an important part of the anthropological collections which will in the future be exhibited in a museum of the university at Berkeley. At the present time this collection, with others of the department, is temporarily placed in one of the buildings of the affiliated colleges belonging to the University in San Francisco. Here the large and valuable collections are safely cared for until the permanent museum building is secured.

Systematic explorations are being made of the later gravel deposits, of several caves, and of the ancient shellheaps, in order to ascertain when man first occupied this region. The languages of the existing Indians are being studied by experts of the department; the customs and mythology of the different tribes are being carefully recorded; and collections illustrating their arts are being formed for the museum. A study of the physical characters of the various groups of Indians, combined

with that of the skeletons found during the archeological explorations, is being made in order to determine the physical relations of the Indians of California with those of other regions. By correlating the physical characters, the particular cultures of the past and present Indians, and the various linguistic stocks or families still extant, it is hoped to solve the great problem of the relationship of the numerous groups of Indians in California, and their relationship with peoples of other parts of the continent and possibly with certain tribes of Asia.

Nowhere in America has there been such a diversity of Indian languages as in California, a condition which has long puzzled anthropologists. During the past five years more investigations of these languages have been made by the University and by eastern institutions than in all previous time. These Indian languages are now fast disappearing. Several are at the present moment known only by five or six, others by twenty or thirty individuals, and hardly a year passes without some special dialect, or even language, becoming extinct. For this reason it is desired that students should be instructed in the methods of recording and studying Indian languages, and then devote themselves to special research. The University is, therefore, giving instruction in this branch of linguistics with the hope of preparing students to carry on the research before the opportunities pass away. Similar reasons apply to researches in other divisions of ethnology, and in archeology; hence the training of students in these subjects is also undertaken by the Department of Anthropology.

The officers of the department make a special appeal to persons in all parts of the State and adjacent regions for aid in this survey. Hundreds of Indian objects are found annually, which if carefully labelled as to where and how found and sent to the university, would, when brought together for comparative study, aid in the settlement of many important questions. The distribution of a particular kind of stone implement or of an ancient form of basket, and of many other objects of Indian manufacture (even the peculiar stone

of which an implement is made is of great importance), will aid in determining the distribution of a tribe or group of which other records may be lost or so uncertain that just such confirmatory evidence to establish a particular point is required.

Information relating to the location of caves, shellheaps, old burial places, ancient village sites, and scattered fragments or survivors of nearly extinct tribes, is earnestly solicited, that such may be investigated by the department and may be correctly recorded on its ethnological and archeological maps of the State.

The university is by this survey carrying on a research of great importance in obtaining a knowledge of the first peopling of the Pacific Coast and of the early migrations, and of the relationships of the recent and present Indians, a research that is required by anthropologists and by all interested in the early history of man. This work has been well begun, but assistance of many kinds is needed for its progress. This assistance it is hoped will be given to aid the University of the State in an undertaking of such general interest.

Two volumes of the publications of the department, relating to the languages, myths and customs of certain tribes of California, are now in press and are to be followed by others as the material is prepared.

Correspondence leading to aid in this survey is solicited by the Department of Anthropology of the University of California.

BENJ. IDE WHEELER,

President of the University.

F. W. PUTNAM,

Director of the Department of Anthropology.

BERKELEY, CALIFORNIA,

October 15, 1903.

SCIENTIFIC NOTES AND NEWS.

PROFESSOR RAPHAEL PUMPELLY, of Newport, R. I., has recently returned from a summer's journey in Turkestan, where he made a reconnaissance under the auspices of the Carnegie Institution of the ancient human occupation of the region in relation to its physiography. The other members of the expedition were Professor W. M. Davis, of Harvard; Mr.