

W. T. DAWSON, acting professor of physiology and director of laboratory of pharmacology, Woman's Medical College of Pennsylvania, has been appointed associate professor of physiology in the Medical Department of the University of Texas.

J. A. CARROLL, assistant director of the Solar Physics Observatory at the University of Cambridge, has been appointed university lecturer in astrophysics for five years.

DISCUSSION AND CORRESPONDENCE

THE FLORIDA MAN

IN SCIENCE of September 18, Dr. W. H. Holmes, under the title of "The antiquity phantom in American archeology," devotes two pages to caustic criticism of my report of finding human artifacts associated with the bones of mammoth in Florida. Had Dr. Holmes been considerate enough to give me some idea of his intention in this matter, I do not think he would have published such a paper; for he would have known that Amherst College, in conjunction with the Bureau of Ethnology of the Smithsonian Institution, sent a joint expedition this last summer to the Florida field to get more data on this controverted question; and that in four widely separate stations, one at Vero and three near Melbourne, either human bones or artifacts were found, always in association with the bones of mammoth and mastodon, and in such a manner as to make it sure that man and these elephants lived at the same time. Had Dr. Holmes examined either the artifacts or the deposits at Melbourne or Vero, he could hardly lecture on burial mounds, uprooted trees or quarrying for flints in the mucks and sands of Florida.

That Florida has oscillated in level, and that such rivers as the St. Johns and Indian and their tributaries with their channels below sea level are drowned rivers should be clear to one with Dr. Holmes's geological experience; and the time when this downward movement took place will be determined by the content of the fills, that is, by the bones of mammoth, horse, tapir, etc., found in the sand and muck which fill these older channels. Geologists are not "slow to recognize the fact that human relics belonging on or near the surface are liable to intrusion," but having studied these stream deposits, must decide whether they have been disturbed. Had Dr. Holmes ever examined these beds, showing uniformly two corresponding horizons, each with its peculiar fauna, and recurring in at least five different stream channels, separated in the extreme by forty miles, he would surely look for some other explanation than accidents.

As to the Pleistocene age of the human bones, our

results of last summer, soon to be published, show that they do not belong to the older horizon, but to the upper bed; and that whatever the age of the elephants, the age of the man is the same. Dr. Holmes asks geologists to reserve their final determinations until beyond the danger of error. The only way this question can be settled is to report all first hand data, and it is from the facts gathered on the spot that it must be settled. As to Indians finding fossil bones uncovered by the streams and utilizing them for making implements, this is absurd, as any one who has collected these bones knows how soft they are when uncovered and how punk-like they remain, even when dry. I would like also to state that the collecting done by Dr. Sellards at Vero was carefully done and minutely recorded and is not to be disregarded without proper field study. Finally, such a question as this will only be settled by cooperation between geologists and archeologists.

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EVIDENCE ON BASIN RANGE STRUCTURE

THE origin and structure of the Basin Ranges has been actively discussed ever since King and Gilbert gave publicity to their different views on this problem. The discussion has been continued recently by several geologists. Keyes¹ vigorously opposes the fault-block hypothesis, stating that a normal fault has not as yet been revealed in any piedmont belt. Ransome² cites the normal fault at Jerome, Arizona, which forms the eastern front of a mountain mass locally known as the Black Hills, as a clearly demonstrable example of the type of structure believed to be characteristic of the Basin Ranges. But the Jerome fault is located near the southeastern boundary of the Great Basin province, and the Black Hills might not be considered as a typical Basin Range by some geologists. In a recent paper Davis³ has summarized the evidence in favor of block faulting as an explanation of Basin Range structure.

In all discussions of the Basin Range problem seen by me there has been no reference to the faulting that occurred along the western base of the Sonoma Range in central Nevada at the time of the Pleasant Valley earthquake of October 2, 1915. This earthquake was investigated, at the time, by Professor J. Claude Jones, who published a very interesting account of

¹ Keyes, Charles, "Geology of Nevada," *Pan. Amer. Geol.*, vol. 40, p. 36, 1923.

² Ransome, F. L., "Basin range structure at Jerome, Arizona," *SCIENCE*, vol. 61, pp. 659-660, 1925.

³ Davis, W. M., "The basin range problem," *Proc. Nat. Acad. Sci.*, vol. 11, pp. 387-392, 1925.