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 oscillarted 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. Keyes[1] vigorously opposes the fault-block hypothesis, stating that a normal fault has not as yet been revealed in any piedmont belt. Ransome[2] 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 Davis[3] 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.

it.[4] The southern half of an old fault was ruptured for a distance of over twenty miles and a fault scarp formed that in places had a height of ten to fifteen feet. Where the rock surface was exposed the fault plane had a dip of 54° due west.

The effect of this displacement was to increase the elevation of the mountain range relative to Pleasant Valley. Another and older fault scarp, six to ten feet in height, which can be traced along the base of the range several miles north of the scarp of 1915, is described by Jones as "comparatively recent."

It is now known that large faults are the result of repeated small displacements, such as the one that occurred in Pleasant Valley. Students of structural geology have not given sufficient attention to the movements of the earth's crust that are going on at the present time. In tectonics no less than in sedimentation "the present is the key to the past." In this connection it is encouraging to note that the National Research Council has recently appointed a committee on the testing of isostasy in the Basin Ranges.

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DIPLOID MALES FROM FERTILIZED EGGS IN HYMENOPTERA

THE question of sex determination and parthenogenesis in Hymenoptera has been the subject of much interest and debate among bee breeders and biologists. According to Dzierzon (1845) the drones of the honey-bee are developed from unfertilized eggs, queens and workers from fertilized. Recent cytological work has shown that in the germ tract at least females are diploid, males haploid. Experiments with the parasitic wasp, Habrobracon, have shown orange eye color to be inherited in sex-linkoid fashion so that males inherit from their mother alone, females from both sexes. A few patroclinous mosaic males with black eyes arose from certain crosses, orange-eyed females by black-eyed males, from which only orange males were to be expected. These exceptional black males mated to orange females produced orange daughters and in a single case an orange brother of patroclinous males produced only black daughters. It was therefore postulated that fertilization was incomplete, and that cleavage of male and female pronuclei had taken place without fusion. These mosaic males were of normal fertility.

[4] Jones, J. Claude, "The Pleasant Valley, Nevada, earthquake of October 2, 1915," *Bull. Seis. Soc. Amer.*, Vol. 5, pp. 190–205, 1915.

At the same time there were produced from similar crosses black-eyed patroclinous males that were completely or almost completely sterile. Their few daughters were black-eyed, completely sterile and often morphologically abnormal. The mosaic theory was naturally extended to include these anomalous males. Their sterility and that of their daughters remained unexplained.

With the occurrence of further mutations it has been possible to show that these males are in all probability not haploid mosaics but are diploid, inheriting from both parents factors modifying the same structure. Thus two recessive wing mutations reconstitute the normal wing in the black-eyed males as in their sisters, while their orange-eyed brothers possess the maternal wing character.

The questions as to cause of sterility in these patroclinous males and their few daughters, as to why these males transmit only black and finally why they are males at all are still unanswered. Experiments now in progress may solve some of these questions. Results will be published in full later.

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A CONSERVATIONIST'S CREED AS TO WILD-LIFE ADMINISTRATION

(1) I BELIEVE that the fullest use should be made of our country's wild life resources from the standpoint of human benefit—for beauty, education, scientific study, recreation, for sport, for food, for fur, etc. *All* these possible uses should be considered in the administration of wild life, not any one of them exclusively of the others. At the same time, any one use may be of more importance than the others in a given locality, so that such locality may be administered with that particular value most prominently in view.

(2) I believe that that portion of our wild animal life known as "game" belongs no more to the sportsman than to other classes of people who do not pursue it with shotgun and rifle. More and more the notebook, the field glass and the camera are being employed in the pursuit of game as well as other animals. The newer generation by hundreds of thousands is turning to nature-out-of-doors, for recreation, instruction and pleasure through such agencies as the national parks, summer camps, Boy Scouts, Girl Scouts and Camp Fire Girls. Indeed, these other claimants upon our "game" resources are probably reaching to numbers greater than those of active sportsmen; *their* rights certainly deserve at least equal consideration.