

ANTHROPOLOGY

# Earliest Americans Hunted Ice Age Beasts With Stone Darts

## 20,000-Year-Old Dart Points Found at Scene of Huge Hunt Are Marvels of Primitive Workmanship in Stone

**W**HEN the first human beings came to the western world, what kind of animals they hunted, and what kind of a climate they knew, were subjects of a specially arranged symposium in Pasadena this week, at the meeting of the American Association for the Advancement of Science.

Twenty thousand years was set as a definitely possible figure for man's antiquity in America by Barnum Brown, of the American Museum of Natural History. This estimate is the result of investigations of the famous find of bison bones at Folsom, N. M., which has yielded 17 peculiarly worked flint arrow or dart points closely associated with the skeletons of from 30 to 40 buffalo of an extinct species, one of them a great bull that stood seven feet high at the shoulders, all buried under several feet of wind-blown dust.

The first discovery of the bones was made a generation ago by a ranch foreman, but the scientific exploration of the bed was not begun until within the past five or six years. The flint weapon points were all found in such positions as to preclude the possibility of later burial, and the most natural inference seems to be that they were sticking in the bison when the animals fell. To guard against too hasty judgment by the discoverers themselves, whenever a point was found in a critical position it was left exactly in place, covered with a small box to protect it from the weather, until other scientists could be called in to see it.

### Best American Workmanship

These flint points were, in Mr. Brown's phrase, "of a workmanship that equals, if it does not surpass, anything heretofore discovered in America." They are of an entirely unique pattern, having a broad groove down the side. This was interpreted at first as a "blood groove," to enable the wound to bleed more freely. However, this interpretation is not now regarded as correct; it is more likely that the effect of this groove, removing a considerable bulk of

superfluous stone, was to make the point a more penetrating, and hence a more efficient weapon.

Mr. Brown compares the workmanship with that of the Solutréan flints found in France. The Solutréan hunters were members of the great Crô-Magnon race of Old Stone Age times, and flourished, according to some estimates, about 20,000 years ago.

The points are frequently referred to as arrow-heads, but for a number of reasons it seems more likely that they were used on hand-flung darts or javelins, and that the people who used them did not know the use of the bow.

### All Tails Missing

One final and curious bit of evidence from the skeletons themselves, rather than from the flint points, is adduced by Mr. Brown in favor of the view that the animals were killed in a great hunting drive. Bones from all parts of the skeleton have been found, with the single exception that all the tails are missing. Mr. Brown interprets this as

SEISMOLOGY

# Moon Found to Have Influence On California Earthquakes

**T**HAT RECENT earthquakes in southeastern California follow the passing of the moon overhead was announced to the meeting of the Seismological Society of America by Dr. Maxwell W. Allen of Sanger, Calif.

These earthquake shocks are not caused by the moon, said Dr. Allen, and they would have occurred anyway without its assistance. But in far more cases than chance would allow, the earthquake occurs when the moon is in a certain part of the sky. The critical time seems to be about five hours after the moon has reached its highest point in the sky and again some twelve hours



**SLEW GIANT BISON**

*Seventeen of these stone points, grooved for better penetration, were found with the Folsom bison bones*

meaning that the hunters took hides as well as meat, and that they carried off the tails with the hides.

The place where the bones were found fits in well with the hunt theory. It was at the bottom of a coulee or ravine that lay within a shallow canyon—a very natural place for a game herd to gather and drink, affording at the same time good cover for a hunting party bent on stalking them.

The findings elsewhere of man-

later. Earthquakes do occur at other times but less frequently.

Some weak part of the San Jacinto fault is believed to be the origin of these minor quakes. Probably at some relatively shallow depth, there is a point little able to resist the forces created by the moon and the quake is "set off" at this point.

Strong shocks, on the other hand, continued Dr. Allen, take place a few days after the moon is either new or full. Evidently the sensitive spot of the crust in this case is deeper and more plastic. Forces can thus deform this layer without causing a disturbance.

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