



ICE AGE DART POINT

Discovery of this dart point in a Nebraska quarry may strengthen the theory that man lived and hunted in America during the Ice Age, thousands of years before the Indians came.

The presence of so many articulated bones bars the possibility of the stratum being redeposited Pleistocene. Dr. Barbour is certain that the deposit is Pleistocene.

The second problem is that of the possibility that the point may be intrusive to the bone layer. Unfortunately the point was not sufficiently below the surface totally to eliminate the possibility of accidental intrusion through earth cracks or gopher holes. However, the fact that the point lay flat and was surrounded by bones makes such a possibility at least unlikely. The fact that the artifact pointed outward eliminates the possibility that it may have been shot into the bank. The fact that the articulated bones rule out the possibility of redeposition also eliminates that external factor as a possible explanation of the association.

Dr. Barbour and I came to the conclusion that although conditions do not permit us to be absolutely positive that the point found by Schultz was made by a Pleistocene American and shot into a now extinct bison, the facts do lead us toward that position. Taken in conjunction with the other finds; the evidence for Pleistocene man in America is accumulating.

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PHYSICS

Cosmic Ray Study Is First In Importance for Piccard

THE MOST important observations to be made by Prof. Auguste Piccard in his second ascent to the stratosphere will be measurements of the cosmic rays, which are also being given intensive recordings in all parts of the world by American scientists.

For scientists are not greatly excited over the possibility of a new manned balloon record being set in the event that the shining white aluminum gondola carries its human freight farther from earth than any instrument has transported men. Neither are they vitally interested in the records of temperature, pressure, or other properties of the upper atmosphere that Prof. Piccard and his assistant will undoubtedly make.

Sounding balloons, carrying continuously recording instruments, have risen to altitudes of over twenty miles, twice as high as Prof. Piccard hopes to go. These balloons of science, not carrying observers, have brought back reliable information about the region of no weather, where the temperature is always about 70 degrees Fahrenheit below zero and the air is so thin that no human being could suck enough oxygen out of it to keep alive.

Ten Miles of Weather

The Piccard balloon will pass through all the weather there is in rising to the lower part of the stratosphere. All the clouds that fill the sky, as well as the strongest winds that blow, are found below the ten-mile height which is the goal. There the sun will shine brightly in a black sky. One of the most surprising discoveries of the science of weather occurred thirty years ago when sounding balloons brought back the information that temperature above about ten miles up did not constantly decrease with height as it does lower down in what is known as the troposphere or zone of weather.

The flight of the giant balloon with its sealed spherical shell containing Prof. Piccard and his assistant will be a thrilling experience, comparable in the ocean of atmosphere to William Beebe's descents in his bathysphere to depths of about a quarter mile into the ocean.

The cosmic rays measurements which will interest scientists most will be made with an electroscope within the aluminum gondola. The measurements when compared with those being made under the direction of Prof. Arthur H. Compton of the University of Chicago this summer may throw light on the mystery of the cosmic rays.

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ANTHROPOLOGY

Three Thighbones Confirm Java Ape-Man's Position

PITHECANTHROPUS *erectus*, the ape-man of Java, has had his existence as a true zoological genus confirmed through the recent discovery of three more thighbones by Dr. Eugene Du Bois, Dutch surgeon-scientist famous for his original find of the much-disputed fossils over forty years ago. This is the opinion of Prof. G. Elliot Smith, English anthropologist.

The three newly discovered thighbones will be eagerly awaited by scientists, the more so because the original, or "type" specimen, is flawed with a bony outgrowth that probably made its owner lame. Except for this imperfection, the three new bones are declared to be identical with the *Pithecanthropus* type in every respect; and they were found at Trinil, the site of the original discovery.

During recent months, Java has been the scene of several dramatic developments in the story of early man. First came the discovery by W. F. F. Openoorth and C. ter Haar of remains of a race resembling Neanderthal Man, which has been named *Homo (Javanthropos) soloensis*. This greatly extends the known range of Neanderthaloid men, and casts doubt upon Dr. Henry Fairfield Osborn's theory that *Pithecanthropus* was a form that developed in Java because the tropics did not favor the evolution of higher types. Then came Dr. Du Bois' statement, a little over a month ago, that two other skulls found in Java suggest the origin of the black natives of Australia from a race that migrated via the East Indies.

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