Hunting for "Radio Roof"

Radio

They are hunting for the "radio roof of the world" with echoes. Somewhere out in the borderlands of the earth's atmosphere there is a layer of electrically charged gas particles that keeps radio waves from dissipating themselves into space and makes long-distance radio signalling possible. It is called the Kennelly-Heaviside layer, in honor of the scientists who discovered it. It fluctuates a great deal either in its height above the earth or in its power to reflect radio waves, and hence makes a lot of trouble for radio men.

To learn more about the location and behavior of this important layer, Dr. M. A. Tuve and L. R. Hafstad of the Carnegie Institution of Washington have been studying short-wave radio waves sent out by the U. S. Naval Research Laboratory, which strike the layer and are reflected back, like echoes from a wall. The same principle is used in the sonic depth-finding employed by ships to study the bottom of the ocean. They laid their results before the meeting of the American Geophysical Union in Washington.

The work of other men who reach into the outer atmosphere with the fingers of their minds was reviewed by Commander N. H. Heck of the U. S. Coast and Geodetic Survey, and Dr. E. O. Hulburt of the U. S. Naval Research Laboratory. There are two theories regarding the cause of the aurora borealis, or northern lights. One is that the rarefied gases in the upper atmosphere are excited and caused to glow by the action of ultraviolet light bombardments from the sun, and the other that the effect is produced by streams of electrons shot out from the same source. Since high-air Arctic exploration by Zeppelin is contemplated during the coming year, these questions have assumed unusual importance at this time.

Science News-Letter, May 4, 1929

Urge Saving Indian Records

Archaeology

The preservation of irreplaceable earth monuments built by Indians in middle western America long before the white man came will be urged at an archaeological conference called for May 18 at St. Louis, under the sponsorship of the National Research Council.

Plows, steam shovels, and souvenir dealers are destroying forever the tombs and buried records of an ancient civilization that built pyramids that rival those of ancient Egypt, Dr. Knight Dunlap, chairman of the division of anthropology and psychology, declared.

"Once the states and local communities of the Mississippi valley realize the value of these valuable heritages from the past they are sure to take steps to protect them properly," Dr. Dunlap said.

Governor Henry S. Caulfield of Missouri will open the May 18 conference and among the many speakers there will be Dr. Wm. John Cooper, U. S. Commissioner of Education, and Dr. M. W. Stirling, chief of the U. S. Bureau of American Ethnology.

Many wild theories have been advanced to account for the Mound Builders. Today the scientists agree that they were American Indians, but this makes them none the less interesting, for in their monuments they have left us a record of the development of an American civilization.

"Our scientists are making rapid progress in this study of the lives of the prehistoric inhabitants of America, but they need all the materials they can get," Dr. Dunlap said. "Still the work of destroying the mounds and other remains of our predecessors goes merrily on. Farmers plow the mounds down to make simple the tilling of their fields. Tourists dig into them in the hope of getting arrowheads. Some have even been blown up with dynamite. Dealers in souvenirs exploit them indiscriminately. In one county of Illinois there are 655 mounds and all but 50 have been looted. The contents have been scattered and valuable historical 'documents' have been forever lost.

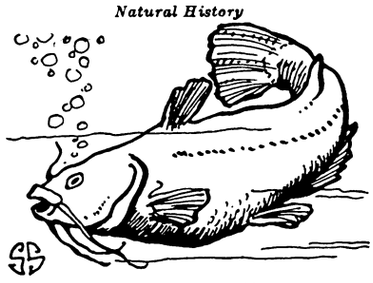
"Most of this destruction has been done in ignorance of the fact that the trinkets are of no value scientifically (and of very small value in any other way), unless accompanied by a careful record of the details of excavation by which they are obtained. It is the total picture of the position and arrangements of objects in the mounds that reveals important facts to the scientists. This is all lost when amateurs and pot hunters rifle the sites, moving and breaking the tell-tale reminders of an ancient housekeeping."

Science News-Letter, May 4, 1929

Nature Ramblings

By Frank Thone

Natural History



"Bullheads"

Trout fishing isn't very good yet, though whether that is the fault of the reluctant trout who will not take the fly, or of the reluctant angler who will not take the fly to the trout, may be a question. But as soon as the ice is out of the river the small boy goes hopefully to the pursuit of the catfish, with his can of worms or chunk of liver. And sometimes he brings home the bullhead.

There are numerous species of catfish, but they are all alike in several respects. They are all naked; that is to say, scaleless; they all have rather a preference for loafing about on the bottom, and the muddier the bottom the better they like it; they all have long, pendulous whiskers, like Kublai Khan, and like the Khan they all have an insatiable tendency to gobble up everything in sight. That is what makes them so easy to catch; they have more appetite than judgment.

The particular use for those long whiskers has never been learned for certain; despite his large mouth, the catfish is a secretive creature. It seems likely, however, that they are special organs of touch, useful to the fish when he goes rooting about in the bottom mud up to his eyes, shoveling for buried worms and other tidbits. In some instances, however, it is perfectly well established that they have use as weapons, or that the sharp spines associated with them have such use. The small boy who has had to struggle with a catfish to recover a swallowed hook can testify to that.

Science News-Letter, May 4, 1929

To Help Scientists

General Science

Sigma XI, the society for the promotion of research, is now on its annual hunt for scientists who need financial help in their studies. Grants ranging from $100 to $1000 are available without restriction as to where the work is done.

Science News-Letter, May 4, 1929