



REFRIGERATED FOR YEARS

## PALEONTOLOGY

## Moving Glacier Uncovers Ram Preserved In Ice

**C**HAMPIONSHIP cold-storage mutton honors may be claimed for the body of a mountain sheep, entombed for years, probably for centuries, in a glacier in Yosemite National Park. It was recently found in an almost perfect state of preservation.

When found, the ram was lying against a pillar of ice built up by his own shadow, and about thirty feet from the snout of the glacier which apparently had been his mausoleum. It is thought he was approximately one-half mile from the spot from which he probably fell to his death.

Park Naturalist Bert Harwell, who with Ranger Ed Beatty discovered the ram, conducted Dr. Erich Wasmund, a lake geologist from the University of Kiel, Germany, to the find. Dr. Wasmund, who has made a special study of the decomposition of animals remaining long periods of time under water and ice, agrees that Harwell's theory is plausible.

The ram, feeding on the crest of Mount Lyell, fell into the bergschrund or crevasse near the head of the glacier. He was deeply buried and has traveled a few feet a year with the glacier movement, gradually melting out to the surface. He could not have been exposed many summers; for the ever-present coyotes would surely have found him. Mr. Harwell adds that this has been a summer of excessive melting.

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## RADIO-ASTRONOMY

# Increasing Spottiness of Sun To Help Local Radio Reception

## Turning of 11-Year Cycle, Affecting Radio Near End Of Next Year, Will Also Weaken Signals of Distant Stations

By **DR. HARLAN T. STETSON**,  
Director of the Perkins Observatory at  
Ohio Wesleyan University.

**T**HE RECENT announcement of a few high latitude sunspots carries special significance for the radio fan, for it announces that we have definitely marked the minimum in the present sunspot cycle. Observations at the Perkins Observatory have shown that field intensities from the Chicago station WBBM during the last two years have remained consistently at the highest level since the sunspot maximum in 1928-29. The present field intensities average about 2000 microvolts in the observatory's antenna, a value fifty times greater than that measured at the beginning of the decline in sunspot numbers.

The few spots that have been occasionally appearing during the present sunspot minimum have shown a comparatively small effect on the radio as compared with the effect produced by the terrific solar cyclones which raged on the sun four and five years ago. Long distance reception in the broadcast band has never been better than in 1932 and 1933 since the advent of broadcasting. Contrary to popular belief, however, this has not all been due to improvements in radio technique nor the increased power in broadcasting stations. The fifty-fold increase in intensity can without doubt be attributed to quieting activity in the solar disturbances which are chiefly responsible for the ionization of the Kennelly-Heaviside layer.

The rise in the ionized layer during the last two years which has been responsible for the excellent long distance reception has, however, had a somewhat disquieting effect on those who listen to programs thirty or forty miles from a broadcasting station, for the sky wave has come through so well as to interfere with the ground wave at these critical distances, thus producing interference and mushiness in receiving sets within this critical area. With the beginning of the new sunspot cycle long

distance reception during the next few years will deteriorate, but the disturbing factors just mentioned in local areas should become less troublesome. Radio fans therefore may expect to be compensated for their lack of DX reception by much improvement in the shorter range.

A careful analysis of recent behavior of sunspots as studied at the Perkins Observatory reveals that no material change from the present radio conditions will be apparent until near the end of 1934. Conditions for transcontinental enjoyment of programs should therefore continue for another year. In addition to the measurement of the daily reception of WBBM Chicago at Delaware, the Observatory has recently inaugurated nightly measurements of KFI San Francisco which should materially contribute to further knowledge of the behavior of the ionized layer with the coming rise in the sunspot cycle.

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## ARCHAEOLOGY

## Prehistoric Ruins to Be Restored By Works Program

**F**IRST AID for two important prehistoric ruins in the Southwest, which are seriously in danger of disintegrating, is assured under the Public Works Program.

An announcement by Secretary of the Interior Harold L. Ickes states that \$16,500 has been allotted to repair major ruins in Mesa Verde National Park, Colorado, and \$17,175 for repairs to Aztec Ruin in the Aztec Ruins National Monument, New Mexico.

At Mesa Verde, Indian laborers will receive more than half the allotment as wages for repairing the abandoned homes of their forefathers. The rooms they will repair were built and inhabited during the eleventh century and several succeeding centuries, as scientists have determined by study of tree rings in the house beams.

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