



### Thermosthanatos

➤ **DINOSAURS** died off leaving no heirs of their line to dispute with the upstart mammals their once-held dominion of the earth, not because the climate became too cold but because it got too hot for them. The heat may have killed some of them directly, but more likely it wrought their extinction indirectly, through making the males incapable of reproduction.

This thesis, radically contradictory to the older doctrine that the great reptiles were simply frozen out by some long-gone ice age, is advanced by Prof. Raymond R. Cowles of the University of California at Los Angeles. He has devoted a good deal of research to the phenomena of heat-responses in modern cold-blooded animals, especially reptiles, and he reasons by analogy with what he has actually observed under field conditions.

Years ago, Prof. Cowles came to question the time-worn simile, "happy as a lizard on a hot rock," because the lizards he had seen on hot rocks were distinctly not happy. To begin with, lizards (or snakes) are rarely seen on rocks that are really hot. Few reptiles are to be seen in the full glare of the noonday sun in the desert. They are down in their burrows, or hiding in shady spots. The time for them to be abroad is in the forenoon and late afternoon, when the sand and rocks are merely pleasantly warm.

The California zoologist went beyond simple field observations. He penned reptiles of various kinds on areas of rock and sand and kept them there as daytime temperatures rose to their simmering maxima. The poor creatures showed signs of increasing

distress, ending in prostration. If he did not let them escape in time, they died.

The point is, that these so-called cold-blooded animals become more hot-blooded than warm-blooded animals when they are exposed to too much heat. They do not have the thermo-regulatory mechanisms possessed by the later-arriving, more highly evolved mammals and birds. If the hot rock changes from a nice, warm basking-place to a 120-degree griddle, they die of what amounts to an extreme fever.

Even without waiting for that, however, a male reptile, with its sex glands carried within its over-heated body, can suffer heat-sterilization if caught by a too-high temperature. Crocodilians and sea-turtles keep safely cool in the water; terrestrial snakes and lizards are small enough to find saving shelter. But the huge, lumbering saurians of the late Cretaceous, kept constantly just a little too warm by an endless August of world-wide tropical conditions, may very well have become incapable of fertilizing their mates' eggs. So, like many another ponderous aristocracy, they may well have lost their world simply through lack of offspring.

Science News Letter, August 20, 1949

### GEOLOGY

## Reporting Tidal Waves

➤ **SAFETY** in the Pacific area will be promoted by Pacific and Alaskan stations maintained by the U. S. Civil Aeronautics Administration which have now been made a part of a system for detecting and reporting tidal waves resulting from undersea earthquakes. The CAA contribution will be largely the use of its continuous communications channels in the area.

In this work, the CAA is now cooperating with the U. S. Coast and Geodetic Survey and the Military services in a far-flung program of observation and reporting. Shores in the path of such waves will be warned so that steps can be taken to prevent loss of life and property.

These tidal waves are more properly called seismic waves. They are relatively low in height and of great length, and are not easily detected by aircraft and ships at sea or by normal eyesight observation. They may attain speeds of more than 400 miles per hour and cause terrific damage when they roll up unexpectedly on islands or the shoreline of mainlands. The Honolulu disaster a few years ago is an example of their power to destroy.

Special instruments employed by strategically located tide gauge stations are designed to screen the normal rise and fall of sea water and detect a sustained rise which may be a sea wave. The Honolulu magnetic and seismological observatory is the focal point of the detecting and warning system. When earthquake disturbances are noted at west coast observatories, re-

ports are made to Honolulu. Tide gauge stations in the Alaska area and on islands throughout the Pacific are alerted to make continuous observations. Once a sea wave is detected, all areas are warned to prepare for possible consequences.

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### ZOOLOGY

## Mouse-Eating Frogs Added To National Museum

➤ **MOUSE**-eating frogs, that bellow fiercely like bulls when disturbed, have been added to the zoological collections at the U. S. National Museum in Washington. They come from the rainy mountains of tropical Brazil. Their mouths are so wide that it is no trick at all for them to swallow mice. They also gulp down other frogs.

They might be described as Mr. (and Mrs.) Six-by-Six; both sexes are about the same size, six inches long in the body and almost as wide. They won't budge even for relatively gigantic visitants like human beings, but merely swell up balloon-wise and sound off with their startling bellowing.

Their daunting appearance is enhanced by the possession of what seem to be horns. However, states Dr. Doris Cochran of the Museum staff, these apparent horns are merely outgrowths of the skin, and have no combat value whatever.

Science News Letter, August 20, 1949

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