

PALEONTOLOGY

NATURE RAMBLINGS

by Horace Loftin



Age of Giants

► FOR 100,000,000 YEARS or more, the earth was dominated by giants.

In those days—the Triassic, Jurassic and Cretaceous periods in the primitive world's history—the earth had a tropical or subtropical climate over much of its surface. There was an abundance of lush vegetation. No truly high mountains were present then to form insurmountable physical or climatic barriers to the spread of animal life.

The giants were the dinosaurs, reptilian lords of the early earth who have long since disappeared. Greatest of the flesh-eating dinosaurs was the terrible *Tyrannosaurus*, almost 50 feet in length. But even surpass-

ing this monster in size were some of the dinosaurs that lived only on plant life. Greatest of these, and the giant among giants, was the *Brontosaurus*, which grew to 70 or more feet in length and weighed some 40 tons—80,000 pounds!

The *Tyrannosaurus* supported his great body bird-fashion on his two hind feet, employing his relatively small forefeet to help in feeding. But the massive *Brontosaurus*, with his tremendous neck and tail, needed all four legs to support his bulk.

Not all dinosaurs were giants, although giantism was certainly a dominant trend in their evolution. Out of about 230 known genera of dinosaurs, at least 150 could be called giants—15 feet or more in length.

Although these creatures were once the undisputed masters of the earth, they have been gone for many millions of years, their dominant role being taken over by "insignificant" mammals. What happened to the dinosaurs? Was the trend to giantism in their evolution an error of nature, making them unsuited for life on earth?

This question will never be fully answered. But this fact should be considered: that for the long space of 100,000,000 years these giants were the earth's dominant animals. Certainly it appears that they were admirably suited for existence in that remote age.

The fall of the giants probably was due to changes in their environment—perhaps changes of climate—that finally made their mass a liability. Although admirably made for life under one set of conditions, they could not adjust to change, they perished.

Science News Letter, April 7, 1956

ASTRONOMY

Clouds Form Near Martian Volcanoes

► VOLCANOES on Mars could account for the clouds observed to form repeatedly over the same small area in the last 30 years, Dr. Dean B. McLaughlin of the University of Michigan Observatory told the American Astronomical Society meeting in Columbus, Ohio.

This area is the one where some of the "most striking changes" have occurred on the Martian surface, he said.

Dr. McLaughlin explains dark areas on Mars as resulting from deposits of drifting volcanic ash falling out in the pattern of prevailing winds. (See SNL, April 16, 1955, p. 244 and Feb. 19, 1955, p. 114.)

He said photographs taken by O. H. Truman of Hollywood, Calif., with the 100-inch Mt. Wilson telescope in 1941 showed a dense cloud in the same area as a peculiar cloud was found during the close approach of Mars in 1954 by Drs. Edison Pettit and Robert S. Richardson of Mt. Wilson and Palomar Observatories.

Discovery that, on two occasions 13 years apart, clouds appeared in the same small region means they must have been produced by some mechanism at a fixed location on the planet's surface, Dr. McLaughlin believes.

Searching through other old photographs, he found two more cases of cloud formation in the same area, one in 1939 and one in 1926.

Science News Letter, April 7, 1956

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BIOCHEMISTRY

Basis for Cancer Atrophy

► A CHEMICAL BASIS for the wasting away of cancer patients, with implications for treatment in the future, has been found by Dr. Jere M. Bauer of the University of Michigan, the American Cancer Society which supports his research announced.

In mice, the wasting of cancer is accompanied by loss of protein and of a body chemical called glutathione. This chemical is an oxygen carrier and has been reported to play a role in protein manufacture.

Dr. Bauer's mice lost about a third of the protein of their bodies and more than a third of the glutathione by the time transplanted cancers had grown to a large size.

They also lost about a half to three-fourths of the fat found in a healthy mouse on the same diet.

The findings of Dr. Bauer's work tend to challenge one common concept—that the body of the cancerous animal contains increased amounts of water. The Michigan experiments show that, although the percentage of body water does increase during tumor growth, this is largely due to the excessive loss of fat and does not represent a true increase in water content of the body tissues.

When the basic effects of malignant growth on the metabolism of the body are known, the influence of treatment by changes in diet, X-ray and surgery will be determined. Such an approach may give more objective criteria for evaluating the effects of cancer therapy.

Science News Letter, April 7, 1956

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