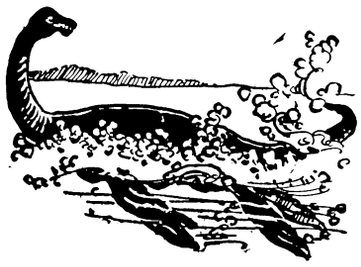
ZOOLOGY

NATURE RAMBLINGS by Frank Thone



No Sea-Serpent?

➤ WHAT has become of the Sea-Serpent? Summer has passed, and we stand at the threshold of autumn, yet from no beach resort has come that most hardy perennial of all publicity stunts: the sighting (usually at dusk, or in a fog) of a giant serpentine form undulating in coils through the affrighted waves. Even the usually dependable Loch Ness monster seems to have gone into retirement.

Perhaps there is a tacit, unworded agreement that in these tense and unquiet times any extraneous promotion of mass jitters would be a work of supererogation. Or it may be that the drifting log or other imagination-arousing piece of flotsam is interpreted as a spying submarine instead of a mythical monster.

Romantic-minded persons who like to nurse the sea-serpent myth sometimes argue for a "lost world" in the depths of the ocean instead of on an isolated plateau in the tropical jungle. Why shouldn't some of the long-necked, long-tailed, paddle-limbed marine saurians of fifty or a hundred million years ago not have survived, they ask, safely hidden from prying human eyes save at the rare intervals when they come to the surface?

If these ancient marine reptiles had any physiological resemblance at all to modern members of their tribe, they could not have been dwellers of the depths. All reptiles are air-breathers, hence must get at least their noses above water quite frequently. The chances are that most of them swam with their heads above water the greater part of the time, submerging only when they were hunting food.

Moreover, all reptiles now living are cold-blooded animals, and it may be safely inferred that these ancient giants were cold-blooded, too. That must have limited their habitat to shoal waters or the warm surface of the open sea. At great depths the ocean water is icy cold, and may be safely invaded from above only by specially adapted warm-blooded animals like the whales. The larger aquatic reptiles, like the crocodilians and the giant sea turtles, habitually stay close to the surface, where they can soak up the warmth they need to remain alive and active.

Unless some unexplored bit of warm, shallow tropic sea can be found where survivors of the Jurassic or Cretaceous reptilian aristocracies may bask and feed and mate, it seems most unlikely that any sober seafarer or beach-comber will ever behold a living plesiosaur or mosasaur. And the South Seas have been rather thoroughly investigated, especially of recent years.

Science News Letter, September 3, 1949

CHEMISTRY-PHYSICS

No Long-Lived Astatine

➤ HOPE of finding a long-lived variety of the new radioactive element astatine has faded.

This news has been reported to scientists in the JOURNAL OF CHEMICAL PHYSICS by a team of University of California chemists, Drs. G. L. Johnson, R. F. Leininger and Emilio Segre.

Their scientific search was for a long-lived isotope of the element, No. 85 on the chemists' list. They discovered two previously unknown isotopes of astatine, but they did not find one with much life-expectancy. Their longest-lived one has a half-life of only a little more than eight hours. In all, seven varieties of astatine are now known.

In their researches, the University of California scientists had to use invisible amounts of astatine, because its short life prevents stockpiling. They got their samples of the element which does not occur in nature by bombarding bismuth with alpha particles in the 60-inch cyclotron at the Crocker Radiation Laboratory.

Like its close chemical relative, iodine, the new element dissolves in organic liquids. Carbon tetrachloride, the familiar cleaning fluid and fire extinguisher, was used to dissolve the minute amount of the element.

Although never seen by man, astatine is known to be more like a metal than the other members of its chemical family. Besides iodine, they are: chlorine, widely used as disinfectant and bleach; bromine, whose salts are used in photography; and fluorine, the exceedingly active gas whose large-scale production was a by-product of the wartime work on the atomic bomb.

Science News Letter, September 3, 1949

BIOCHEMISTRY

Cobalt Is Beneficial To Cattle and Sheep

➤ COBALT, a trace element needed by sheep and cattle, helps them indirectly by helping certain beneficial bacteria that live in their digestive tracts. Strong evidence to this effect has been produced in experiments reported in SCIENCE (May 6), by Dr. Lorraine S. Gall and associates, working at Cornell University and the Ohio Experiment Station.

Four groups of sheep were used in the experiments. The first was kept on a cobalt-deficient diet and given no cobalt. The second received the deficient diet and cobalt injections into their veins The third group got the same diet, plus cobalt by mouth. The fourth group received a normal diet (containing cobalt) but was kept on short rations. Samples from the rumen, or cud-pouch, in the first two groups contained only half as many bacteria as those from the last two, where cobalt was taken in with the feed. There were marked differences also in the bacterial forms present in the two sub-groups.

Associated with Dr. Gall in the research were Drs. S. E. Smith, D. E. Becker, C. N. Stark and J. K. Loosli.

Science News Letter, September 3, 1949