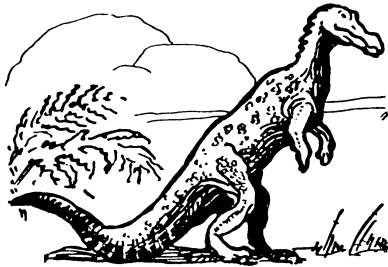


PALEONTOLOGY
NATURE RAMBLINGS
 by Frank Thome



Dinosaurian Devices

ONE OF man's cleverest inventions was anticipated, millions of years before his time, by the biggest (and about the dumbest) of beasts.

Did you ever see a pebble mill, or a ball mill? They are relatively simple but quite ingenious devices for pulverizing tough, fibrous substances, like animal tendons or stringy plant fibers, that resist the action of ordinary types of grinding apparatus. Such mills are much used in scientific and testing laboratories.

A mill of this type consists essentially of a tightly closable box, which can be rolled over and over by suitable mechanism. Into it are put the materials to be ground, together with a quantity of hard pebbles or hardened steel balls like ball-bearings. Over and over and over rolls the box, for hours, sometimes days. Within, the pebbles or balls are kept tumbling in an endless shower, bestowing millions of sharp impacts on the stuff that is being ground. At last, when the door is opened, out rolls the material, "digested" to a fine powder in this iron gizzard.

Exactly the same thing happens in the gizzard of a chicken or other bird, except that instead of rolling over and over, the organ grips and squeezes itself together with its thick, strong muscular walls. The food within is rubbed fine between the hard pebbles which the bird has swallowed, to make good its lack of teeth.

But long before modern birds, their relatives the reptiles had discovered the same trick. Modern alligators and crocodiles still carry a ballast or gizzard-stones; for though they are well equipped with teeth they do but little chewing with them. Their teeth are mere aids to catching and killing their prey, which is then gulped down whole, or in as large pieces

as the animal can swallow, and left to the ministrations of the gizzard-stones within.

Just so it apparently was with their distant cousins back in ancient geologic times. Some of the dinosaurs had teeth, others had few or none. But associated with dinosaur skeletons that have been found in favorable locations, where the big beasts apparently decayed and left their bones to be fossilized just where they lay down and died in the primal ooze, have been found "pecks of picked pebbles," often beautiful semi-precious stones, and almost invariably rounded with rubbing, which scientists think may very well have been their gizzard stones—equipment of the original pebble mills.

Science News Letter, August 10, 1935

BIOLOGY

Copper Wash Boiler Keeps Algae Out of Fish Pool

THE MARKET for second hand wash boilers should improve if the present craze in Ames, Iowa, for outdoor fish pools keeps up. One of the difficulties with the pools, especially during hot weather, has been the infestation with algae which gives them an undesirable appearance and odor.

One woman solved the problem by putting a copper wash boiler into her pool to hold cattails, the boiler being used to hold the dirt. The pool, which had hitherto been badly infested with algae, now is entirely free from them.

The effect of copper ions in the water on algae is well known to biologists, although for most purposes of algae control, as in water supply reservoirs, a small amount of a soluble salt of copper is added. However, the presence of a relatively large area of metallic copper in the water is sufficient to supply the low concentration necessary. Fish and the higher forms of plant life are not affected by the small amount of copper.

Science News Letter, August 10, 1935

MEDICINE

New Fatal Virus Disease Reported From Brazil

A NEW Brazilian disease with symptoms like those of polyneuritis and encephalitis was reported to the International Neurological Congress at London by Prof. A. Austregesilo of Rio de Janeiro.

The disease is an epidemic affliction of the nerves and is believed to be caused by a new virus, not before known to science. The common cold and infantile paralysis are but two diseases believed to be spread by virus action.

Prof. Austregesilo has observed many cases in Brazil in the last two years, he reported. The disease takes many forms and starts like a generalized infection with polyneuritis and apparently is always fatal.

Science News Letter, August 10, 1935

GEOLOGY

Geysers Wear Pebbles Down By Churnings of Eruptions

YELLOWSTONE'S famous geysers are all the time producing geologic specimens of a rare type, to which attention has been directed for the first time by Dr. Robert L. Nichols of Tufts College. (*Journal of Geology*, July 6.) These specimens are pebbles, fragments of common rock, but tumbled and pounded into rounded shapes by the rushing, swirling action of the erupting waters.

Besides having their edges and corners thus worn smooth, the pebbles are all coated with a deposit of the mineral geyselite during their stay in the geysers' throats. They are thus built up even while they are being worn down.

Dr. Nichols has found them most numerous in the neighborhood of Grand and Turban geysers, which are among the most active hot-water jets in the Park.

Science News Letter, August 10, 1935

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