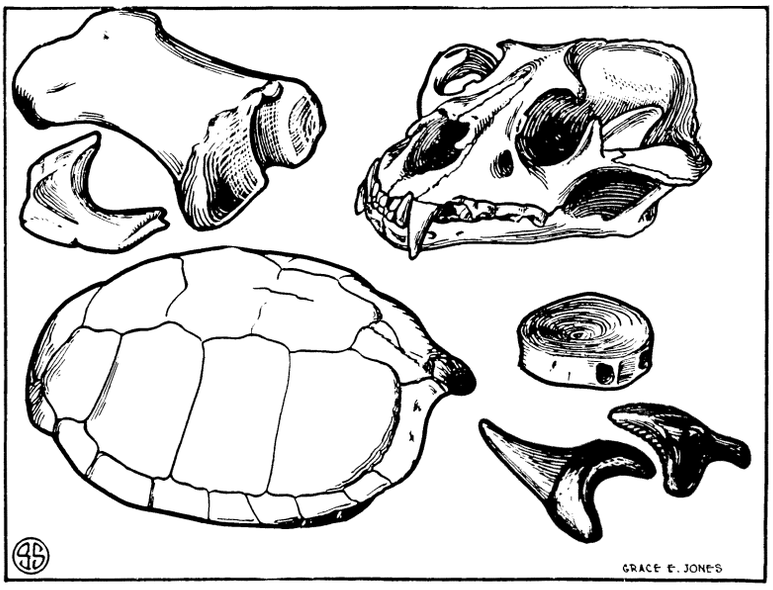
Inexpensive Summer Fun

Bones, Turtle Shells Make Attractive Collection

(Last of a series of 12 articles.)



BONES, turtle shells and other discarded animal parts are very nice things to collect—though they sometimes encounter unsympathetic family opposition. If they haven't been lying in the woods until they are thoroughly bleached there may be reasonable basis for such opposition, but if they are really nice and clean and white, objection has really no basis but prejudice. If your bones will pass the nose-test, that ought to be sufficient.

Of course, there is a certain limit imposed by size. If you come upon the well-bleached skull of a long-gone horse or cow, it is a bit large, perhaps, to have indoors. But there will surely be some place outside where it may be kept. And the really interesting skulls of smaller things—rabbits and squirrels, cats and dogs—can very properly claim house room. So can such things as vertebrae and the smaller limb-bones.

In some parts of the country, especially in the East and the Rocky Mountain regions, where there are deer, antlers are fairly easy to find. Every male deer grows and sheds a pair every year, so that for each buck's lifetime there will be anywhere from four to eight or ten pairs of antlers. In the few places where there are elk and moose, their larger antlers are specially proud prizes. It is rare, however, to find a perfect moose antler—porcupines chew them up.

Much easier to find are the shells of turtles. In all except the driest parts of the country, these interesting little reptiles are very numerous. Their shells, as the solidest part of them, last longest after their inhabitants have departed this life. You'll have to watch your collection, though, if you have any turtle shells; they make such handy ash-trays!

Another type of reptilian relic that is fairly easy to come by is snake skins. These, like deer antlers, are shed periodically, so that every snake will produce several skins during its lifetime. They will always be somewhat rumpled and disordered, like the discarded garments they are. (Incidentally, it's bad manners as well as bad business policy to kill snakes; they are very useful animals, paying for their place in the world by killing vermin.)

The bones you find are not always necessarily of animals that died only a year or two ago. There are places, fairly well scattered over the country where fossil bones and teeth embedded in earth but not yet petrified, are washed out in creek banks, shore bluffs, gullies, etc. In peat bogs, where ditches are being cut, you will often find wood, roots, leaves, and other plant remains. They will be dark brown or black, but otherwise will look as though they had been dropped there only a few months ago, instead of many thousands of years.

For more information about collecting skulls and bones and a list of books and pamphlets on the subject, send us a postcard with your name and address. Ask for Bulletin 12. Address Science News Letter, 2101 Constitution Ave., Washington, D. C.

Science News Letter, September 3, 1938

PHYSICS

Science Has Own Atomic "Eleven" of Particles

FOOTBALL season is at hand. Already potential "All-Americans" are being mentioned in the press from this year's crop of players. Little-realized but vastly more important than any All-American football team is the "eleven" of fundamental particles which form the building blocks out of which all matter is composed.

For the right side of the atomic "line" three of the basic atoms in the universe are nominated. At right end is Hydrogen; light, mobile and fast. At right tackle is the potent and massive "heavy hydrogen" known as Deuterium. At right guard you could place the still more massive and heavy Helium atom.

At the left end of the line there would be the Proton, hydrogen's electrically-charged brother. At left tackle would be Deuterium's ionized counterpart, the deuteron particle. And at left guard would be the familiar Alpha particle, electrically-charged nucleus of the helium atom.

As on most good football teams, a fast, rather light center would be used. Here the newest particle of all is nominated. On your scoresheet it can have no name since it has not yet been named and indeed was only reported a year or so ago by Drs. Carl Anderson and Seth Neddermeyer of the California Institute of Technology and by Drs. J. C. Street and E. C. Stevenson of Harvard University.

The atomic backfield could consist of a quarterback "ghost", the neutrino; yet unfound but whose presence is indicated in all modern atomic theories. At right halfback and left halfback, respectively, you could place the electron and positron; the versatile, basic particles exactly identical in weight but differing in electrical charge. And at fullback, with plenty of weight and a keen ability

to pierce the barriers of opposing lines, would be the neutron, the non-charged particle weighing nearly as much as proton, at left end.

Don't be worried if you have trouble with the names on this atomic "eleven". Remember that radio announcers too, have their troubles with the names of football players on some of the major elevens of the country.

Science News Letter, September 3, 1938

GENERAL SCIENCE

Electrons, Corn, Bible Story, Figure in Smithsonian Report

ELECTRONS are very small — the smallest things known in the universe. They are very young, scientifically speaking—men have known of their existence for only about thirty years. Yet in that short time those tiny things have wrought a social and industrial revolution so great there is no way of measuring it, Dr. Karl T. Compton, president of the Massachusetts Institute of Technology, declares in the new annual report of the Smithsonian Institution.

Fruits of Research

The men who pioneered in this small but enormously important discovery had no notion that their researches would ever make a dollar's worth of difference to the practical world. They were pure researchers, taking the cosmos apart merely to see what makes it tick. Yet vast factories hum today, and millions of dollars change hands, because of their scientific inquisitiveness.

Dr. Compton cites the importance of what he calls electronic devices. That means, nowadays, the key-mechanisms of electrical and communication industries: radio, long-distance telephony, the "talkies," neon signs, photocells that do everything from opening doors to catching burglars, thyratrons and kindred devices without which modern electric power plants could not run.

Electrons mean billions of dollars to the world of today. But in addition to that, and above it in importance, they function in the medical arts for the healing of our bodies, and they have become potent tools in the hands of scientists for the wresting of still further secrets from the storehouse of nature.

Botanists are seriously considering how to improve the corn plant.

Perhaps that does not sound extraordinary. Plant breeders are continually busy improving vegetables and fruits. Why mention corn?

The extraordinary fact regarding corn is this: For 400 years, white men in America have used the Indians' greatest gift almost the way Indian farmers gave it to them. The only notable changes, according to J. H. Kempton, botanist of the U. S. Bureau of Plant Industry, are that white men have discarded the gaudy red, blue, and black colors of Indian corn, and have made the crop more uniform by preserving the best of the Indian product.

This does not mean that our corn is primitive, poor stuff. Far from it.

Mr. Kempton, who discusses our use of this inherited plant in the report, pays tribute to the success of Indian farmers with the corn plant. He suggests that the Indian may have done a better job with corn because he was not trying at the same time to improve domestic animals. But whatever the Indian's secret, it is the botanist's verdict that "he created the world's most highly developed grain."

Greater Things to Come

Yet greater things are predicted for corn. When scientists became aroused to the importance of Gregor Mendel's experiments with garden peas, and realized that laws of heredity had been worked out in garden flowers, then the corn plant became a favorite subject for the great new study of inheritance in plants. The amazing corn plant has shown hundreds of mutations. Possibility of improving the well known varieties is evident, as the study of gene interaction advances.

Even now, Mr. Kempton states:

"Hybrids far surpassing the best varieties have been obtained, and a system devised for their commercial use."

Bible hero Daniel of lions' den fame, whose life and prophecies in Babylon have long been argued over by scholars, is now linked with a Canaanite myth.

Writings unearthed at Ras Shamra, ancient ruined seaport in Syria north of Palestine, include a long legend about a wise and good man named Danil. This Danil, says Dr. Zillig S. Harris in the report, "must be the Canaanite myth hero referred to in Ezekiel 14:14 and used as a model for the Biblical story of Daniel." Some scholars have held that the Book of Daniel was written long after the era of Israelite captivity in Babylon it describes, and that its religious value rests on its teachings regardless of historic preciseness.

On tablets found at Ras Shamra, the old Phoenician-Canaanites of the Bible world are for the first time speaking for themselves to explain their religion. Dr. Harris states that many cult practices of the Hebrews, the animals chosen for sacrifice, and some of their moral proverbs were borrowed from these neighbors. However, he declares, Hebrew culture remained fundamentally different from the Canaanite.

Science News Letter, September 3, 1938

ENTOMOLOGY

Scorpion Stings Declared Dangerous, Often Fatal

SCORPIONS are not to be regarded lightly, declares H. L. Stahnke of Mesa Union High School. (*Science*, Aug. 19) Mr. Stahnke disagrees with another writer in an earlier number of the same journal, who claimed that scorpion stings and tarantula bites are nothing to be afraid of.

"More lives have been lost in Arizona from the sting of the scorpion than from the bite or sting of any other venomous arthropod or reptile at least during the nine-year period since 1929," he writes. "For a period of six and one half years, beginning with 1929, there were recorded twenty-five deaths resulting from the sting of the scorpion and only ten deaths caused by the rattlesnake, gila monster and other poisonous animals.

"Most of the deaths due to scorpion sting have occurred in the southern part of the state, particularly in the Salt River Valley, and the victims have been children usually six years of age and under. The writer knows of one case in which an eight-year-old child succumbed to a scorpion sting."

The Mexican government's Institute of Health donated two ampullae of anti-scorpion serum, Mr. Stahnke states, adding, "In all cases it has proved entirely effective, and no deaths have resulted from scorpion sting, even though the serum was used in quite advanced stages of poisoning."

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