BOTANY

NATURE RAMBLINGS by Frank Thone

Unappreciated Spring Flower

SKUNK cabbage, which will be prodding its purple noses out into the cold world in spite of lingering winter and reluctant spring, really has much to recommend it despite its name, doubly suggestive of unpleasant odors.

It is rather a gamin of a plant, to be sure; a bit rowdy in the appearance of its tough flowers, and later, in the midsummer maturity of its huge lush leaves, perhaps something of a swashbuckler. Yet the very toughness of its flowers, defiant of the hardships attendant on precocious blossoming, ought to compel our admiration. And the phalanx of its great green leaves, packed in solid array over acres of bog, has a real element of beauty about it—at a little distance.

Be it remembered always, when you wrinkle your nose at the skunk cabbage, that you (or some other trampling animal blunderer) bear the real guilt of the offense. Like its striped-backed namesake, the skunk cabbage does not resort to its defensive chemical warfare unless first attacked. Its motto might well be that of the rattlesnake flag of Revolutionary fame: "Don't tread on me!"

The skunk cabbage is one of the most peculiar of plants, in that its flowers, leaves and fruits are all strangers to each other. Its thick club-shaped flower-spike, wrapped in its purplish-greenish "spathe," forces its way up through snow and ice of bogs in late February or early March.

After the flowers are gone, the great broad cabbage-like leaves appear, and reign during the summer. In their turn they pass, and then in autumn you may find the egg-shaped, spiky little footballs of the fruits, kicking around underfoot.

In the meantime, though, the leaves have done their work well, and safe underground, in the wet muck of the bog, there is a well-packed array of starch-filled rootstocks, that carry the plant's hope of posterity through winter into another spring. Without this stored solar energy there could not be the energetic defiance of frost which we have come to expect of the skunk cabbage.

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PHYSICS

Measure the Forces Between Cores of Hydrogen Atoms

MEASUREMENT of one of the fundamental forces of nature—the binding energy between the cores of two hydrogen atoms—was announced by Department of Terrestrial Magnetism of the Carnegie Institution of Washington. In nature these atom cores are so close together that 5,000 trillion of the groups of pairs could be placed side by side and only make an inch of length.

Within the nuclei of atoms, it was found, the forces are over seven and a half times as great as they are outside where the ordinary laws of force exist. Drs. M. A. Tuve, N. P. Heydenburg and L. R. Hafstad did the experimental work while Dr. Gregory Breit and Prof. E. U. Condon of the Institute for Advanced Study and Princeton University, respectively, are now interpreting the theoretical meanings of the investigation.

Report of the atomic research (*Physical Review*, March 1) explains that the million-volt accelerating tube of the Carnegie Institution was the atomic "gun" which made the bombardment experiments possible. Hydrogen nuclei, called protons, were driven by the high energy of the tube into a chamber containing hydrogen gas at low pressure. Many of the proton bullets struck the hydrogen atoms and were deflected in a fashion somewhat comparable with the impact of two billiard balls. Using special collecting devices and a radio-amplifier, measurements of the scattering were obtained.

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PHYSIOLOGY

Doctors See Movies of Revived Human Hearts

HUMAN hearts made to beat again after their owners had died were seen on the moving picture screen by members of the American College of Physicians.

The hearts were revived—unfortunately too late to do their owners any good—by Dr. William B. Kountz of St. Louis, Mo. Dr. Kountz' object is to learn more about human hearts and how they function both in health and sickness so that he and other doctors will know how to keep hearts beating in sick persons and just what medicines to use for various ailments of heart and blood vessels.

So far Dr. Kountz has succeeded in making sixty-three hearts beat after removing them from the bodies of persons who died. Of these, fifteen developed regular heart pumping mechanisms and went on beating for an hour or more. With fifteen of the hearts Dr. Kountz had the lungs attached and these kept on beating outside the body for as long as four hours.

The hearts were taken from persons of all ages from babies born dead to an adult seventy-three years old. Hearts from persons who died of a chronic illness could as a rule be revived more easily than those from persons who died of acute infections. Hearts from tuberculosis patients were easiest of all to revive. Children's hearts responded more readily to Dr. Kountz' efforts than adults' hearts. Hearts from persons dying of heart disease were the hardest to start beating, with the single exception of the hearts from those who died of a heart ailment that was present when they were born.

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