

GENERAL SCIENCE

Acute Danger of Extinction Of Rare Old Plants Cited

Gathering at Franklin Institute Commemorates the Founder by Unveiling Statue and Scientific Program

See Front Cover

SCIENCE and mankind are in danger of losing by extinction a large number of rare old plants counted among the most interesting from the point of view of students of the history of life.

Many rare old plants, "fugitive aristocrats," face the same danger of extinction by advancing man and from crowding by hardier, more aggressive plants that wiped out a rare plant of Benjamin Franklin's day, the *Franklinia*. Prof. Merritt L. Fernald, director of the Gray Herbarium at Harvard University, declared, speaking on a science program at the Franklin Institute.

The program was part of dedicatory exercises lasting three days marking unveiling of a great statue of Benjamin Franklin executed by James Earle Fraser. The statue, which can best be compared in its proportions with the Lincoln Memorial in Washington, will honor an early American whose acute observation and general scientific abilities have won him a permanent place in the annals of science. A model of the statue is pictured on the front cover of this week's SCIENCE NEWS LETTER.

Prof. Fernald listed a number of the plants facing extinction and some factors tending to wipe them out.

Pollution Danger

Rare estuary plants, growing in the slightly brackish tidewater at river mouths, and unique because of their ability to withstand the rapidly changing salt-and-fresh character of the river water, are in danger of extinction by newcomers. Twenty years ago such vegetation was abundant in the mouths of many rivers. But today the vegetation is being crowded out of the banks of the St. Lawrence River from Montreal to Quebec by seeds of hardier plants brought over on transatlantic steamers.

"Instances of the destruction of the last or only living colonies of other rare plants by the blasting away of ledges or the building of dams will occur to every experienced field-botanist; and the

pollution of rivers by strong chemicals from pulp-mills and factories has been as fatal to the native flora of river-gravels as to the salmon, shad and other important fishes of the river-channels."

Many of these plants are biologically old and throw much light on the past history of the earth; that is why, Prof. Fernald explained, their loss is mourned particularly by the scientist.

"Human Engineering"

Prof. Thomas Hunt Morgan of the California Institute of Technology, Nobel prize winner and discoverer of the gene, who also addressed the gathering, suggested the term "human engineering" for the science of heredity as applied to man.

Such a science, Prof. Morgan indicated, will become increasingly important in the future as a result of further studies of genetics, the science of heredity, detailing more and more clearly the mechanism by which son and daughter resemble and yet do not resemble father and mother.

Electricity Still a Puzzle

Dr. Willis R. Whitney, vice-president of the General Electric Company in charge of research, and a leading student of electricity for half a century, admits he still doesn't know just what man's most useful servant and one of science's most useful tools is.

Most scientists hold the same opinion, he indicated. And those who think they know what it is have all too often to change their minds as a new experiment turns up additional facts which just do not fit previous theories.

Dr. Whitney added, however, that ignorance of the "essence" of electricity doesn't seem to have had any harmful effect as far as practical and experimental results from its use are concerned.

"The only safe way with electricity is to expect a new picture whenever new tools for better measurement are discovered," he declared.

Addressing his talk to tomorrow's

generations, the scientist said: "I would like to encourage boys to realize the flexibility of electricity. Fortunately it is difficult to draw a perfect picture of any inside mechanism of Nature. Electricity is no exception. Everyone who has tried it has had his picture well painted over by later artists. On the other hand the results of even the simplest experiments remain unaltered, and so constitute the permanent assets."

Redefine Term "Acid"

Scientists are redefining the term "acid" to fit a host of new experimental facts and in accordance with modern theories of the structure of the atom, Prof. Gilbert N. Lewis, dean of the College of Chemistry of the University of California and one of America's outstanding physical chemists, declared. He said that scientists today are using the term, which describes one fundamental classification of chemical substances, in a much broader sense than before.

It no longer means only a "hydrogen ion, in a single solvent, water." A hydrogen ion is an atom of hydrogen minus the single electron outside the nucleus, and having therefore, a positive charge.

Today chemists and physicists are defining this basic term as describing a molecule which is capable of receiving an electron pair.

The change has been brought about, Prof. Lewis stated, in order to take account of the fact that certain substances show definitely acid behavior when they are dissolved in solvents other than water.

The same broad considerations apply to the other great classification of chemical substances, bases, as well.

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ANTHROPOLOGY

Rescue of Lost Apaches Would Require Cooperation

RESCUE of the lost Apaches hiding in northern Mexico would call for joint efforts of United States and Mexican officials.

Now that existence of the wild, skin-clad Indians has been made known by Dr. Helge Ingstad, Norwegian ethnologist, friends of the Apache tribe, both in the Indian Service and outside, are concerned for the fate of these castaways.

Dr. Ingstad, who reported sighting five adults and one baby, was unable to talk with them because they run like deer and are accustomed to shoot, or be