tablished cattle ranches. They drove out the goats.

But neither they nor their herds could penetrate the lava flows. Here the goat remained supreme. Here he ranges to this day in countless numbers.

Hawaii is without deer, or antelope, or gnu or hartbeest. She has no native big game. But she has her goats, gone back to the wild a hundred years ago in the lava flow country. Here huntsmen of the mid-Pacific come for the only big game shooting that the Islands have to offer. Here they find a quarry that is wisely elusive, fleet of foot, conscious of its fastnesses of impenetrability, that offers an opportunity for finesse in hunting that is not presented anywhere else in all the world.

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PHYSICS

Attain Accuracy in Measuring To One Part in 20,000,000

With Spectroscope, Scientists Have Measured One Ten-Thousandth of an Angstrom or One Trillionth Cm.

ACCURACY comparable to that required to measure the distance from New York to Chicago with an error of about three inches at most was ascribed to the spectroscope at the final session of the Second Annual International Spectroscopy Conference meeting at the Massachusetts Institute of Technology.

Dr. Ralph A. Sawyer of the University of Michigan and Dr. William F. Meggers of the National Bureau of Standards told the 150 scientists assembled that the spectroscope is undoubtedly the most accurate instrument of its kind known to science.

The super-sensitivity of the instrument is better appreciated when it is realized that instead of measuring a distance of 1,000 miles, the distance from New York to Chicago, the spectroscope measures distances of approximately one eight-thousandth of an inch.

In measuring wavelengths scientists use as a unit the angstrom, defined as one one-hundred-millionth of a centimeter, there being roughly two and one-half centimeters in an inch. Dr. Sawyer said that with the spectroscope in measuring wavelengths of approximately 5,000 units, accuracy to one part in twenty million had been attained. Scientists have measured wavelengths to eight significant figures, measuring with accuracy one ten-thousandth of these tiny angstrom units.

Scientists, however, are not yet satisfied and feel that there is a need of even a higher degree of accuracy. Dr. Sawyer expressed the opinion that with improved equipment and the finer technique that is being steadily developed, this need will be fulfilled within a relatively short time.

This need is particularly felt at present in measuring ultraviolet and infrared wavelengths. In visible light, fairly satisfactory standards of measurement have been established.

Discussing this point, Dr. Sawyer said he believed that increased dispersion in the use of the spectroscope would aid in eliminating the various types of interference which now hinder the establishment of satisfactory standards.

Dr. Meggers described his work with the so-called noble gases, argon, neon, xenon and krypton. He illustrated his lecture with lantern slides of the spectra of these gases which he has photographed. He explained their remarkable clarity as compared with other spectra shown, as due to the fact that these gases are composed of heavier atoms.

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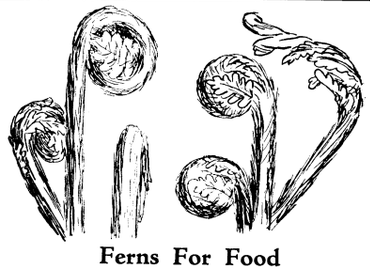
BOTANY

NATURE RAMBLINGS by Frank Thone



Ferns For Food

MAN'S staple food plants are all prehistoric: wheat, rice, corn, potatoes, beans, onions, were all brought into cultivation long before writing was invented. Yet there are still-untamed things growing in the woods that can be used for food if we wish.

Charles Francis Saunders, a California botanist, has gathered together a whole bookful of lore about these possible but as yet unrealized wild food resources.

Mr. Saunders writes:

"What would you say to a dish of ferns on toast? It is quite feasible in the spring, if the Common Bracken (*Pteris aquilina, L.*) grows in your neighborhood—that coarse, weedy-looking fern with long, cord-like creeping root-stocks and great, triangular fronds topping stalks one to two feet high or more, frequent in dry, open woods and in old fields throughout the United States—the most abundant of ferns. The part to be used for this purpose is the upper portion of the younger shoot, cut at the period when the fern shoot has recently put up and is beginning to uncurl. The lower part of the shoot, which is woody, and the leafy tip, which is unpleasantly hairy, are rejected. It is the intermediate portion that is chosen, and though this is loosely invested with hairs, these are easily brushed off. Then the cutting, which resembles an attenuated asparagus stalk, is ready for the pot. Divided into short lengths and cooked in salted, boiling water until quite tender—a process that usually requires a half to three quarters of an hour—the fern may be served like asparagus, as a straight vegetable, or on toast with drawn butter, or as a salad with French dressing. The cooked fern has a taste quite its own, with a suggestion of almond.

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