Ministery, to be added to a small herd of the animals already living on a preserve at Bialosies.

Wisent, which look very much like the American bison or buffalo and are closely related to them, were quite common in European forests during ancient times. Modernly, however, their number dwindled, and the incidents of war and the post-war revolutions have almost exterminated the species. A few dozen survivors are being carefully tended in several European parks and game refuges, in the hope of building up the stock again.

Science News Letter, August 4, 1934

MEDICINE

Only Few Children Acquire Dreaded Infantile Paralysis

INFANTILE paralysis is the most dreaded of all childhood diseases, yet comparatively few children are attacked by it and of those few only a small proportion suffer from the paralytic form, says Dr. W. T. Harrison, surgeon of the U. S. Public Health Service, who has made a special study of the disease.

The great dread parents have of the disease is due to the very severe crippling which sometimes follows the infection. But the paralytic form of infantile paralysis is probably one of the least prevalent diseases of childhood. Even in epidemics seldom more than three or four children in a thousand are affected.

"Infantile paralysis can not be compared in infectiousness to such diseases as, for example, measles and chickenpox, to which practically all children are susceptible," Dr. Harrison declared.

Re-education Greatest Advance

"The greatest recent advance in the treatment of infantile paralysis has been made in the re-education and training of paralyzed muscles," Dr. Harrison pointed out. "The treatment should begin during the acute stage of the disease in that proper splinting of affected muscles should be done to bring about complete quiet and to prevent deformity. As soon as the pain has disappeared massage and passive movements should be begun, followed by continued, consistent effort toward active control of muscles. Baths are valuable for the support of paralyzed members during muscle exercise. The treatment requires great perseverance, the direction must be sympathetic and expert, and can best be done by specially trained personnel not connected with the patient's family. Seemingly hopeless cripples can have a great deal of muscle function restored, but regular systematic exercise must be continued for as long as two years from the acute illness."

If there is an epidemic, young children should be kept as far as possible within their usual environment and away from crowds, he advises. The disease is most prevalent during vacation time, so only necessary travel should be undertaken by children as they should not be taken from a district where infantile paralysis is not prevalent into one where there is an epidemic. During epidemics a physician should see all children showing any sort of upset associated with fever.

Dr. Harrison spoke over the Columbia Broadcasting System under the auspices of Science Service.

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ICHTHYOLOGY

Fish Census Shows Record Population in Yellowstone

A RECORD population of trout is available to anglers in Yellowstone Park, Wyoming, this summer. This is the report of a trout "census" just completed by the U. S. Bureau of Fisheries.

Basing their calculations on the number of eggs collected in the hatcheries this year, government experts estimate 75,000 to 80,000 as an absolute minimum for the trout population.

The season's take of eggs is the highest on record. The total muster of 38,190,000 eggs exceeds the mark of 1924, the previous record year, by about 6,000,000.

The eggs are secured from trout trapped on their spawning migration. Records show the average yield of eggs per female trout is about 900. Thus it took 42,000 females to produce the number of eggs collected. Since the males and females are approximately equal in number, the Bureau of Fisheries experts were able to compute the total population.

Fishermen in many other National Parks will benefit from the Yellowstone haul. Content with a record number of parent fish in their rivers, the Yellowstone Hatchery will distribute the newly-born small fry among other parks that need restocking.

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ZOOLOGY

Flowing Lava Streams Saved Hawaiian Goats

IN CIRCLING the Big Island on his first day ashore in Hawaii, President Roosevelt may have skirted along a coastal apron where Mauna Kea has laid out her series of goat sanctuaries which, a century ago, lured the milch animal of the Mediterranean back to the wild and since has made it big game for sportsmen.

Mauna Kea, which is the highest island mountain in the world, rises from sea level almost to the altitude of Pike's Peak. It is a much larger mountain than the Colorado patriarch which starts from a mile-high plain. Until recently it was a volcano and sent many lava flows down its sides just as Mauna Loa, its twin sister not far away, is still doing.

These lava streams, like so many rivers of liquid fudge, flowed slowly and their surfaces, hardening, were broken up into jagged-edged masses. So were areas created that defied cow or horse or man yet were negotiable to the nimble feet of the goat. The lava flows became the empire of the goat.

Far away as Hawaii seems, it still is a wholly American, English-speaking community such as might exist in the cattle country anywhere along the Rockies or the Sierra Nevadas.

Domestic animals were unknown to the Hawaiians before white man came but the discoverer, Captain James Cook, who came to Hawaii while the Revolutionary War was being fought, put two ewes and a ram ashore. A tabu against killing them was declared and ancient Hawaiians revered tabus.

The goats multiplied inordinately. They spilled over into the wild areas up the side of Mauna Kea. When Americans came they saw this mountain area with eyes that knew the slopes of the Huachuca Range in Arizona and the Snake River country in Montana. They recognized it as cattle country. They es-

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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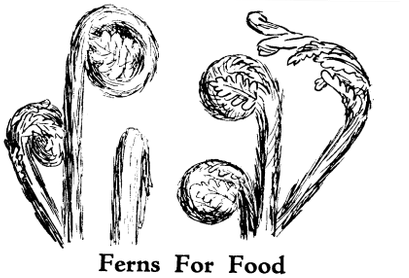
BOTANY

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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