

RADIO

Forecast Radio Waves To Be Most Useful

SUCCESSFUL forecasting three months in advance of the best frequencies for use in dependable radio transmission has been achieved by the National Bureau of Standards, Dr. J. H. Dellinger and N. Smith, two of the government's radio experts, announced to the meeting of the International Scientific Radio Union and the Institute of Radio Engineers in Washington.

The monthly predictions are published as graphs showing the maximum usable frequencies for radio waves reflected by the ionized layers, many miles high in the earth's atmosphere.

To radio engineers such predictions are useful because they allow them to plan what communication channels to use.

When the predictions were begun a year ago, the scientists expected that they would be accurate within 15% and better than this fulfillment has been achieved. The predictions are based on the 11-year sunspot cycle.

Science News Letter, May 11, 1940

MEDICINE

Community in Fight Against Pneumonia

BECAUSE the discovery of sulfapyridine treatment for pneumonia has made possible the saving of many more lives than ever before does not mean that communities can let up in their fight against this disease. On the contrary, it is the signal for a bigger push than ever against this former "Captain of the Men of Death."

Many people hearing about the success of chemical treatment of pneumonia probably have the idea that the pneumonia fight has been reduced to the simple level of the doctor calling on the patient, announcing a diagnosis of pneumonia, and ordering the nearest drug store to send in a supply of sulfapyridine pills.

Such is not the case. Laboratory facilities for diagnosis of the type of pneumonia are still needed. Some patients still need specific anti-serum, and some patients need a combination of the two. When sulfapyridine is given, blood and urine examinations need to be made and the concentration of the chemical in the blood must be determined as safeguard against occasional serious toxic effects of the chemical.

The role of the community in the fight against pneumonia is summed up by Drs. Frederick T. Lord, of Harvard Medical School, and Elliott S. Robinson and Roderick Heffron, of the Massachusetts Department of Public Health, in their new book for doctors, *Chemotherapy and Serum Therapy of Pneumonia* (The Commonwealth Fund). Besides pointing out specific duties of the community, they state:

"The general use of this drug (sulfapyridine) and of specific anti-serum in the treatment of pneumococcus pneumonia presents a special and nation-wide problem, which requires for its solution more equitable distribution of funds, better organization of local forces, and greater familiarity with technical matters that are everywhere at hand."

Science News Letter, May 11, 1940

GEOLOGY

Japanese Pursue Gold Hunt In Island of Formosa

HOPING for vast treasures of gold which Japan could use to replenish her weakened reserve, officials in Taiwan (Formosa) are eager to expand exploratory probing of deep gorges of the colony's east coast.

Some 104 terraces in five rivers are believed to contain gold; and borings to date have apparently convinced the authorities that real wealth is hidden within, says a consular report received by the U. S. Department of Commerce.

Formosa's gold hunt started last October, when a Japanese government mining engineer sought to test his theory that relatively small gold findings in the region were washed down from terraces in steep mountain gorges, probably richly stocked with hidden ore.

While reports and rumors of gold since located in terraces in this remote district have run to fantastic-sounding figures, and have met with some skepticism, the Japanese Government was sufficiently impressed by its information to send mining and geological experts to the scene. Their public statements were cautious, but hopeful. Since then, governmental officials have asked more than a million dollars in appropriation to push the gold hunt.

According to one report from the region, placer deposits in one terrace would indicate reserves in that terrace alone amounting to more than \$37,000,000 value. Such estimates, if fulfilled by actual mining development, would mean that Formosa's gold would far exceed wealth of the American Klondike.

Science News Letter, May 11, 1940

IN SCIEN

BOTANY

500 Species of Plants Live by Eating Meat

ALL animals exist by eating plants directly or indirectly. That is not exactly news. But when plants eat animals that's likely to be as much news as a man biting a dog.

There are nearly 500 species of carnivores in the plant kingdom—insect-eating plants. Many of them are overlooked because of their small size. They have almost world-wide distribution although they occur in greatest numbers in moist tropical regions.

Carnivorous plants to a large extent get their nourishment from the soil and air just as ordinary plants do but it is believed by some that these plants, growing mainly in peat bogs where there is a lack of nitrogenous nourishment, may be aided to survive under such conditions by their accessory meat diet.

Belonging to a half-dozen different plant families, their methods of trapping allow them to be divided into three general groups, on the authority of the Brooklyn Botanic Garden. Sticky substances hold the prey fast without noticeable movement of the leaves as in the butterwort. Leaves constructed like a lobster trap or an old-fashioned wire rat-trap catch insects in the bladderworts and the pitcher-plants. Captured animals, as in the sundew and Venus's flytrap, produce irritation which sets tentacles or other moving parts in motion to hold the prey by force. You should be able to find animal-eating plants on your walks in the country during coming months.

Science News Letter, May 11, 1940

MEDICINE

Benzedrine Sulfate Use May Lead to Addiction

SPECTACULAR as the effects of amphetamine sulfate (benzedrine sulfate) may be as a "pepper-upper" and in the treatment of obesity, it has among other dangers, that of producing addiction with deleterious results from long continued use, warns Dr. Sidney Friedenberg of Camden, N. J. (*Journal American Medical Association*, March 16)

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CE FIELDS

GENERAL SCIENCE

Scientific Books Wanted For China's Students

AMERICAN scientists who have books and reprints to spare are now urged to send some to China, to help thousands of students and research workers trying to "carry on" there without books.

"Owing to our hurried departure from Nanking, more than 200,000 volumes fell into the hands of the Japanese, who set them, together with the valuable collections of other institutions, on fire," says a statement from Chiang Fu-tung, librarian of the National Central Library.

The plea for donations of science publications is brought to attention of American scientists by Prof. George W. Hunter, III, of Wesleyan University, in a note to the journal, *Science*. (April 26)

The National Central Library, with such books as escaped destruction, has moved from Nanking to Chungking, provisional capital of the Chinese republic. From there, the library aids scientific workers throughout the republic by a mail system of lending books. Publications, it is said, may be sent to Chungking by book post via Haiphong, French Indo-China.

Science News Letter, May 11, 1940

PSYCHOLOGY—SOCIOLOGY

America Must Plan To Avoid Fascism

AMERICA's protection against regimentation, master planning, and the pushing around of dictatorship lies, paradoxically, in planning.

"To avoid fascism," declares Dr. Leonard W. Doob, Yale University psychologist, "there must be planning against fascism and for the better life."

Unemployment, soil erosion, forest and game depletion, poverty and crime are among many national problems which seem to demand a unified national campaign for self-defense.

But individuals, when master plans are considered for meeting such emergencies, may see them as steps toward dictatorship, goosestepping, and blackout of individual freedom.

We may like single reforms, the new murals in the local library, or the local sewerage system, but may fear the general trend of such reforms.

To stop all planning is not the way out of such a dilemma, warns Dr. Doob in a new book, "The Plans of Men."

The answer, as Dr. Doob sees it, lies instead in better plans, attuned closely to the needs and desires of living men and women.

"If centralization and master planning are to be avoided," he declares, "then other plans must be formulated and executed successfully in smaller regions." Through education, individuals must develop "planning personalities."

Perhaps a logical next step to Dr. Doob's proposal is that instead of the imposition of dictatorial master plans, there should be established an effective general coordination of the thousands of individual and group plans made by men and women for solving their own problems, gradually and continually modified, expanded and improved by the original makers in the light of common experience.

Science News Letter, May 11, 1940

SURGERY

New Technic in Amputation To Prevent Deaths

ANEW life-saving technic has been added to one of the oldest of surgical procedures, amputation of a leg. Details of the technic with successful results in 28 consecutive amputations of the thigh are reported by Dr. J. Ross Veal, Gallinger Municipal Hospital, Washington, D. C. (*Journal, American Medical Association*, April 27).

When death follows amputation of a leg for vascular gangrene in patients with arteriosclerosis, diabetes and thrombo-angiitis obliterans, as it does in about one-third of the cases according to Dr. Veal's figures, lung complications are the most important cause of the deaths.

These are due not so much to infection, Dr. Veal found, as to tiny blood clots torn loose from a large clot at the end of the femoral vein in the stump left after amputation. The little blood clots are swept along the blood stream to the lungs where they become lodged and cause the fatal complication.

To avoid this, Dr. Veal, before amputation, ties off the femoral vein high enough so that a moving stream of blood from large tributary veins can prevent the formation of a dangerous clot in the femoral vein.

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ZOOLOGY

Biologists Are Hunting For Short-Legged Coyotes

ACALIFORNIA coyote has biologists excited although he is now only a museum specimen in the University of California Museum of Vertebrate Zoology. He has all four legs only about two-thirds the length of normal coyote legs and foot bones correspondingly short. Dr. E. Raymond Hall suggests that this change may have been brought about by a sudden mutation, a new factor introduced into the chromosomes that gave rise to the animal. Such a hereditary freak produced the famous Ancon breed of sheep in the latter part of the eighteenth century on a New England farm. Hope of the biologists is that this male "bench-legged" coyote, an adult, sired a litter before he was caught in the Lebec region of Kern County by Jack Sawyer, state trooper. A search will be started for other animals of what may be a new short-legged breed of coyote.

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ENGINEERING

Army Now Has Experimental Diesel-Powered Scout Cars

TWO new experimental diesel-powered scout cars for Uncle Sam's cavalry-on-wheels have rolled out of the shops and will take part in coming big maneuvers in the South, along with present-type gasoline-driven vehicles. Armored, they carry eight men each, with machine guns. Advantages: fuel economy, with greater cruising radius; no interference with radio sending and receiving, because no electric spark ignition used in diesels.

Science News Letter, May 11, 1940

ORNITHOLOGY

Find Heron with One Wing Growing Upside Down

ABIRD with one wing growing upside down is the prize exhibition at the Trailside Museums, Bear Mountain Park, N. Y. The left wing of this young black-crowned night heron had been broken in some manner, preventing the bird from flying. Wing bones had healed perfectly except that the wing was reversed in position. Discovered by 17-year-old Stanley O. Grierson of Katonah, N. Y., the upside-down-wing heron must be fed at least 100 small fish every day.

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