

ENTOMOLOGY

**Spray at Night
To Kill Wasps**

► IF WASPS are a pest around your country home, the easiest way to get rid of them is to spray the nests with chlordane or DDT at night, concentrating the spray or dust on the nest openings. Wasps are less active and more likely to be in the nest then, U. S. Department of Agriculture scientists point out.

Hornets, yellow jackets and their nests can be removed all in one piece, the scientists advise, by plugging the nest opening with a wad of cotton soaked in carbon tetrachloride and then quickly dislodging the nest into a sack that can be burned, buried, or put into an airtight can containing a few tablespoonfuls of carbon tetrachloride.

Used on cotton wadding, carbon tetrachloride slows down the activity of these pests and lessens the chance for stings; in an airtight can, this insecticidal fumigant kills the wasps in 24 hours or less.

Science News Letter, June 5, 1954

MEDICINE

**Rat Cancer Seen Step
Toward Cancer Vaccine**

► WORK LOOKING toward a "contraceptive for cancer," or a vaccine against the disease, has been started in the laboratories of Dr. Arthur J. Vorwald at Wayne University College of Medicine, Detroit.

Dr. Vorwald described the work to a House subcommittee on appropriations considering government expenditure for cancer research for next year.

For the first time, Dr. Vorwald reported, cancer has now been induced in the lungs of white rats which is comparable to the lung cancer seen in the human male. This rat cancer took 18 months to develop, which is roughly equivalent to 50 years in the life of a man.

The cancer in the rats was induced by beryllium fumes. Beryllium has been used in industry for a number of years, and its fumes and dust have been implicated in lung and skin diseases of humans working with it or otherwise handling it.

The beryllium-induced cancers, Dr. Vorwald said, give a tool for exploring the possibilities of finding a vaccine or "contraceptive" against human cancer.

The increase in lung cancers in the last 50 years, he pointed out, must mean that humans have been inhaling something into their lungs that is causing cancers.

Finding what this is, whether industrial fumes, automobile exhaust gas or cigarette smoke, is only one part of the problem. The second important part is to find why the cells of human lungs, and other body cells, develop cancer in response to outside influences.

Evidence now at hand, Dr. Vorwald said, points to a change in cell chemistry whereby some protein in the cell may get a different

chemical make-up that conditions it to become cancerous when exposed to an outside influence. Or it may be that the protein make-up change in the cell itself causes the cancer.

If scientists can find what the change is, they may be able to desensitize the individual to the altered protein, so that he would not get cancer from it.

This might be one way of vaccinating against cancer or stopping the birth of cancer.

Science News Letter, June 5, 1954

PSYCHOLOGY

**Spot Automobile Makes
But Can't Read Words**

► SOME CHILDREN can not read simple words and sentences, yet they can identify in a glance most makes of automobiles on the highway.

Such baffling differences in visual perception are under study by Dr. James Coleman and Jack Fox, psychologists at the University of California at Los Angeles.

Tests were administered to a group of boys between the ages of seven and 12 of above-average intelligence who had experienced serious reading difficulties in school. The scientists found the majority of these boys lacked the ability to discriminate between words and other symbols.

Most were unable to distinguish between simple words such as "dog" and longer ones such as "Mississippi." Some of the group, however, could identify most makes of automobiles on sight. This is in contrast to some good readers interviewed in connection with the study who could not distinguish between a Chevrolet and a Cadillac.

The psychologists do not know just what factors are involved in the retardation of visual discrimination. One speculation is that the visual sense of poor readers is not as highly developed as other senses. Another is that it is merely the result of such factors as lack of interest, too much pressure from ambitious parents and emotional difficulties in home or school life.

Science News Letter, June 5, 1954

TECHNOLOGY

**Electronic Record
Keeper Available**

► A COMPLETELY electronic record-keeping system was seen as one step closer with the demonstration in New York of International Business Machines' type "702" data processing machine.

Designed specifically for business use, the "702" was shown to IBM salesmen by closed circuit television from Poughkeepsie, N. Y., where it was built. Although the machine will not be available until next year, many rental orders have already been placed for it. They are mostly from business organizations that plan to use the computer for accounting and statistical work.

Science News Letter, June 5, 1954

IN SCIEN

ARCHAEOLOGY

**Ancient Indian Home
Found in Illinois**

► A ROCK shelter that was occupied by prehistoric Indians nearly 11,000 years ago has been found about 40 miles south of St. Louis, Mo., according to Dr. Thorne Deuel, director of the Illinois State Museum, Springfield. It is believed to be the oldest dated Indian home east of the Mississippi.

The ancient home or camp site was unearthed when highway maintenance crews scooped earth from the base of a bluff on Barbeau Creek near Modoc in Randolph county, Ill., for use for fill on roads.

The age was determined by carbon 14 tests on charcoal samples taken at a depth of 26 feet in the deposit at the foot of the cliff.

Dr. Willard Libby of the Institute for Nuclear Studies, University of Chicago, determined the date of the lowest level to be 8697 B.C., plus or minus 650 years. Other dates determined were 6592 B.C. for samples found at 22 feet and 4001 B.C. at the 16-foot level.

Dr. Frederick R. Matson of Pennsylvania State University, representing the Wenner-Gren Foundation of New York City, collected the samples. The excavation, sponsored by the Illinois State Museum, the Illinois State Museum Society, the University of Chicago and the Wenner-Gren Foundation, was carried on in 1952 and 1953.

Science News Letter, June 5, 1954

PUBLIC HEALTH

**To Stop Smoking, Use
Breathing Exercises**

► IF YOU want to give up smoking, or if your doctor has ordered you to stop, you will find it easier if you learn to breathe properly.

Breathing exercises practiced for five minutes eight to 10 times a day for a month helped 15 heavy smokers stop smoking without "undue difficulty," Dr. William Kaufman of Bridgeport, Conn., reports in the *Journal of the American Medical Association* (May 22).

The 15 had each been smoking over 50 cigarettes a day. The exercises consist in taking deep breaths in and out 16 times a minute.

Heavy smokers take short breaths when not smoking, Dr. Kaufman finds, and this causes an uncomfortable sense of breathlessness and pressure on the chest which may make the person uneasy, restless, tired and anxious.

Science News Letter, June 5, 1954

CE FIELDS

MEDICINE

TB Patients Fare Better When Given Cod Liver Oil

➤ PATIENTS WITH moderately-advanced tuberculosis should get crude cod liver oil concentrate in addition to their regular diet, it appears from research by Dr. Horace R. Getz of the Charles Cook Hastings Home, Altadena, Calif.

This is the only way, he found, that enough vitamin A can be put into their bodies in a form that can be utilized. All the patients in his study were night blind and showed other eye conditions resulting from vitamin A lack.

The patients also were short on vitamin C, but this deficiency could easily be made up by adequate doses of the vitamin. The vitamin A deficiency, however, seemed due to the body's inability to get all the good out of the vitamin unless it was given in the crude cod liver oil concentrate form. Dr. Getz reported his study to the National Tuberculosis Association.

Science News Letter, June 5, 1954

GEOLOGY

Faster Spotting of Uranium Ores Seen

➤ FASTER AND cheaper discovery of uranium deposits in the Colorado Plateau is seen from a new instrument whose details have now been revealed for the first time.

The instrument uses sound waves to map the top layers of the earth's surface. It is a modification of the reflection seismograph, a device used by oil companies to hunt for new oil deposits far below the surface.

Two U. S. Geological Survey scientists, L. C. Pakiser of Washington and D. R. Mabey of Salt Lake City, Utah, suggested the modifications for the instrument, which was designed by the Midwestern Geophysical Laboratory.

Their report in *Science* (May 21) states that they expect the "shallow-reflection seismograph" to have "wide application" in ground-water and engineering investigations, in near-surface oil explorations and in "mining investigations."

From the description of the instrument's operation, the fact that it could be used to locate sedimentary deposits is clear. Uranium ores on the Colorado Plateau are found in sedimentary rocks, which are formations resulting from the deposit of sediment. The two scientists, however, do not mention uranium in their report.

Only two ounces of dynamite placed in a hole drilled in the ground are needed to set off the sound waves. The reflected sound waves are caught in as little as 30-millionths

of a second by 12 recording amplifiers spaced 10 to 15 feet apart.

The undersurface geology of the area studied with the new instrument is found from the tiny differences in time required for reflected waves to reach the 12 recorders. The most important modification is a "variable presuppression control" that prevents the very first waves, which only confuse the picture, from being recorded.

The instruments can be converted to standard reflection seismograph work by a simple exchange of amplifiers.

Science News Letter, June 5, 1954

TECHNOLOGY

Railroads to Get "New Look" Car

➤ A "NEW look" is coming to the railroads in the form of a "Siesta" car that offers individual rooms to passengers at a coach rate plus a small charge to cover bed linen and towels.

Created by engineers of the Budd Company, Philadelphia, to attract more persons to rail transportation, the new car is functional in design and has no "fancy stuff."

The 85-foot-long car contains 36 single rooms and two double rooms. The single rooms are duplexed, every other room being two steps above the aisle floor.

Each room contains a seat for daytime travel, a six-foot bed with foam-rubber mattress, a toilet, wash-stand, full length mirror and luggage space. Individual air-conditioning and heat controls regulate the indoor climate to suit the occupant.

Although based on the roomette car idea, the Siesta car is said to be cheaper for the railroads on a per-passenger basis, as well as being less expensive for the passengers.

Science News Letter, May 15, 1954

MEDICINE

Rheumatics Get Better On Old Style Treatment

➤ SUCH OLD fashioned treatment as rest in bed, suitable exercises and aspirin "substantially improved" 200 of 282 rheumatoid arthritis patients, and brought 113 of them to "self sufficiency and an active social and economic life," the Arthritis and Rheumatism Foundation has announced.

The report covers a two and one-half year follow-up study of the value of long-term conservative treatment for the disease. Of the 282 patients, 183 were either partially crippled and dependent to some degree upon others or completely crippled and confined to a bed or wheel chair.

Commenting on the modern drugs, the Foundation's report stated that while the results are more dramatic and immediate, they disappear when medication is discontinued. Besides, the various drugs in use today have not shown conclusively that they can alter the natural course of the disease or prevent crippling.

Science News Letter, June 5, 1954

ENGINEERING

Device Makes Fresh Water From Sea Water

➤ A DEVICE to make fresh water out of sea water is an osmotic membrane. Using the principle by which body organs and individual cells purify fluids, it has been built by Gerald Hassler, University of California at Los Angeles engineer.

Osmotic membranes have been proposed before in connection with sea water distillation. However, previous membranes have been like sieves with tiny holes that allow small molecules to pass through while rejecting larger ones.

Mr. Hassler's membrane is an extremely thin oil layer supported by capillary action. It has no holes as such, but water molecules can diffuse through it while other molecules are blocked.

Mr. Hassler believes he can ultimately produce a cubic yard package of oil membranes capable of producing 2,000 gallons of fresh water per day. The unit would cost about \$1,000 and last perhaps for 20 years.

Preliminary experiments have been supported by funds from the State of California. Present research is being supported by a \$10,000 grant from the Department of Interior's Saline Water Project.

Science News Letter, June 5, 1954

GEOLOGY

Canadian Meteor Crater Sought by Explorers

➤ A SUSPECTED meteoric crater 35 to 40 miles in diameter, situated in northern Quebec, is shortly to be examined by a ground party of scientists from the Dominion Observatory and the Canadian Department of Mines and Technical Surveys, Ottawa.

Headed by Dr. E. R. Rose, the party leaves Ottawa in June. Announcement of the summer survey program gave the first hint of the crater's existence.

High-level aerial photography has already revealed a generally circular, 1,200-square-mile area between two long, crescent-shaped lakes named Manicouagan and Mouchalagan. They lie in a rugged wilderness about 120 miles northwest of Seven Islands on the north shore of the Gulf of St. Lawrence.

The two-mile-across Chubb Crater, at present the world's largest meteoric crater, is about 800 miles north of Seven Islands.

The survey party will have to fly to the area. They will seek to establish the belief held by top Canadian government geologists that the formation is an ancient crater, possibly filled in by glacial action. An attempt will also be made to ascertain if sedimentary rocks in the area were deposited by a glacier. Mainly, the district is composed of pre-Cambrian granite.

It is thought that a "good possibility" exists that a major geological discovery is in the offing.

Science News Letter, June 5, 1954