

Books of the Week

For the editorial information of our readers, books received for review since last week's issue are listed. For convenient purchase of any U. S. book in print, send a remittance to cover retail price (postage will be paid) to Book Department, Science Service, 1719 N Street, N. W., Washington 6, D. C. Request free publications direct from publisher, not from Science Service.

EXPERIMENTAL ELECTRICITY FOR THE BEGINNER—Leonard R. Crow—*Scientific Book*, 240 p., illus., paper, \$2.50. A book in non-technical language intended for grade school pupils, 4-H Club members and other novices. Many experiments are described.

THE FIRST BOOK OF BRIDGES—Creighton Peet—*Franklin Watts*, 68 p., illus., \$1.75. Explaining, for young boys, bridge building from simple log structures to the modern suspension bridge.

METHODS OF THEORETICAL PHYSICS: Parts I and II—Philip M. Morse and Herman Feshbach—*McGraw-Hill*, 1978 p., \$30.00 (or \$15.00 per volume). Presenting the mathematical tools most useful in the study of the many branches of physics, with examples of how they are used.

THE POLYPORACEAE OF THE UNITED STATES, ALASKA AND CANADA—Lee Oras Overholts, prepared for publication by Josiah L. Lowe—*University of Michigan Press*, University of Michigan Studies Scientific Series Vol. XIX, 466 p., illus., \$7.50. Especially for this group of fungi, the strides made in the past half century have been tremendous in straightening out confusion and discord in nomenclature. This work brings together the newest data, although the editor points to the fact that many gaps remain to be bridged.

THE PSYCHIATRIST HIS TRAINING AND DEVELOPMENT: Report of the 1952 Conference on Psychiatric Education held at Cornell University, Ithaca, New York, June 19-25, 1952—John C. Whitehorn, Francis J. Bracland, Vernon W. Lippard, and William Malamud, Eds.—*American Psychiatric Association*, 214 p., \$2.50. This book points to the pressing need for the services of psychiatrists in preventive work as well as in the care of the mental ill, and discusses primarily the training of career psychiatrists.

PUBLICITY FOR PRESTIGE AND PROFIT—Howard Stephenson and Wesley Fiske Pratzner—*McGraw-Hill*, 304 p., \$4.50. Prestige in public relations is best developed through good publicity. Intended as a working manual.

SPACE TRAVEL—Kenneth W. Gatland and Anthony M. Kunesch—*Philosophical Library*, 205 p., illus., \$4.75. Tracing the history of rockets from the "fire arrow" invented by the Chinese and used by them in battle in 1232, the

use of the rocket in battle in Europe in 1379, German experiments in 1405, to the V-2 developed in Germany during World War II. A final chapter speculates on the future.

WHY WE SAY . . . : A Guidebook to Current Idioms and Expressions and Where They Came From—Robert L. Morgan—*Sterling*, 128 p., illus., \$2.00. Many of the words and expressions that we use today reflect different cultures. The origin of some of the most popular are given here.

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INVENTIONS

Patent Review for 1953

Numbers following items are U. S. Patent numbers. Printed copies of patents can be obtained from the U. S. Patent Office at 25 cents each. Order by number, do not send stamps, and address orders to the Commissioner of Patents, Washington 25, D. C.

Notable and interesting inventions patented during the year include:

A helicopter rotor which does not require the pilot to control the pitch of the blades. Patent 2,627,929.

A system to control the flight of anti-aircraft shells and other missiles by ultra-high frequency radio signals. Patent 2,629,289.

A radar device giving both visual and audible warning to the pilot when he is approaching mountains or other obstacle. Patent 2,631,277.

Prismatic glass to cut down the glare in an automobile's rear view mirror. Patent 2,631,498.

A gas turbine engine for automobiles. Patent 2,631,427.

A twilight computer for use in planning flights over the Arctic where the twilight is extended and nights are six months long. Patent 2,633,295.

A load release to keep a wind-filled parachute from dragging its cargo across the ground, water or snow. Patent 2,634,155.

A method of scrambling television pictures, applicable to secret wartime messages and to pay-as-you-see-it systems. Patent 2,636,936.

A special helmet which allows an airplane pilot to move his head freely during normal flight, but which braces it firmly against buffeting when there is sudden acceleration or deceleration. Patent 2,638,293.

A new target for atom smashers that will cause a larger portion of the electrons to be converted into X-rays. Patent 2,640,924.

A method for cooling high speed turbine blades of rocket engines by making the blades hollow and circulating air through them. Patent 2,641,040.

An improved body armor for troops in combat, consisting of from 12 to 15 laminated layers of a tightly woven nylon fabric. Patent 2,640,987.

A quick method for imparting a hickory smoke flavor to meat. Patent 2,641,544.

A process for canning whole, fresh milk so that it does not have a cooked taste. Patent 2,642,363.

An indicator showing extent, rate and severity of airplane icing conditions. Patent 2,641,928.

AGRICULTURE

Corn Leaves Deceive: Starved, Look Healthy

▶ LIKE SOME children, corn can look healthy and actually be sick, F. G. Viets, Jr., C. E. Nelson and C. L. Crawford of the U. S. Department of Agriculture reported to the Soil Science Society of America meeting in Dallas, Tex.

In one field they found healthy looking plants with low yields. A check revealed that the plants were starved for nitrogen, although the leaves did not show the yellow tips commonly associated with nitrogen deficiency. Application of nitrogen to the field increased the yield.

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A tiny camera with its own light source for taking pictures inside the body. Patent 2,641,977.

X-rays in colors which show up substances like slivers of glass invisible to ordinary X-rays. Patent 2,644,096.

A way of sending military messages by radio without enemy interception by interspersing the message signals between bursts of radio jamming pulses. Patent 2,645,677.

A weather balloon made of neoprene treated with a plasticizer to protect the fabric against the cold at night. Patent 2,646,370.

A "snap sampler" to enable a drone airplane to obtain samples of air from radioactive clouds after atom bomb explosions. Patent 2,645,940.

A flotation process for recovering uranium more easily from its ores. Patent 2,647,629.

A substance that prevents corrosion in idle internal combustion engines if sprayed into the cylinders. Patent 2,648,643.

A compound containing haloaryl sulfonic or thiosulfonic acid or their salts for use to control the growth of plants. Patent 2,632,698.

Use of strontium titanate as a substitute for ordinary glass in special telescopes and other optical instruments. Patent 2,628,156.

A device for fixing slow leaks in tires by forcing an air-setting latex paste through the rupture in the casing until it covers the hole in the inner tube. Patent 2,646,707.

A color film for the Polaroid-Land "one-minute" camera. Patent 2,647,049.

An apparatus for remote control bombing with gliders. Patent 2,649,262.

Clothing to protect servicemen against mustard gas and other vesicants. Patent 2,649,389.

An electricity-conducting glass sandwich which is fortified against operational failure, for such use as in heated windshields. Patent 2,650,976.

A safety seat, for airplane pilots and others, with a harness that tightens automatically in case of mishap. Patent 2,650,655.

A fluid drive system for turbo-prop aircraft that permits the turbine to start unloaded. Patent 2,652,730.

A submersible barge for petroleum engineers to use in deep water. Patent 2,653,452.

Plastic landing mats for temporary air fields; they grip the ground and can be stacked in layers for added strength when heavy planes are to land. Patent 2,653,525.

A rocket for remote controlled flights; it splits in two when the mission is completed and the instrument-carrying nose is lowered

Get your money's worth in RECORDS

Why ever again take a chance on spending your money for a poor performance or recording? Harian's 64 page guide, "Only the Best in Recorded Music," shows at a glance what the nation's music critics have decided are the best long playing recordings of symphonies, operas, ballets, concerts, etc. Listing hundreds of excellent records, it makes certain you get all the musical enjoyment your money should bring, and it's a magnificent guide to expanding your record library. Price just 50c, so small a sum you'll never miss it, but what extra enjoyment it can bring you. For your copy, wrap up 50c in coin and mail to **HARIAN PUBLICATIONS, 1 SCRANTON STREET, GREENLAWN, LONG ISLAND, N. Y.**

safely through use of helicopter motors. Patent 2,654,320.

A device for preventing icing in a jet engine. Patent 2,654,992.

A glove hermetically sealed to garment sleeve for protecting flesh against dangerous liquids and gases. Patent 2,656,663.

A floating oil storage tank for off-shore drillers. Patent 2,655,888.

A non-wetting plastic matrix for printing electronic circuits on plastic, ceramics or glass. Patent 2,656,570.

An electromagnetic pump for handling "hot" liquids in atomic plants. Patent 2,658,452.

The synchrotron, a powerful atom smasher that increases the magnetic field in proportion to increase in mass of the electrons at high energies. Patent 2,624,841.

A warning device for dangerous temperatures in jet airplane engines. Patent 2,621,239.

A mechanical circulation device to substitute for a patient's heart and lungs during delicate heart operations. Patent 2,659,368.

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Mistletoe

➤ MISTLETOE, WHICH all over the country is making boys bold and girls blush, has many reputations. None are as romantic as the one we briefly bestow on it at the Yuletide season.

For one thing, during the workaday months of the year mistletoe is thought of, if at all, preeminently as a plant pest. It is a plant that grows on trees as a parasite. In Australia mistletoe reached the status of a major pest. Its principal victim there was the eucalyptus tree, on which it worked such damage that weed killers were used in a full scale campaign against it.

Mistletoe is native to both the Old World and the New, the two being different forms of the same family. Many legends and charms were associated with the mistletoe in Europe. According to one belief, the mistletoe was once a full grown tree that grew like any proper tree on its own roots sunk firmly in the soil. Then, the legend has it, its timber was cut for the cross on which Christ was crucified. Since then it has dwindled to its present low estate, a dwarf and a parasite living off other trees.

The belief is still held in some of the more superstitious parts of Germany that mistletoe will make ghosts appear and if you talk to them they will answer you.

Among the ancient Druids, mistletoe was a symbol of spirit, since it grew in the air on the sacred oak. At the year's end, a Druid priest in a white robe would cut the mistletoe with a golden sickle. A white cloth spread on the ground made certain that the twig did not touch earth.

The people would make charm bracelets and rings of the plant. Worn on the person or fastened over doorways, it was believed to have power to ward off evil.

The seeds of this parasitic plant, which has meant so many different things to different men and different ages, are given a wide range by the birds that feed on the berries. The seeds are sticky and they adhere to the bill of the feeding bird. Later the bird will clean his bill by rubbing it against the bark of a tree.

The seed sticks to the bark. Eventually it puts out a tap root which penetrates the bark and draws on the food circulating in the tree's sap.

Mistletoe has many facets: Cupid's ally, plant pest, magic charm, wood of the cross. It is also the official state flower of Oklahoma.

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Questions

ASTRONOMY—When will a total eclipse of the sun next be visible from the U. S.? p. 407.

DERMATOLOGY—How can the chronic itcher get relief? p. 402.

ELECTRONICS—What is FOSDIC? p. 409.

MEDICINE—For how long has a two-headed baby been known to survive? p. 405.

SURGERY—Who were the original Siamese twins? p. 404.

Photographs: Cover and p. 403, U. S. Army; p. 405, General Electric; p. 412, Vern S. Skamsner Co.

MEDICINE

Warns of Hearing Loss From "Gin and Tonic"

➤ "GIN AND tonic," alcoholic beverage that has grown increasingly popular, at least in eastern United States, may cause ringing in the ears and even deafness in some persons, Dr. Stephen Bennett Yohalem of New York warns in a report to the *Journal of the American Medical Association* (Dec. 5).

The ear trouble would come from the quinine in the "tonic," or quinine water. While the amount per pint is probably so small that the average grown person would have to drink an "enormous" amount to get the ear trouble, some persons have an idiosyncrasy to quinine and they might get in trouble from smaller amounts of the drink.

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ERRATA, Vol. 64, Nos. 1-26, July-December, 1953

PAGE	TITLE BEGINS	CORRECTION
24	New Anti-Ulcer	Last paragraph, lines 2 and 3, read retail for 5 to 7 cents a tablet.
47	Better Humidity	Par. 4, first sentence to read The instrument employs the principle of selective absorption of two bands in the infrared portion of the visible spectrum.
134	Clue to	Col. 2, lines 16-18, read <i>Escherichia coli</i> , <i>Staphylococcus aureus</i> , <i>Bacillus megatherium</i> , <i>Pseudomonas aeruginosa</i> .
184	Soap and Water	Research not based on experimental work, but presented new theory explaining how bacteria are killed.
196	"Cosmic Stopwatch" (p. 195)	Line 5, to a hundred years read to nearly 300 years.
229	Fluorescent Light	Line 4, Stoutmeyer for Stoutemyer.
240	Dc You Know	Lines 3 and 4, order for family.
278		Col. 3, last line, read attain speeds of 70 miles an hour.

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