

Books of the Week

For the editorial information of our readers, books received for review 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.

ABC'S OF CITIZENS BAND RADIO—Len Buckwalter—*Sams*, 96 p., illus., paper, \$1.95. Tells how to choose, set up and operate Citizens band equipment without prior knowledge of electronics.

ADLER'S PLACE IN PSYCHOLOGY: An Exposition of Individual Psychology—Lewis Way, introd. by Alexander Adler—*Collier Bks*, 384 p., paper, \$1.50. Reprint (1948).

THE AGE OF ELECTRONICS—Carl F. J. Overhage, Ed.—*McGraw*, 217 p., photographs, diagrams, \$7.95. The Lincoln Laboratory Decennial Lectures at M.I.T., on the origins in electromagnetic theory, communications, radar, the use of computers in scientific research, radio astronomy, transistors, masers and satellite relays. Addressed to the nonspecialist.

CHORDATE MORPHOLOGY—Malcolm Jollie—

Reinhold, 478 p., illus., \$8.75. Text of comparative morphology aimed at developing analytic ability in the student.

CIBA FOUNDATION SYMPOSIUM ON CONGENITAL MALFORMATIONS—G. E. W. Wolstenholme and Cecilia M. O'Connor, Eds.—*Little*, 308 p., illus., \$9. Papers and discussions of genetical causes and their origins, chromosomal abnormalities, teratogenic effects of chemicals and antibiotics, role of prediabetes and hypothyroidism.

COMMON SENSE ABOUT A STARVING WORLD—Ritchie Calder—*Macmillan*, 176 p., \$2.95. A very readable look at the world's problems, as it is heading toward a population of four billion by 1980.

CUBA: Its People, Its Society, Its Culture—Wyatt MacGaffey and Clifford R. Barnett—*HRAF Press*, 392 p., maps, \$8.75. Survey volume attempting a synthesis of authoritative studies on the major aspects of contemporary Cuban economy and culture, presented in readable form.

EDWARD JENNER and Smallpox Vaccination—Irmengarde Eberle—*Watts, F.*, 153 p., illus. by Henry S. Gillette, \$1.95. Juvenile biography.

EXPLORING AMERICAN CAVES—Franklin Folsom—*Collier Bks*, rev. ed., 319 p., photographs, paper, 95¢. Spelunker's guide, exploring the history, geology, lore and location of caves.

GEOMETRIC TRANSFORMATIONS—I. M. Yaglom,

transl. from Russian by Allen Shields—*Random House*, 133 p., illus., paper, \$1.95. Deals with the fundamental transformations of plane geometry, that is, with translations, rotations, reflections and thus introduces the reader simply and directly to some important group theoretic concepts.

GEOMETRY, ALGEBRA AND TRIGONOMETRY BY VECTOR METHODS—Arthur H. Copeland, Sr.—*Macmillan*, 298 p., diagrams, \$6.25. Textbook providing familiarity with vector, at the freshman level.

HIGHLIGHTS OF HEART PROGRESS, 1961—National Heart Institute—*PHS (GPO)*, 72 p., paper, 30¢. Reports on heart research, diet studies, primate centers, surgery and new methods.

THE NATURE OF LIFE—C. H. Waddington—*Athenum*, 131 p., diagrams, \$4. Geneticist, addressing scholars in other fields, discusses the basic positions of modern biology and what they can mean to man and life in general.

ON KNOWING: Essays for the Left Hand—Jerome S. Bruner—*Belknap Press*, 165 p., illus., \$3.75. Psychologist's searching essays on the part the powers of intuition and feeling play in determining how we know what we do know.

ON MODERN PHYSICS—Heisenberg, Born, Schroedinger and Auger—*Collier Bks*, 125 p., paper, 95¢. Four lectures on the implications of modern scientific advances.

OUR WORLD IN ANTARCTICA—A. Denis Clift—*Rand McNally*, 160 p., photographs, \$7.50. In picture and word this volume gives a dramatic and authentic view of the life of U.S. scientists proceeding with their work in photogenic Antarctica.

PSYCHOANALYSIS AND CIVILIZATION—Paul Rosenfelds, M.D.—*Libra Pubs.*, 222 p., \$3.95. Civilization is seen in this book as a process which has yet to prove its capacity to establish a mature psychological world.

ROCKETMEN AND WHAT THEY DO—Charles I. Coombs—*Watts, F.*, 184 p., \$3.95. Introduces young people to a variety of professions in space technology.

SOCIAL AND PSYCHOLOGICAL ASPECTS OF AGING—Clark Tibbitts and Wilma Donahue—*Columbia Univ. Press*, 952 p., \$20. World-wide in coverage, brings together reports of research ranging from psychological studies of the aging individual to broad matters of group behavior and societal action.

THE TALAMANCAN TRIBES OF COSTA RICA—Doris Stone—*Peabody Mus.*, 108 p., 14 plates, paper, \$5.75. Presents the life of two indigenous groups of people who are now in varied stages of acculturation.

TEMPERATURE: Its Measurement and Control in Science and Industry, Vol. III, Part 2: Applied Methods and Instruments—A. I. Dahl, Ed.; Charles M. Herzfeld, Ed.-in-Chief—*Reinhold*, 1,094 p., illus., \$29.50. Leading authorities cover in detail the uses of the fundamentals of thermoelectric thermometry, resistance and radiation thermometry, dynamic temperature measurements, automatic methods and control, temperature sources and thermal imaging techniques.

THE TRAVELING ELEMENTARY SCHOOL SCIENCE LIBRARY—Hilary J. Deason—*AAAS*, 2nd ed., 47 p., paper, 25¢. Descriptive catalog of four units of 40 selected books each, suitable for ownership by every elementary school library.

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STUDY OF THE EARTH: Readings in Geological Science—J. F. White, Ed.—*Prentice-Hall*, 408 p., paper, \$3.95. Stimulating articles by distinguished scientists suitable for independent study and enrichment of curriculum.

A TEXTBOOK OF ZOOLOGY, VOL. II: Phylum Chordata—T. Jeffery Parker and William A. Haswell, rev. by A. J. Marshall—*St. Martins*, 7th ed., 952 p., illus., \$12.50. Substantially rewritten text of 60 years' standing.

THE TWO FACES OF TASS—Theodore E. Kruglak—*Univ. of Minn. Press*, 263 p., \$5. An analysis of the Soviet news agency.

UNSOLVED MYSTERIES OF THE ARCTIC—Vilhelm Steffansson, introd. by Stephen Leacock—*Collier Bks*, 320 p., maps, paper, 95¢. The late

anthropologist and Arctic explorer uses in these "detective stories" his scientific knowledge to probe some of the famous unexplained tragedies of earlier lost expeditions. Reprint (1938).

WILDLIFE IN AMERICA'S HISTORY—Will Barker—*Luce, R. B. (McKay)*, 109 p., illus. by Howard Jerome Smith, \$3.50. Traces the importance of native North American animals in relation to the development of this continent, for young readers.

WORDS ON THE MAP—Isaac Asimov—*Houghton*, 274 p., illus. by William Barss, \$5. Explores for the general reader the roots and history of geographical place names, such as Akron, Boston, Caribbean Sea, Galilee, Kuwait, Texas and Zanzibar.

• Science News Letter, 82:180 September 15, 1962

INVENTION

Patents of the Week

► **TWO METHODS** that will give a germ-free or dust-free space for performing operations on people or animals or for making parts for satellites or missiles were granted patents.

Bacteria can positively be excluded by these methods. If bacteria can be, so can dust or chemicals, Dr. Philip C. Trexler of Notre Dame University, the inventor, told *SCIENCE SERVICE*. Both methods are now being used in the germ-free laboratories at Notre Dame, where some 18 generations of mice and rats have been raised in a sterile atmosphere.

One of the methods, termed an isolating device, is being used in about a thousand laboratories here and abroad. The germ-free animals are bred and raised at Notre Dame, then shipped in a sterile condition to other laboratories.

Commercial breeders are also producing germ-free animals, so they are readily available, and the isolating device can be easily adapted for home use.

Dr. Trexler said he is now investigating the possibilities of using the isolating device, granted patent 3,051,163, in making parts for satellites and missiles, where all dust must be excluded. The isolator has a transparent hood, so that progress of experiments can be watched, and is collapsible.

Detachable gloved hands and sleeves can be inserted into the hood for conducting the experiments. The device can easily be used in disaster areas where such biological tests as the growth of cultures for vaccines may be necessary, Dr. Trexler said.

The jacket isolator granted patent 3,051,164 is particularly useful for surgery in a germ-free atmosphere. It is now undergoing tests at Walter Reed Medical Center, in Washington, D. C., where it has proved effective in reducing the number of wound infections that occur in operations.

Dr. Trexler assigned rights to both patents to University of Notre Dame du Lac.

Nobelists Granted Patent

Dr. John Bardeen, one of the three scientists who shared the Nobel Prize in Physics in 1956 for discovering the transistor, was awarded patent 3,051,876 for a different kind of transistor. The "electrolytic transis-

tor" is a liquid rather than a solid, Dr. Bardeen of the University of Illinois told *SCIENCE SERVICE*.

It is a source of constant current, rather than constant voltage as in a battery. Dr. Bardeen assigned rights to the University of Illinois Foundation, a non-profit corporation.

Other Significant Patents

Other significant patents include:

A collapsible monorail track to move pieces for repair around a workshop mounted on a vehicle. Patent 3,051,094 to Albert A. Shames of Waban, Mass., who assigned rights to the Government through the Secretary of the Army.

An alarm system for shopping carts, to prevent shoplifting or to remind customers they have forgotten their personal belongings. Packages placed on the lower rack make an electrical connection that rings a bell as the shopping cart is pushed through the checkout station. Patent 3,051,936 to Alexander E. Finger of Chelsea, Mass., and Joseph Goldman of Medford, Mass.

A device for putting a child in the proper position for the required X-ray, for which Jalmer Pigg Sr. of Memphis, Tenn., was awarded patent 3,051,832.

A flexible bird feeder for such game birds as quail and grouse. It discourages cattle trying to horn in on the corn by striking the cow with sufficient force to frighten the animal, and is also equipped with barbed wire as an aid in educating the cattle to avoid the feeder. Willie M. Merritt and Frank F. Forth of Warwick, Ga., assigned patent 3,051,126 to Merritt Bird Feeder Company, also of Warwick.

• Science News Letter, 82:181 September 15, 1962

Free-air ionization chambers are used by many nations as the standard instruments for measuring X-ray and gamma-ray exposure dose rates.

A machine that furnishes centrifugal force for spreading or slinging liquid fertilizer on the field has been developed.

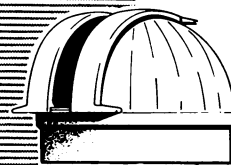
Radioactive *titanium-44* has a half-life of more than 1,000 years.



AROUND THE WORLD

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