

IV—S. Norman Feingold—*Bellman*, 368 p., \$10. Detailed information about where and when to apply for \$138 million awarded annually for education beyond high school.

SEADRAGON: Northwest Under the Ice—Commander George P. Steele, USN—*Dutton*, 255 p., photographs, \$4.95. The story of the nuclear submarine's discovery of an underwater passage beneath the Arctic ice pack.

SIMPLE, PRACTICAL HYBRIDIZING FOR BEGINNERS—D. Gourlay Thomas—*St Martins*, 127 p., illus., \$3.95. Mendel's law of plant heredity and its application in horticulture.

SOIL ANIMALS—D. Keith McE. Kevan, foreword by Sir E. John Russell—*Philosophical Lib.*, 237 p., illus., \$10. General introduction to fauna in soil and litter, life in the soil, sampling, ecology and effects of animal activity on soil.

SOUND—Its Uses and Control, Vol. 1, No. 1—R. Bruce Lindsay, Ed.—*Acoustical Soc. of Am.*, 52 p., illus., paper, \$2; bi-monthly, \$8 per year. Devoted to the popular presentation of information on noise control, shock and vibration.

THEORETICAL INORGANIC CHEMISTRY—M. Clyde Day, Jr. and Joel Selbin—*Reinhold*, 413 p., \$12. Textbook on advanced undergraduate level.

TURTLES—Lois and Louis Darling—*Morrow*, 64 p., illus. by authors, \$2.75. For boys and girls.

VICTORY IN SPACE—Otto O. Binder, introd. by Willy Ley—*Walker & Co.*, 211 p., illus., \$6. Concerned with space projects underway and planned, data on space race, nuclear propulsion, and man in space.

WHO WAS WHO, Vol. V: 1951-1960—Adam and Charles Black—*Macmillan*, 1,206 p., \$17.50. A companion to WHO'S WHO, containing the biographies of those who died during the decade 1951-1960.

THE WONDERFUL WORLD OF NATURE: Fauna and Flora in 300 Pictures—English version by Mary Phillips, introd. by Edwin Way Teale—*Viking*, photographs by F. A. Roedelberger and others, \$7.50. Printed in Switzerland, takes reader on field trip with camera capturing unique close-up views of wildlife.

THE WORD AND PICTURE GUIDE TO AMERICAN ANIMALS—Dorothy Knight—*Arco*, 94 p., photographs by Leonard Lee Rue III, \$2.50. For lovers of wildlife.

THE WORLD OF TEACHING MACHINES: Programmed Learning and Self-Instructional Devices—Charles I. Foltz—*Electronic Teaching Labs*, 116 p., illus., paper, \$4.95. Brings together for the layman information on programing methods and devices.

THE YOUNG PATHFINDER'S BOOK OF THE POLAR REGIONS—James T. Radcliffe—*Hart*, 128 p., illus. by Hilda Simon, \$1.95. Introduces boys and girls to Arctic and Antarctic.

YOUR TELEPHONE AND HOW IT WORKS—Herman and Nina Schneider—*Whittlesey House*, 96 p., rev. ed., illus. by Jeanne Bendick, \$2.50. Updated to include recent advances, told in the same lively and clear manner.

• Science News Letter, 81:220 April 7, 1962

PHYSIOLOGY

"Boneheads" Studied For Space Flight

➤ SCIENTISTS soon may discover what makes a low, medium or high grade bonehead, something many laymen have puzzled about.

Current studies on stress impact on human skulls at Southwest Research Institute, San Antonio, Tex., are expected to

provide the answer. The object of the research is to use this knowledge to develop methods and devices that will protect all grade heads from injury from crash and blast that may occur to men on earth as well as in space.

The investigation is made by applying a "birefringent" coating, a type of plastic, over the skeleton skulls and then subjecting the skulls to extreme stress. The plastic coat reflects the degree and pattern of stress by changing color when viewed under polarized light.

Scientists hope to reveal what makes

people bone-tired. Being bone-tired is more than a figure of speech. It can result in fractures experienced by many infantrymen during marching, a program that has been subjected to medical investigation and speculation for a long time. Bone fatigue studies may help prevent such fractures as well as explain why certain stresses to bones result in injury.

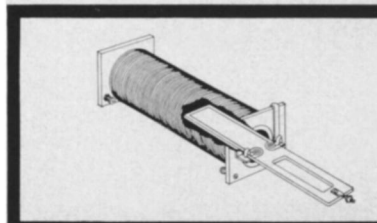
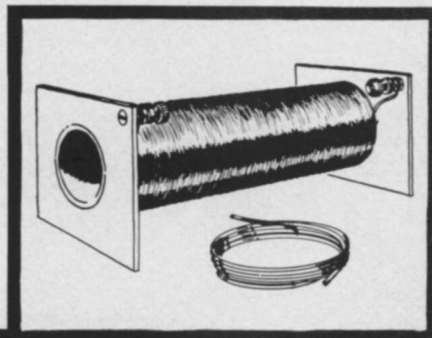
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The leading causes of death of infants during the first 28 days after birth are immaturity, asphyxia, birth injuries, and congenital malformations.

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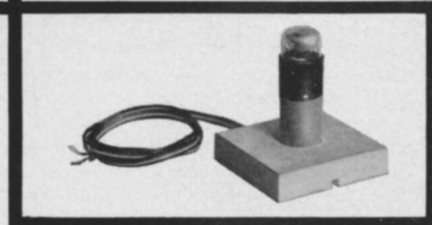
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Air Core Solenoid — used to perform the experiments "The Measurement of a Magnetic Field in Fundamental Units" and "The Mass of the Electron". The coil is also used in demonstrations of voltage induced by relative motion between the coil and a permanent magnet. Induced voltage is examined with respect to magnet strength, rate of flux change, and direction of the field. Transfer of mechanical energy of a moving magnet into heat energy in the coil is shown. Induction between the solenoid and an auxiliary winding of a few turns of wire can be shown. Each \$8.30.



Current Balance Kit — used with the Solenoid to measure a magnetic field in fundamental units of mass length and current. The force of gravity at one end of a mechanical arm balance counteracts the magnetic force of interaction between an unknown field and a current-carrying segment of wire at the other end. Each \$1.75.

Mass of the Electron Apparatus Kit — used to calculate the Mass of the Electron from the measurement of the radius of curvature of the electron beams. From the curvature, the magnetic field strength, and the accelerating voltage of the electron, the mass of electron can be calculated. The field is derived from an air core solenoid carrying a known direct current. Each \$3.50.



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