

p., paper, \$7.50. World-wide directory of information sources classified by country, region and state.

PHYSICS: Foundations and Frontiers—George Gamow and John M. Cleveland—*Prentice-Hall*, 551 p., illus., \$7.95. Introduction to modern physics at the college level, based on Gamow's "Matter, Earth and Sky." Calculus has not been used; trigonometry included has been treated in the text itself.

PROBLEMS OF LIFE: An Evaluation of Modern Biological and Scientific Thought—Ludwig von Bertalanffy—*Harper*, 216 p., paper, \$1.35. First published in 1954, gives survey of basic biological problems and laws within the framework of "organismic conception."

RUDOLPH MATAS: A Biography of One of the Great Pioneers in Surgery—Isidore Cohn with Hermann B. Deutsch—*Doubleday*, 431 p., photographs, \$5.95. The New Orleans surgeon's life as seen through the eyes of an admiring student, associate and friend of many years.

SCIENTIFIC MANPOWER 1959: Papers of the Eighth Conference on Scientific Manpower—National Science Foundation—*GPO*, 38 p., paper, 30¢. Conference theme was "Higher Education and Training in Emerging Fields of Science and Technology."

SELECTIVE TOXICITY—Adrien Albert—*Wiley*, 2nd rev. ed., 233 p., illus., \$5.50. About toxic agents that injure some kinds of cells and not others, even when the two kinds are growing close together. Book is concerned with drugs, weed killers and insecticides.

STATISTICAL HANDBOOK OF SCIENCE EDUCATION—National Science Foundation—*GPO*, 94 p., paper, 55¢. Compilation of pertinent statistical material on the education and training of scientists and engineers in the United States.

THE TRUE BOOK OF PLANT EXPERIMENTS—Illa Podendorf—*Childrens Press*, 48 p., illus. by Bill Armstrong, \$2. For the beginning reader, simple experiments he can do at home or at school.

USSR: Its People, Its Society, Its Culture—Thomas Fitzsimmons, Peter Malof and John C. Fiske—*HRAF Press*, 590 p., \$8.50. An analysis that seeks to define the dominant sociological, political and economic aspects of the USSR as a functioning society, to present that society's strength and weaknesses, and to identify the patterns of behavior characteristic of its members.

• Science News Letter, 78:124 August 20, 1960

ELECTRONICS

Nuclear-powered "Sentry" to Be Built

➤ A NUCLEAR-POWERED automatic electronic "sentry" capable of recording data and transmitting it from a remote ground location for at least two years without servicing or refueling is being developed for the U. S. Atomic Energy Commission.

Energy for the "sentry" will be supplied by a five-watt generator, which will convert heat from safely-enclosed pellets containing strontium-90 directly into a continuous flow of electricity.

The device will be linked with weather instruments to measure temperature, wind speed, wind direction and barometric pressure in order to demonstrate its capabilities. It could, however, be easily modified to detect seismic disturbances or to record continuously any other type of information in a remote area.

• Science News Letter, 78:125 August 20, 1960

ROCKETS AND MISSILES

Probe for Life on Mars

➤ THE FIRST ROCKET PROBE to Mars should contain equipment capable of detecting interference by intelligent Mars beings, two California scientists said.

The probe should also carry instruments to transmit back to earth information on the nature of the Martian canals and on Phobos and Deimos, the two Martian moons, Wells A. Webb, a research chemist for Hexcel Products, Inc., at Berkeley, and Dr. James A. Harder, assistant professor of civil engineering at the University of California, Berkeley, told the third annual West Coast meeting of the American Astronautical Society at Seattle, Wash.

They believe there is enough evidence indicating the possibility of past or present intelligent life on Mars to make it worthwhile to instrument the first Mars probe to detect manifestations of such intelligence. Most astronomers believe that not man or man-like creatures, but mosses and lichens, are the highest form of life on Mars.

The chemist and civil engineer, who suggest the possibility of a high form of life on Mars, said that the best way to make allowances for the interception or destruction of a Mars probe would be to install a proximity detector in the probe. This would preferably be one which detects the velocity of

approach of nearby objects by means of a shift in the frequency of a signal given off by the probe.

Why expect interference from Mars beings?

If men were advanced only 20 years beyond our present capabilities, the scientists said, no artificial probe approaching the earth would escape detection, destruction or, possibly, capture. Intelligent beings on Mars, assuming there are any, might already have this capability.

The two researchers stressed the importance of discovering whether the canals and satellites of Mars are artificial and the need to get telescopes above the earth's atmosphere to do this. The question of the canals, they stated, could be resolved with a stabilized earth satellite carrying a powerful telescope and a delicate aligning system along with a relatively simple radio transmission system.

But the problem of the Martian moons can be resolved only with a Mars probe containing a small telescope-viewing camera and a complex television transmitter. Transmission of television pictures from the area of Mars, about 50,000,000 miles away, is no simple task.

• Science News Letter, 78:125 August 20, 1960

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