each school before the books arrive. A copy of the résumé will also be inserted in the front of each book.

The teachers and the school librarian will be asked to make known the availability of the books and to encourage students to read them. Class assignments may be used to stimulate interest in reading the books available during a given period, but the teachers in the participating schools will be requested not to make required reading of the volumes in the libraries. Nothing should be done to kill spontaneity. Each school will be expected to take all steps practicable to insure that as many students as possible have an opportunity to read the books during the time each unit is available.

Direction. Hilary J. Deason has been appointed director of the traveling science libraries program. Born in Utah and educated at the University of Michigan, he was granted his Ph.D. degree in 1936. After several years of work in fishery biology and limnology on the Great Lakes for the U.S. Bureau of Fisheries, he served as an administrator in the Fish and Wildlife Service in Washington. There he was responsible for the program of technical cooperation with foreign countries and training programs for foreign students. He was a member of the former Interdepartmental Committee on Scientific and Cultural Cooperation of the Department of State and has served as a delegate to various international conferences on conservation of biological resources and technical cooperation.

Recommendations from scientists, librarians, and teachers on books for the library list will be welcome and should be sent to Deason at the AAAS office. The selected books and a longer supplementary list will be given wide publicity.
—JOHN A. BEHNKE

Virology, a New Journal

The founding of a new scientific journal for the publication of basic research papers in the rapidly developing field of virology [*Science* **122**, 29 (1 July 1955)] is welcome news to scientists. This bimonthly journal, *Virology,* will publish papers dealing with biological, biochemical, and biophysical aspects of research on animal, plant, and bacterial viruses. It is hoped to bring together in one place some of the papers in these fields that previously have been scattered in at least 20 different journals. The publishers do not wish to monopolize the virus literature but rather they hope that, by publishing a representative sample of the research work in the several fields of virology, in a few years this journal may serve through its references as a key to the virus literature. A brief synopsis of the contents of the first issue, May 1955, indicates the scope of the journal.

F. O. Holmes describes the effects of thiouracil treatment on the course of infection of mosaic-hypersensitive tobacco plants with tobacco mosaic virus. This particular virus-host combination seems to be unique among plant virus diseases in that it is susceptible to cure by chemotherapeutic agents.

Quantitative studies of the multiplication of potato viruses X and Y in tobacco plants reported by Rochow and Ross indicate that the yield of virus X is greater in mixedly infected plants than in those infected with virus X alone. The actual excess of virus X varied with the stage of infection and with environmental influences. The yield of virus Y was not affected by the presence of virus X. The next paper by Rochow, Ross, and Siegel reports a study of electron-microscope particle counts and local lesion counts as methods of assay for potato virus X in doubly infected plants. The two methods are in quantitative agreement in demonstrating a greater yield of virus X in plants mixedly infected with X and Y viruses.

A kinetic study of Lanni and Lanni of the interaction between influenza virus and the inhibitory mucoprotein of egg white indicates that there is a progressive alteration in the properties of inhibitor molecules as a result of the action of virus enzyme rather than a sudden loss of inhibitory activity by a single act per inhibitor molecule. This results in altered inhibitor molecules with a reduced affinity for indicator virus.

The propagation of pantropic and neurotropic strains of Rift Valley fever virus in rat ascites hepatoma cells is reported by Takemori, Nakano, Hemmi, and Kitaoka. During cultivation in the hepatoma cells, there was a high rate of mutation of the neurotropic strain to a variant that was pathogenic for mice by the subcutaneous route, yet retained its neurotropic property and antigenic specificity.

A further study of the effects of proflavine treatment on phage-infected bacteria was reported by DeMars. Treatment of T2-infected *coli* bacteria with proflavine prevented development of mature phage particles but did not prevent the synthesis of specific phage constituents. Material capable of combining with phage-neutralizing antibodies, the phage tail antigen, is produced in proflavine-treated bacteria in the same yield as in untreated bacteria; but, instead of being liberated as part of the phage particle, it is in the form of elements much smaller than phage particles. Phage nucleic acid, phage head antigen, and phage tail antigen are all synthesized in normal amounts in proflavine-treated bacteria but are not assembled into infectious phage particles.

Colicine K has the same receptor site on the bacterial cell as does coliphage T6. In a comparative study of these two agents, Latarjet and Fredericq found that their bactericidal activities had the same sensitivity to inactivation by x-rays. This suggests that the tip of the phage tail responsible for phage adsorption and for its bactericidal properties may have the same size as colicine K as well as having the same receptor specificity.

Further studies correlating chemical substances with physiological properties in bacteriophage T2 were reported by Hershey. On osmotic shock the phage particle is disrupted to form a phage "ghost" containing most of the protein, soluble phage nucleic acid, and an antigenically distinct protein fraction that does not sediment with the ghosts and amounts to about 3 percent of the total phage protein. This "nonsedimentable" protein fraction is not a basic protein, but it is injected into the host cell along with the phage nucleic acid. Its function is at present unknown.

The kinetics of release of polio virus from individual infected monkey kidney cells in culture was reported by Lwoff, Dulbecco, Vogt, and Lwoff. With type 1, Brunhilde strain, there was a latent period of 5 to 7 hr, after which most of the virus was released during the succeeding hour. Characteristic changes in cellular morphology are correlated with virus release.

With this promising start, the new journal, *Virology*, is likely to become one of the most widely read journals in the biological sciences. It satisfies a real need in the field of scientific publications.—M. H. A.

Commercial Electric Power from Atomic Energy

General Electric Co., producer, and Niagara Mohawk Power Co., distributor, on 18 July at West Milton, N.Y., sent the first commercial electric power produced by a nuclear reactor into American homes and factories.

The source was a reactor built by the Knolls Atomic Power Laboratory, operated for the Atomic Energy Commission by General Electric Co. The reactor was built as the prototype for the one to be used in America's second atomic-powered submarine, the *Seawolf*. The reactor uses neutrons in the intermediate energy range. Heat from the reactor is transferred to a heat exchanger by liquid sodium. Steam generated in the heat exchanger is used to drive turbines connected to the submarine propeller shafts.

The *Seawolf*, built by General Dynamics Corp., was launched in Groton,

Conn., on 21 July. It is 330 ft long, as compared with the 300 ft of the first atomic-powered submarine, the *Nautilus*. The *Seawolf* is expected to have a submerged cruising speed in excess of 20 knots.

In the prototype reactor at West Milton, the steam drives a turbine generator with a maximum rating of 12,500 kw. With more power being produced than is needed for studies of the *Seawolf* operation, General Electric contracted with the Niagara Mohawk Co. for the sale and distribution of excess amounts. The amount to be sold will vary, depending on the excess available, but will not exceed 10,000 w. Ten thousand watts is normal consumption for a city of 20,000 to 30,000 people.

The arrangement with the Niagara Mohawk Co. is temporary. Under existing law, public and cooperative power plants must be given first opportunity to purchase power generated in government projects. The Knolls Atomic Power Laboratory is an Atomic Energy Commission installation. Three such companies operate near West Milton and are eligible to receive the power.

Power is being sold at 3 mills/kw. The money goes to the Federal Government. Cost of production was not released, but it is greater than the 3-mill rate at which it is being sold. The reactor, however, was not built to be competitive with other sources of commercial power.

The throwing of the switch that for the first time made electricity from an atomic source available through the usual commercial channels was preceded by a program in which Francis K. McCune, vice president of General Electric and general manager of the company's Atomic Products Division, Senator Clinton P. Anderson, chairman of the Joint Congressional Committee on Atomic Energy, Douglas McKay, Secretary of the Interior, Ralph J. Cordiner, president of G.E., and Lewis L. Strauss, chairman of AEC, all spoke.

In concluding a series of brief talks that had given emphasis to the day's event as marking the beginning of new advances in the atomic age, Strauss commented:

"Before me stands a large two-way switch. If I throw its blade in one direction it will turn the propeller shaft of a military weapon.

"But when I throw it in the other direction, as I am about to do, it will send atomic electric power surging through transmission lines to towns and villages, farms and factories—power not to burst bombs or propel submarines, but to make life easier, healthier, and more abundant.

"This switch is a symbol of the great dilemma of our times.

"I throw it now to the side of the peaceful atom. . . ."

NIH Directorship Changes

WILLIAM H. SEBRELL, JR., director of the National Institutes of Health and Assistant Surgeon General, U.S. Public Health Service, will retire 1 Aug. He will be succeeded as director of the institutes by James A. Shannon, currently associate director. Sebrell has accepted a new position with the American Cancer Society.

Commenting on Sebrell's retirement, Surgeon General Leonard A. Scheele said: "His directorship has been invaluable in bridging a complex period of transition, not only in our own expanding research program but in medical research the world over. Doctor Sebrell, drawing upon a distinguished background of active research and administration, has been one of the Nation's leaders in the new research attack on disease, particularly the chronic diseases, such as heart disease, cancer, and mental illness."

Sebrell was born in Portsmouth, Va., in 1901. He received his medical degree from the University of Virignia in 1925 and entered the U.S. Public Health Service. In 1928 he joined the staff of the laboratory that was later to become the National Institutes of Health.

He earned a world-wide reputation as a medical scientist, particularly through his studies on the B vitamins. He was a member of the Public Health Service team that established in the 1920's the dietary origin, prevention, and treatment of pellagra, then one of America's most serious deficiency diseases. In the course of his work, Sebrell discovered the cause and cure of another vitamin-deficiency disease, ariboflavinosis. He has also received scientific acclaim for important findings in the dietary cause and treatment of liver disease, the effect of pantothenic acid deficiency on the adrenal glands, nutritional effects of the sulfonamides, and the cause and treatment of blood abnormalities. In 1950 he was appointed director of the National Institutes of Health.

Sebrell has taken a leading part in nutrition studies throughout the world. For his work in this field he holds the Legion of Merit. He has been honored for his achievements in the field of nutrition research with the Mead Johnson award of the American Institute of Nutrition, the Research medal of the Southern Medical Association, and the Goldberger award of the Council on Nutrition of the American Medical Association. He has written more than 100 scientific papers on nutrition and public health. In 1954 he was elected president of the National Vitamin Foundation and vice president of the American Board of Nutrition.

In his new position as research consultant at the American Cancer Society, effective 1 Aug., Sebrell will direct the society's institutional research grant program, which involves about half of the society's expenditure of $6 million for research this year.

James A. Shannon, the new director of the National Institutes of Health, has been associate director since November 1952. His principal responsibilities have included development of the NIH direct research program. He is also chairman of the Public Health Service's Technical Committee on Poliomyelitis Vaccine. Prior to 1952 he was associate director in charge of research at the National Heart Institute.

The heart institute is one of seven research centers comprising the National Institutes of Health. Other separate institutes cover cancer, neurological diseases and blindness, arthritis and metabolic diseases, mental health, dental research, and microbiology.

The NIH is the site of the Clinical Center, a new 500-bed research facility opened in 1953. Other major programs of the NIH include substantial financial support through research grants to investigators in non-Federal institutions and support of research fellowships and clinical traineeships.

Genetics of Extinct Species

That we need not always be ignorant of the genetics of extinct species has been demonstrated by a remarkable comparative study of the molar teeth of the present-day European brown bear (*Ursus arctos*), the extinct late Pleistocene cave bear (*U. spelaeus*), and other still older, early Pleistocene bears of Europe, including *U. etruscus*, the common ancestor of these bears. Björn Kurtén, of the Geological Institute of Helsingfors University, Finland [*Evolution* 9, 107 (1955)], finds that these teeth show allometric growth, according to the well-known equation $y = bx^k$. That is, they exhibit a constant differential growth ratio (k) between the height of the cusps, or paracones, on the tooth (y) and the length of the crown (x).

The ratio is different in the cave-bear samples from the ratio in the majority of recent and fossil brown bears, but some populations of the brown bear reveal the typical cave-bear kind of tooth growth. Both kinds of tooth growth are also present in the ancestral species *U. etruscus*.

There is some evidence that the two types of tooth growth differ by a single Mendelian factor, for the frequencies of the two types and an intermediate between them fit the expectations derived from the Hardy-Weinberg principle. Hence, it is possible to say that the mu-