to 26.5 in 1950. The United States birth rate was 24.2 per 1000 in 1926; fell to 19.4 by 1940; rose to 26.0 in 1947; and since 1950 has stabilized at around 25.

From 1950 through 1955, the rate of natural increase—the difference between the birth rate and the death rate—has been slightly higher for the U.S.S.R. than for the United States. In 1955 it was 1.7 in the U.S.S.R. and 1.6 in the United States.

The annual rate of increase in the U.S.S.R. is high compared with that in most of the countries to the west (France, 0.6 percent; Sweden, 0.5 percent; West Germany, 0.5 percent; United Kingdom, 0.4 percent). It is much lower than the rate in many underdeveloped countries, where the death rate has recently declined rapidly and birth rates have remained high. (The following countries have annual increases of approximately 3 percent a year: Ceylon, Egypt, Malaya, Algeria, and Mexico.)

The bureau's comparison of the two nations' death rates shows fairly parallel downward trends in the postwar years due to medical advances. That Russia's death rate of 8.4 in 1955 was lower than that of the United States (9.3) can be attributed to the relatively younger population of the Soviet Union. The Soviet's total population estimate of 200.2 million as of 1 April 1956 came as a surprise to western demographers, who had estimated the Russian population was considerably higher (216 million).

Soviet Metallurgy

The board of governors of Acta Metallurgica, the national organization which publishes the first technical magazine devoted exclusively to the science of metallury, has announced that beginning in January 1958 it will publish English-language editions of two Russian journals on metallurgy. A contract has been signed by Acta Metallurgica with the Pergamon Institute, a nonprofit foundation for the dissemination of scientific literature, to publish English editions of *The Physics of Metals and Metallurgy* and *The Journal of Abstracts—Metallurgy.*

A recent grant of $23,710 was received by Acta Metallurgica from the National Science Foundation to help defray the cost of preparing the English-language editions of the Soviet journals. Copies of the translations will be made available to technical libraries throughout the western world and to members of the 22 technical societies which participate in Acta Metallurgica. The first editions will be translations of the January 1957 issues of both Russian publications. It is estimated that the English editions of the two monthly publications will total approximately 1500 pages per year.

Radiation Effects Information Center

The Radiation Effects Information Center has been established by the Air Force at Battelle Memorial Institute, Columbus, Ohio, to gather and disseminate data concerning the effects of nuclear radiation on materials and systems that may be required in aircraft of the future. While the center has been organized to support the Air Force's nuclear-propelled aircraft program, its services are being extended to the Army, Navy, Atomic Energy Commission, and other Government agencies, as directed by the Air Force.

Initially, Battelle has assigned a 20-man team of specialists to the new unit. Coordinator of the center is Battelle's C. B. Voldrich, with Robert I. Leininger and Carl J. Lyons serving as assistants. Gilbert F. Arthur of Wright Air Development Center is the task engineer.

Color TV to Teach Mathematics

The first experimental use of color television to teach an academic subject was announced recently by the Advisory Board of Education of the National Academy of Sciences. Using the new closed-circuit color TV facility at Walter Reed Army Medical Center, the University of Maryland is offering 26 lectures on the concepts of calculus to a group of in-service high-school teachers of mathematics and science in the Washington, D.C., area.

The experimental value of the course has been greatly aided by a supporting grant from the Fund for the Advancement of Education of the Ford Foundation. The grant will enable the NAS to introduce a second innovation in audio-visual aids to teaching—color kinescopes of the televised lectures. These color kinescopes provide an opportunity for comparison of various techniques and are essential to evaluation of the experiment. They will later be made available to other suitably equipped institutions for further evaluation tests with student audiences.

Analgesic Drug Awards

The Institute for the Study of Analgesic and Sedative Drugs has announced that applications by research investigators for support of projects to be developed during the fiscal year beginning 1 July 1958 are now being considered. The institute is a nonprofit organization established for the purpose of obtaining basic biological and clinical information on the commonly used non-narcotic analgesic and sedative drugs, including aspirin, acetanilid, acetophenetidin, antipyrine, aminopyrine, N-acetyl p-aminophenol, and the bromides.

The deadline for the filing of applications by prospective research investigators is *28 February 1958.* Information concerning grants and applications for grants may be obtained by writing to The Institute for the Study of Analgesic and Sedative Drugs, Myrtle and McNaughton Streets, Elkhart, Ind.

The African Bushman

The Peabody Museum of Harvard University and the Smithsonian Institution are sponsoring a 6-month expedition to the Kalahari Desert in Africa. The expedition, which is expected to reach its destination sometime this month, will be the last of six visits to study the Bushmen, a small race of people who are an ethnic island in the middle of southern Africa. They live on a sparse basin plateau. They have no husbandry or agriculture but depend instead on hunting and gathering for their food supply.

The recording of native life on film and sound tape was initiated by the first expedition to these remote people, and continued by the other four. Approximately 250,000 feet of film has already been used, and this final expedition is expected to bring the work to a close. In addition, hundreds of reels of tape recordings of music and language have been made.

Eventually the study of the Bushmen will be contained in 25 documentary films. While there have been other films of primitive peoples and cultures, this will be the first time that a definitive work has been done entirely in this medium. The present expedition will fill in gaps in the material now at the Peabody Museum.

The Bushmen are a group distinct from the Bantus, who live all around them. They are short in stature, with extremely curly "pepper corn" hair. Their skin, while dark, has red hues not found among other African peoples. Their language and religion are also distinctive.

They live in small tribal groups of 30 to 100 persons, with a simple family and political organization. The ablest hunter often has the role of leader, though this is thought to be as much a chore as an honor.

The Bushmen have had almost no contact with the outside world. When the first Harvard-Smithsonian expedition arrived, most of the Bushmen saw

white men for the first time. Except for two diamond prospectors who briefly visited the Kalahari Desert some years ago, the Bushmen have not seen any other white people in their territory. However, the Bushmen have recently had increasing contact with Bantus, and it is feared that the distinctiveness of Bushman culture will soon be lost. The current expedition is headed by Laurence K. Marshall of Cambridge, Mass., who led the previous five visits to the Kalahari Desert.

Harvard-Guggenheim Center for Aviation Health and Safety

Thirteen military and civilian doctors and engineers are registered in the first postgraduate study program in the Harvard-Guggenheim Center for Aviation Health and Safety now underway at Harvard University's School of Public Health in Boston. The center, the fifth and newest aviation research center established in the United States by the Daniel and Florence Guggenheim Foundation, is under the technical direction of Ross A. McFarland, associate professor of industrial hygiene at Harvard. This is the first center set up by the foundation to deal directly with aviation health and safety. Support of the program is through a $250,000 grant, extending over a 5-year period.

At the new center, attention is focused on the unification of basic research involving studies of human problems in the era of jet aircraft; advanced training for physicians, biological scientists, and aeronautical engineers in problems involving aviation health and safety; and establishing a clearing house for technical information on aviation health and safety. The center is utilizing the interdisciplinary or team approach in its instruction program. This effectively coordinates the work of such diverse specialists as engineers, physicians, psychologists, physiologists, and anthropologists. Most of the departments in the School of Public Health, and specialists elsewhere in Harvard University, are participating in the instruction.

News Briefs

The new headquarters building of the Atomic Energy Commission near Germantown, Md., was dedicated on 8 November. The commission's Washington staff is expected to move to the new location in the first half of January.

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Heini Hediger, European animal behaviorist and director of the zoo in Zurich, Switzerland, has opened what he calls a "museum of human imbecility" in relation to caged animals. It consists of a collection of objects, including many sharp weapons, found in cages or taken from zoo visitors.

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On 4 December, in the second trans-Atlantic medical conference in history, scientists in the United States and Great Britain will exchange research information on cancer chemotherapy over the new undersea cable. The conference will last 1¼ hours. Three world medical centers will be linked: Philadelphia, where the American Medical Association will be convened in its 11th annual Clinical Meeting; London, where a special panel will meet in Barnes Hall of the Royal Society of Medicine; and Bethesda, Md., where the program will be heard at the National Institutes of Health. The conference will be sponsored by the AMA and the Royal Society of Medicine in cooperation with Smith, Kline & French Laboratories.

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A building housing pharmacy research and development laboratories was dedicated by CIBA Pharmaceutical Products, Inc., at Summit, N.J., on 21 November. The new structure contains 18 research laboratories and 27 additional special-purpose rooms. The laboratories are headed by Jack Cooper, director of the Pharmacy Research and Development Division.

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On 4 November President James B. Killian of Massachusetts Institute of Technology and President Nathan M. Pusey of Harvard University broke ground for the Cambridge Electron Accelerator. The two institutions are cooperating in the design and operation of the new $6-million machine, which is expected to go into operation in January 1960.

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Former President Herbert C. Hoover and Detlev W. Bronk, president of the National Academy of Sciences, will be the principal speakers on 1 December when bronze busts of George Westinghouse and Josiah Willard Gibbs are unveiled at the Hall of Fame for Great Americans at New York University. Westinghouse invented the air brake and many electrical devices. Gibbs, a mathematical physicist and professor at Yale University, formulated the theory of thermodynamics, the basis for much of modern physical chemistry and chemical engineering.

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The Council of the Oak Ridge Institute of Nuclear Studies announced at its 13th annual meeting that West Virginia University had joined the institute as a sponsoring university. The admission of West Virginia brings the total of ORINS sponsors to 36.

Scientists in the News

J. ROBERT OPPENHEIMER, internationally known nuclear physicist and director of the Institute for Advanced Study, Princeton, N.J., has been awarded the French Legion of Honor, France's highest civilian award.

BURTON W. ADKINSON, director of the Reference Department of the Library of Congress, has succeeded the late Alberto F. Thomson as head of the Office of Scientific Information at the National Science Foundation.

WILLIAM K. LIVINGSTON, head of the department of surgery at the University of Oregon Medical School, will retire on 1 January. He will remain on the surgery staff on a part-time basis with the rank of professor, and he will continue his research on the causes of pain. Livingston received his medical degree from Harvard University in 1920. He practiced in Eugene and Portland, Ore., and served in both world wars—attaining the rank of captain in the U.S. Navy medical corps reserve at the time of his discharge in 1946. A year later, he assumed the Kenneth A. J. Mackenzie chair of surgery at the Oregon Medical School. In that same year he was chosen to give the Lord Moynihan Lecture at the Royal College of Surgeons, London. Livingston is the author of two medical books, *The Clinical Aspects of Visceral Neurology,* published in 1937, and *Pain Mechanisms,* published in 1947.

THOMAS K. PAVLYCHENKO, formerly research professor and head of the department of plant ecology at the University of Saskatchewan, Saskatoon, Canada, and at present director of agricultural research for the American Chemical Paint Company, Ambler, Pa., was honored for his research achievements on the occasion of his 65th birthday, 20 October, in Saskatoon. Pavlychenko developed a method for quantitative studies of the root systems of plants grown under natural field conditions. He found that a single grass plant (*Agropyron cristatum*) grown for two seasons without competition, produced 319.5 miles of root fibres, thus binding the loose soil to resist erosion forces and to compete with weeds.

WARREN K. LEWIS, professor emeritus of chemical engineering at Massachusetts Institute of Technology, received the American Petroleum Institute's Gold Medal for Distinguished Achievement during the institute's recent annual meeting in Chicago. Lewis is known for his work in fractionation in refining, in solvent recovery systems, and in vacuum distillation of lubricating oils.