very sizable minority of the appropriations committee questioned the wisdom of spending so much money on aircraft nuclear propulsion on the grounds that it now seemed to be mainly just research, and that a useful plane was still years away and partly just an incidental by-product of the basic research being done on reactor technology and materials, and above all, of doubtful utility. Because of the heavy shielding it must carry, the atomic plane will probably be inferior to conventional planes in all respects except its ability to stay aloft for perhaps 1000 hours or more. It is a matter of dispute as to how useful it would be to have a plane that could stay aloft 1000 hours.

The project's appropriations are split almost evenly between the AEC and the Defense Department. An appropriations subcommittee, disturbed by the amount of money the program was costing and the lack of easily definable long-range benefits or short-range progress, voted to cut out all of the $73 million recommended for the AEC share. This would have cut the program in half. But the full committee restored most of the money; the vote was 19 to 18. The Senate restored the rest of the money, and last week the House accepted the full figure.

During the hearings last May the House committee did get a commitment from the Defense Department to make some decisions within four months or so and to try to decide which of the alternative approaches now being supported, the indirect or the direct cycle engine, might be eliminated. The four months are now up, but it appears that the principal decision is going to be that it is still too early to decide. Meanwhile the appropriations committee has put a team of investigators to work to try to find out if the taxpayers are getting their money's worth.

The direct cycle uses the heat developed in the reactor to power the engine. The indirect cycle transfers the heat to an intermediary fluid, perhaps liquid sodium, which in turn carries the energy to the engine. The tendency has been to move away from the direct cycle concept being worked on by General Electric, and toward the indirect cycle concept being worked on by Pratt and Whitney.

But even if a decision is made to terminate the G.E. work as part of the atomic-aircraft program, it appears likely that much of it will continue as part of another related program, Project Pluto, an atomic-powered ramjet missile. The Pluto does not require much concern with either of the two great barriers to a nuclear airplane: the need for a high-intensity reactor that will not burn out in a short time and the need for heavy shielding to protect crew and cargo, which makes the plane difficult to fly. The missile, of course, will have no passengers, and heavy shielding is not needed. Traveling at several thousand miles an hour, it will not need a long-lived engine to push it on its one-way trip to a target. So Pluto will probably be the first object to fly under atomic power, perhaps in 1964. The airplane, it is hoped, will follow a year or so later, as may a third project, Rover, the atomic rocket.

In sum, the flying platform advocates are, temporarily at least, losing their battle, and the Congressmen who have doubts about the wisdom of spending such huge amounts of money on the project if it is being directed mostly at basic research and developing the state of the art, rather than at a specific Defense need, are also a little unhappy. But critics, many of them scientists, who have attacked the program as a misguided attempt to try to do first (build an atomic plane) what can only efficiently be done after the state of the art is more advanced are those who seem to be most successful. They have the support of Herbert York, the chief of research and development at the Pentagon, and York has the confidence of the most influential people on Capitol Hill. The current orientation reflects their viewpoint.—H.M.

News Notes

Molotov Named Representative to Atomic Agency as General Conference Opens

Vyacheslav M. Molotov, former Premier and Foreign Minister of the U.S.S.R., has been recalled from his assignment as ambassador to Outer Mongolia to serve as Soviet representative to the International Atomic Energy Agency in Vienna. It has been suggested that he was withdrawn from his Outer Mongolian post, considered a diplomatic Siberia, because as Stalin's closest associate for 30 years he is too much in sympathy with the Chinese Communists, so close to Mongolia.

The 70-nation IAEA is supposed to be nonpolitical and to serve simply as the clearinghouse for information and technical assistance in the peaceful use of atomic energy; nevertheless, frequently the pattern of debate follows that of current international politics. Molotov may be out of favor with Premier Nikita Khrushchev's regime, but he is still one of the Soviet Union's most experienced and effective diplomats. He is already in Vienna preparing his participation in the fourth session of the IAEA's general conference, which opens on 20 September.

Critical Issues To Be Discussed

During the 2-week meeting, several problems of critical importance to the agency's future will be discussed.

One of the issues is that of inspection to see that nuclear fuel provided by the agency is not used for military purposes. Some nations consider an inspection system an invasion of sovereignty, a view that has been supported by the Soviet Union.

The meeting chairmanship is also an issue, even though the chairman serves only for the duration of the session. Last year Georgi Nadjakov of Bulgaria was expected to be elected, but the United States objected to the post's being held by a Soviet-bloc representative and Hiroo Furuuchi of Japan was named instead—an event which led to charges that the agency was dominated by the United States. Nadjakov is again a candidate.

Another controversy, of major importance but the least clearly defined of all, is associated with the agency's role in helping emerging nations. When the agency was founded in 1953, these countries could not obtain fissionable material for peaceful purposes, and one of the new organization's principal functions was to act as a broker for such substances. Now it is relatively easy to procure them directly, without assistance.

A further problem connected with the IAEA's role arises from the growing conviction that atomic power is impractical for many underdeveloped nations, a complete reversal from the hopeful view of 1953. Yet the possession of a reactor has become a matter of national prestige, and this seems to be stimulating both the United States and the Soviet Union to provide technical aid that could be considered more politically than scientifically motivated. When IAEA specialists try to discourage a nation from launching a nuclear program, they are sometimes accused of protecting the monopoly of the major powers.

Shortages of Mathematicians and Radiation Safety Experts Reported

Authoritative spokesmen called attention to this country's acute shortage of mathematicians and of radiation health specialists in statements issued during the last week of August.

Employment Register Reflects Problem

Three major mathematical organizations were holding national meetings at Michigan State University—the American Mathematical Society, the Mathematical Association of America, and the Society for Industrial and Applied Mathematics — and officials pointed out in a press release that the dearth of mathematicians, particularly those with doctoral degrees, was sharply reflected by the employment register. Employers in industry, government, and universities listed some 130 openings, but only about 65 mathematicians indicated that they were looking for new jobs. Furthermore, most of these are already employed, and new vacancies will be created if they change positions.

The openings listed were principally for men with the doctor of philosophy degree in mathematics. Very few of the applicants held more than a bachelor's degree. Industry and government openings for Ph.D.'s start at from $7500 to $9000 per year. For universities, the figure ranges between $6500 and $7500 for 9 months.

This is actually the slow season for employment in mathematics. At the winter meetings there were close to 300 openings but only about 60 applicants, and there is no reason to expect any change in the balance at the 1961 winter meetings, which will be held in Washington, D.C., 24–27 January.

J. Sutherland Frame, Michigan State mathematics professor who started the employment register in 1953 and headed it for 5 years, said that it has been estimated that by 1963 the United States will need as many as 10,000 Ph.D. mathematicians for computer work alone. He pointed out that the country has only 5000 now and can expect to graduate only about 1000 more by 1963. Although the number of students majoring in mathematics is increasing, this is adding to the demand for mathematicians by universities.

Radiation Safety Experts Needed

Leroy E. Burney warned of a similar crisis in the supply of specialists in radiation safety when he reported, on 25 August, that by 1970 the nation will need at least 4000 more physicians, engineers, and physicists with extensive training in radiological health and protection. To meet this need, he said, colleges and universities should be admitting at least 600 candidates annually for specialized training. Only about 200 are currently getting such training each year.

AEC–NASA Nuclear Propulsion Office Established

The Atomic Energy Commission and the National Aeronautics and Space Administration have established a joint AEC–NASA Nuclear Propulsion Office to consolidate the work which has been carried out in each agency to develop nuclear energy for space missions. Harold B. Finger, chief of nuclear propulsion for NASA, is manager of the joint office, and Milton Klein, who has been assistant manager for technical operations of the AEC's Chicago Operations Office, is deputy manager. The staff, which is being drawn from both AEC and NASA, will work at AEC headquarters in Germantown, Md.

The Nuclear Propulsion Office will integrate the Project Rover nuclear-powered rocket development programs, which heretofore have been carried out by the AEC through the Aircraft Reactors Branch of its Division of Reactor Development and by NASA through its nuclear propulsion organization in the Office of Launch Vehicles. In accordance with the statutes for both agencies, AEC will have primary responsibility in this program for the development of all reactors and their components, including those for flight missions specified by NASA; NASA will have primary responsibility for research and development of nonnuclear components and integration of the nuclear components in engines and vehicles of rocket systems.

The Rover program was initiated in 1955 by the AEC and the Air Force. When NASA was established in 1958, Air Force responsibility was transferred to NASA.

Development of the reactor system is being carried out by the Los Alamos Scientific Laboratory, operated for the AEC by the University of California. Tests of two reactors, Kiwi-A and Kiwi-A Prime, were conducted at the AEC's Nevada Test Site in July of 1959 and July of 1960, respectively. A third reactor, Kiwi-A-3, is scheduled to be tested later this year.

Eight Scientists Die in Fire at Soviet Antarctic Base

Eight scientists died last month in a tragic fire at the U.S.S.R.'s principal research station in Antarctica—Mirny, on the Indian Ocean at Wilkes Land—according to a delayed report received by the National Science Foundation. The men lost—six Russians, a Czech, and a German—were identified as O. G. Krichak, chief of the aerological-meteorological section at Mirny; Visamushkov, aerologist; A. L. Dergach, meteorologist; I. A. Popov, aerologist; A. M. Belilikov, aerographer; A. Z. Smirnov, aerologist; and A. Kostka and C. Popp, both meteorologists. Gilbert Dewart of California Institute of Technology, who is at the base to work on a cooperative research program, was reported uninjured.

Mirny was opened in 1956 in preparation for the International Geophysical Year of 1957–58, but it was established as a permanent station. A group of American IGY scientists who visited Mirny in 1958 described its 18 prefabricated buildings—now increased to 40 or more—as sturdy and "more homey" than those at any U.S. polar base. They also commented that Soviet meteorological equipment was as efficient as that of the U.S. It is the meteorology building that was destroyed.

About 100 scientists and technicians will spend the next antarctic winter at Mirny, where it is now spring and time for the annual airlift of men and supplies to begin. The Soviet Union has two other winter stations in Antarctica, each staffed by about ten men, and in addition there is one small, two-man auxiliary camp.

This year approximately 195 men will winter at the U.S. bases in Antarctica; most of them will be at the main station in McMurdo, some 1460 miles from Mirny.

Radioactivity of Milk Tested in Almost Every State

The Public Health Service has announced that since last March it has increased from 10 to 59 the number of sampling stations for measuring radioactivity in milk. Coverage is now almost nationwide, with at least one sampling station in each of 47 states and the District of Columbia. Last month the network was extended to Puerto Rico, and it is expected that all 50 states will be included in the near future.

Previously, all laboratory work was done at the PHS Sanitary Engineering Center in Cincinnati, Ohio. Within the past 8 months two new regional laboratories for radiological analyses have been opened—one at Las Vegas, Nev., and one at Montgomery, Ala. The Montgomery facility processes samples from 30 states east of the Mississippi, and the Las Vegas laboratory, from states west of the Mississippi. For the present, the two new laboratories are testing only for strontium-90 and cesium-137. Until these laboratories are equipped to test for other radioactive elements, the laboratory at Cincinnati will continue to analyze samples from the ten older stations for iodine-131, strontium-89, and barium-140.

Results of the milk tests are tabulated and published in a monthly technical journal, *Radiological Health Data,* published by the Public Health Service. The results of the first analyses made on samples received from the expanded network appear in the September issue of the journal.

Data published in July by the Public Health Service showed that average measurements of strontium-90 in milk, in micromicrocuries per liter, during the period February 1959 through January 1960 ranged from 3.4 for Overton, Nev., to 22.4 for St. Louis, Mo. These averages were well within the level of 33 micromicrocuries per liter (or kilogram) for water, milk, and foods that is recommended as a guideline by the National Committee on Radiation Protection and the International Commission on Radiation Protection. This level has been adopted as a radioactivity concentration guide by the Department of Health, Education, and Welfare, pending completion of studies by the Federal Radiation Council, an advisory body established last year by President Eisenhower.

Grants, Fellowships, and Awards

Marshall scholarships. Twenty-four Marshall scholarships at British universities are offered annually by the British Government to United States graduate students. The awards, which last year were increased in number from 12 to the present 24, are an expression of the United Kingdom's gratitude for the post-war program for European recovery.

The awards are made to students of either sex, who must be citizens of the United States. Candidates must be under 26 years of age on 1 October in the year in which the award will be taken up, but in exceptional circumstances candidates up to the age of 28 may be considered. Candidates must be graduates of a degree-granting college or university of the United States, and they should be prepared to spend a reasonable proportion of their vacation time in the United Kingdom.

The scholarships are tenable at any university in the United Kingdom. Every effort is made to place a scholar at the university of his first choice, when this choice is in keeping with his degree program. The awards are made for 2 years but may be extended for a third. Marshall scholars are required to take a degree at their British university.

A Marshall scholar receives £550 a year and approved tuition fees. There are also small allowances for books. A married man's scholarship may be increased by £220 a year, under certain circumstances. Transportation between the scholar's home in the United States and his university in the United Kingdom is included.

For purposes of selection, the United States is divided into five regions. Applications for awards in the current program must be in the hands of the appropriate regional committee *by 31 October.* The committee addresses follow: North Eastern Region—British Consulate-General, Room 2610, John Hancock Building, Boston 16, Mass.; Mid-Eastern Region—British Consulate-General, 99 Park Ave., New York 16, N.Y.; Southern Region—British Consulate-General, 403 International Trade Mart, New Orleans 12, La.; Mid-Western Region—British Consulate-General, 720 N. Michigan Ave., Chicago 11, Ill.; Pacific Region—British Consulate-General, 2516 Pacific Ave., San Francisco 15, Calif.

Overseas teaching. The U.S. Office of Education's new publication, *Teacher Exchange Opportunities 1961–1962,* gives 15 October as the deadline for filing applications for employment overseas in 55 countries. About 400 teaching positions abroad will be available under the United States International Educational Exchange Program. Positions will be open in American-sponsored elementary and secondary schools, as well as in schools of the participating countries. For information, write to Teacher Exchange Section, U.S. Office of Education, Department of Health, Education, and Welfare, Washington 25, D.C.

Scandinavian research. Opportunities for specialized postdoctoral research and training for a 1-year period in Norway, Sweden, and Denmark are now available to five United States scientists under the terms of a $15,125 grant made by the National Science Foundation to the Scandinavian Council for Applied Research. Candidates may apply for awards in the following fields: acoustics, corrosion, chemical engineering, automation, microbiology, biotechnology, mass spectrometry, speech transmission, and calorimetry.

United States participation in the so-called "Growing Points" program was made possible when the National Science Foundation joined in supporting sponsorship of the program by the Scandinavian Council for Applied Research and the Organization for European Economic Cooperation. The foundation grant will provide about $825 for institutional costs, $1500 for stipends, and $700 for travel for each United States participant. Selection of United States participants will be made by the Scandinavian Council for Applied Research. Applicants should direct inquiries to its office at Gaustadalleen 30, Blindern, Norway.

News Briefs

Copenhagen isotope conference. A Conference on the Use of Radioisotopes in the Physical Sciences and Industry, now being held in Copenhagen, will end on 17 September. Approximately 600 scientists, from some 40 countries and several international organizations, are participating in the meeting, which is jointly sponsored by the International Atomic Energy Agency and the United Nations Educational, Scientific and Cultural Organization.

The largest number of contributions are from American scientists, who will present 40 papers. Among other contributions are 29 papers from the United Kingdom and 20 from the Soviet Union. Abstracts may be obtained from IAEA Division of Public Information, Vienna 1, Austria.

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Basic science in France. A symposium on Basic Science in France and the United States will take place 17–19 October at New York University. The visitors from abroad will include J. C. Pebay-Peroula, laboratory director, Ecole Normale Supérieure, Paris; L. Escande, director, Ecole Nationale Supérieure, Toulouse; L. Neel, director, Metal Physics Laboratory,

Fourier Institute, Grenoble; Jean Denisse, chief astronomer, Meudon Observatory, Meudon; G. Millot, University of Strasbourg; and Pierre Pigagniol, science adviser to the French Government.

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Research in burns. Civilian and military physicians and research biologists from 17 nations will gather at the National Naval Medical Center, Bethesda, Md., 19–22 September for the first International Congress on Research in Burns. Some 56 research and clinical reports will be presented on such subjects as tissue transplantation, electrolyte balance and metabolism, and prevention of infection. Half of the papers will be by foreign scientists. Curtis P. Artz of the University of Mississippi Medical Center, Jackson, is coordinator of the program. Sponsoring agencies include the medical departments of the Army, Navy, and Air Force, the Public Health Service, and the American Institute of Biological Sciences.

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Tobacco research. Research grants totaling more than $523,000 have been made to 40 scientists in 1960 by the Tobacco Industry Research Committee. Twenty of the grants are new, and 20 are for continuation of work under way. More than 100 independent scientists have received support since mid-1954. The committee has so far appropriated $3.7 million for its continuing research program. All grants are made by the Scientific Advisory Board, composed of nine physicians, scientists, and educators, who retain their institutional affiliations. Chairman of the board is Kenneth M. Lynch, chancellor of the Medical College of South Carolina, Charleston.

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Register of scientists. The National Science Foundation is requesting the cooperation of scientists in filling out the questionnaires mailed in recent months in order to compile a comprehensive register of the nation's scientific talent. This will be a revision of the register compiled in 1956–1958. Its purpose is to make available to government agencies information that will enable them to locate men with special qualifications for doing work on projects that may be undertaken in the national interest. To date, about 175,000 questionnaires have been returned, and preliminary processing and compilation have begun. The NSF hopes to receive responses from at least another 75,000 scientists.

Scientists in the News

Wolfhard Weidel, director at the Max Planck Institute for Biology and professor in the University of Tübingen, has been appointed visiting professor of virology for 1960–61 at the University of California, Berkeley. He replaces **Gunther S. Stent,** who will spend a year's sabbatical leave at the universities of Kyoto and Cambridge.

Rudolf T. van Dam of Amsterdam University, the Netherlands, will be visiting professor of physiology for 1960–61 at the State University of New York Downstate Medical Center in Brooklyn. He succeeds **David R. Curtis** of the Australian National University, who has been visiting professor since 1 September 1959.

Gerhard Schilling, former chief of the Lunar and Planetary Sciences Programs at the National Aeronautics and Space Administration, recently joined the staff of the Rand Corporation, Santa Monica, Calif. He is a member of the Planetary Sciences Group in Rand's Engineering Division and is conducting research on problems of space exploration.

Herman M. Kalckar, professor of biology at Johns Hopkins University, has recently returned from the U.S.S.R. He is the first general-biologist exchange visitor to travel in the Soviet Union as a member of the U.S. National Academy of Sciences. He was a guest of the Soviet Academy of Sciences.

Charles E. Kellogg, assistant administrator for soil survey with the Soil Conservation Service, U.S. Department of Agriculture, received an honorary degree of doctor of science from the Institut Agronomique de l'Etat at Gembloux, Belgium, on 29 July on the occasion of the 100th anniversary of the founding of the institute.

Carl R. Brewer, formerly chief of the Research Division, U.S. Army Chemical Corps Research and Development Command, Washington, D.C., has been appointed chief of the Research Grants Branch, Division of General Medical Sciences, National Institutes of Health.

Sidney L. Simon has been appointed chief engineer, Missile Electronics and Controls Division, RCA Defense Electronic Products, Burlington, Mass. A member of the RCA staff since 1958, Simon succeeds **Robert C. Seamans, Jr.**, who has accepted a post with the National Aeronautics and Space Administration.

Richard Trumbull, head of the Physiological Psychology Branch at the Office of Naval Research since November 1953, has been awarded the Navy Superior Civilian Service Award, the second highest honorary Navy civilian award. He received the award for his part in the direction and development of an outstanding Navy research program in physiological psychology that is recognized throughout the United States, Canada, and Europe.

Perry Byerly, professor of seismology at the University of California, Berkeley, was elected to a 3-year term as president of the Association of Seismology and Physics of the Interior of the Earth during the general assembly of the International Union of Geodesy and Geophysics that was held recently in Helsinki, Finland. The association is a member of the International Union.

Nathan B. Eddy, research pharmacologist at the National Institutes of Health for the past 21 years, has retired from the U.S. Public Health Service. Since 1951 he has been chief of the section on analgesics in the Laboratory of Chemistry, National Institute of Arthritis and Metabolic Diseases. Eddy is executive secretary and chairman of the Committee on Drug Addiction and Narcotics of the National Research Council and a member of the Expert Committee on Addiction-Producing Drugs of the World Health Organization.

Recently, with Everette L. May, he conducted research that resulted in the synthesis of phenazocine (NIH 7519), a new analgesic which is a more effective painkiller than morphine but has fewer side effects and is less likely to produce addiction. He is coauthor of *Pharmacology of Opium Alkaloids* and *Studies in Drug Addiction* and has written more than 140 papers.

Eddy was assistant, then associate, professor of pharmacology and physiology at the University of Alberta, Canada, until 1930, when he became research professor of pharmacology at the University of Michigan. He joined NIH in 1939. He will continue his activities on scientific committees and panels of experts and will serve as a consultant to NIH.

The Washington University School of Medicine has announced the appointment of two visiting professors from England: **J. Harold Burn**, pharmacologist, and **Robert H. Heptinstall**, pathologist. Burn, who was visiting professor at Washington University for 6 months in 1959–60, was professor and head of the department of pharmacology at Oxford University from 1957 to 1959 and now holds the rank of professor emeritus. Heptinstall is a member of the department of pathology at St. Mary's Hospital Medical School, London.

Clinton R. Hanna, associate director of the Westinghouse Research Laboratories, Pittsburgh, and a specialist in electromechanical research, has retired after 38 years of service. He joined the laboratories as a research engineer upon his graduation from Purdue University in 1922.

Hanna has gained international recognition for his research in electrical control devices to regulate the speed and position of moving objects—devices such as automatic pilots for aircraft, stabilizers for shipboard radar antennas, vehicle stabilizers, elevator controls, and the Vibragyro, a type of gyroscope having no rotating parts. Another of Hanna's inventions is the Silverstat, an automatic voltage control device for electric generators, motors, and other electrical equipment. He holds more than 100 patents. Hanna will continue his service to Westinghouse as a consultant.

Sidney R. Galler, head of the Biology Branch of the Office of Naval Research in Washington, D.C., has received the Navy's Superior Accomplishment Award for developing a research program in biology.

The Air Force's Geophysics Research Directorate, Bedford, Mass., has announced the appointment of **Arnold Court** as chief of the applied climatology branch of its Meteorological Development Laboratory. Court served previously as a research meteorologist with the U.S. Forest Service in Berkeley, Calif., and as a lecturer at the University of California.

Hans Molitor, director of the Merck Institute for Therapeutic Research from its establishment in 1933 until 1956, retired on 1 September from his current position as director of scientific relations of the Merck Sharp and Dohme Research Laboratories Division, Rahway, N.J. Molitor, born and educated in Czechoslovakia, joined Merck from the University of Vienna, where he had earned his M.D. degree and where he was subsequently associate professor of pharmacology and therapeutics.

When Molitor first arrived at Rahway, the Merck Institute consisted of three small laboratory rooms and an office. His two-man staff had just been graduated from high school. Today, the institute has a staff of 300 scientists and technicians and extensive facilities that include a 200-acre experimental farm. Accomplishments include contributions to the development of a number of vitamins, steroid hormones, antibiotics, diuretics, and antihypertensive drugs.

D. Jerome Fisher, professor of geology at the University of Chicago, was elected to a 4-year term as president of the International Mineralogical Association during its recent meeting in Copenhagen, Denmark.

Charles E. Crompton has been named director of the advanced development section in the Isotopic Power Department of the Martin Company's Nuclear Division, Baltimore. Formerly he was associate technical director of the National Lead Company of Ohio, and before that, deputy director of the Atomic Energy Commission's Isotopes Division.

B. Theodore Cole, research participant in the Cell Physiology Section, Biology Division, Oak Ridge National Laboratory, has been appointed associate professor of biology at the University of South Carolina.

Carl C. Pfeiffer, director of the Division of Basic Health Sciences, Emory University, has resigned to do full-time research in mental health at the New Jersey Bureau of Research in Psychiatry and Neurology, Princeton, N.J., where he will be head of the section on psychopharmacology.

Merlin D. Peterson, formerly director of Industrial Reactor Laboratories, Inc., Plainsboro, N.J., has resigned that position to accept an appointment as deputy associate laboratory director for education at Argonne National Laboratory, Argonne, Ill. He will assist in the administration of Argonne's extensive program of cooperation with universities and colleges throughout the world.

Maurice E. Odoroff, formerly chief of the evaluation and reports branch and the research grants branch of the Division of Hospitals and Medical Facilities, U.S. Public Health Service, has been appointed assistant to the chief, Division of General Medical Sciences, National Institutes of Health. Odoroff's work will be concerned primarily with the statistical reporting and analytical activities of the division's operations.

Recent Deaths

Alfred J. Brown, Council Bluffs, Ia.; 81; emeritus professor of surgery at the University of Nebraska College of Medicine; well-known as a collector of medical incunabula and as a bookplate engraver; 22 Aug.

Herman N. Bundesen, Chicago, Ill.; 78; president of the Chicago Board of Health since 1933 and an authority on baby care; wrote a syndicated column on health that appeared in more than 500 newspapers; 15 Aug.

Harry K. Ihrig, Milwaukee, Wis.; 62; vice president for research at the Allis-Chalmers Manufacturing Company and research professor of biophysics at Marquette University; 22 Aug.

Joseph W. Jailer, Scarsdale, N.Y.; 46; associate professor of clinical medicine at Columbia University's College of Physicians and Surgeons; conducted research in endocrinology; 23 Aug.

Arnold S. Levine, Philadelphia, Pa.; 48; chief of neurology at Einstein Medical Center, Southern Division; assistant professor of neurology at Jefferson Medical College; and president of the medical staff at Kensington Hospital; 23 Aug.

T. M. B. Payne, Winnipeg, Canada; 42; professor and head of the department of microbiology at the University of Manitoba; 12 Aug.

Martha R. Smith, West Falmouth, Mass.; 65; retired dean of the Boston University School of Nursing; 21 Aug.

Samuel A. Stouffer, Cambridge, Mass.; 60; director of the Laboratory of Social Relations at Harvard University; noted for his research on many aspects of public opinion; his writings include *The American Soldier* (of which he was the principal author) and *Communism, Conformity and Civil Liberties*; late August.

Arthur E. Wood, Hamilton, N.Y.; 82; retired associate professor of chemistry at Colgate University; specialized in physical chemistry, on which he had written several books; 21 Aug.