twenty years. In that time physics has become recognized not only as a field of study and pure research but also as a science vitally important in industry. It has always been fundamental to other sciences, including engineering and chemistry.

Developments for the war are serving especially to direct attention to physics and to the value of the physics profession to the nation. For example, the science of electronics is only one of the several branches of physics which are proving of great use in the war and hold even greater promise for post-war industrial developments. Other important branches of physics deal with optics, acoustics, x-rays, radio, spectroscopic analysis, cosmic rays and nuclear phenomena.

The American Institute of Physics is a federation of national societies including the following: the American Physical Society, the Optical Society of America, the Acoustical Society of America, the American Association of Physics Teachers and the Society of Rheology. Also associated with the institute are the American Society for X-Ray and Electron Diffraction and the Electron Microscope Society of America. The member societies and the institute publish eight technical journals which have a wide circulation throughout the world. These journals are *The Physical Review, Reviews of Modern Physics, Journal of the Optical Society of America, The Journal of the Acoustical Society of America, American Journal of Physics, The Review of Scientific Instruments, The Journal of Chemical Physics* and *The Journal of Applied Physics*. All of them are devoted to the publication of the results of research and their interpretation, of articles on the teaching of physics and the place of physics in the general culture of the modern world.

Aside from publication, the work of the institute deals with many services to physicists designed to advance the science and its contribution to modern life. These services include arrangement of meetings and conferences, furnishing information to the public and arranging cooperation with other scientific organizations and with agencies of the government. Recent war services have included authoritative assistance to the government in the use of the critical and insufficient physics manpower for war research and war operations in such fields as aircraft and submarine detection, anti-aircraft weapons, communication and secret developments.

Purchase of the building should materially accelerate a general plan of professional development in the field of physics, designed to meet post-war necessities. This plan was developed by the Policy Committee of the institute, whose members are Dr. Paul E. Klopsteg, president of the Central Scientific Company; Dr. Oliver E. Buckley, president of the Bell Telephone Laboratories; Dr. Karl T. Compton, president of the Massachusetts Institute of Technology; Dr. Homer L. Dodge, dean of the Graduate School of the University of Oklahoma, and Dr. R. Clifton Gibbs, chairman of the department of physics of Cornell University.

The plan contemplates the maintenance of high professional standards, the improvement of publications and meetings, efforts to improve the teaching of physics in high schools and colleges, the expansion of facilities and resources for research in the field of physics, rehabilitation of war-interrupted careers and extended activities designed to advance the science of physics and to facilitate the work of physicists in every way possible.

SCIENTIFIC NOTES AND NEWS

THE Frederick Ives Medal of the American Optical Society will be presented on October 8 to Dr. Lloyd A. Jones, of the Eastman Kodak Company, at the Pittsburgh meeting of the society, which will be held from October 7 to 9. The medal is awarded to Dr. Jones for "distinguished work in optics."

THE David B. Pickering Nova Medal of the American Association of Variable Star Observers was presented on September 11 to Professor Bernhard H. Dawson, of the Observatory of the National University of La Plata, for the discovery of Nova Puppis 1942. The presentation was made by Dr. Edward L. Reed, chargé d'affaires of the U. S. Embassy in Buenos Aires, at a ceremony in the new building and observatory of the Asociación Argentina Amigos de la Astronomía, a society of amateur astronomers, of which Dr. Dawson was president from 1932 to 1940.

ELLA CARR DELORIA, of New York, a Yankton Sioux Indian, since 1929 research specialist in the department of anthropology of Columbia University, received the 1943 Indian Achievement Medal on September 17, American Indian Day. The award is given annually by the Indian Council Fire of Chicago to an American Indian whose accomplishments are worthy of national recognition.

DR. WALTER H. EDDY, president of the American Institute of Food Products and consultant on food and nutrition to the quartermaster general, formerly professor of physiological chemistry at Columbia University, was recently the guest at a luncheon given in his honor at the Waldorf-Astoria, New York City.

WILLIAM RANDOLPH WALTON, senior entomologist of the Bureau of Entomology and Plant Quarantine,

U. S. Department of Agriculture, on reaching the age of seventy years has retired, his retirement to be effective on October 1, after thirty-three years of service in the Division of Cereal and Forage Insect Investigations, in which for seven years he was division leader.

PROFESSOR W. C. BRENKE, of the University of Nebraska, retired from the chairmanship of the department of mathematics on September 1. He is succeeded by Professor Ralph Hull, of the University of British Columbia. Dr. Brenke will continue his work as professor of mathematics during the current academic year.

DR. B. S. GUYTON retired as dean of the School of Medicine of the University of Mississippi at the end of August. He is succeeded by the assistant dean, Dr. James B. Looper.

DR. JACOB P. DEN HARTOG, previously associate professor in the School of Engineering of Harvard University, has been appointed professor of mechanical engineering at the Massachusetts Institute of Technology. He is now a Commander in the United States Naval Reserve and will be on leave of absence for the duration of the war to serve in the Bureau of Ships in Washington.

DR. JAMES L. WILSON, associate professor of pediatrics at the College of Medicine of Wayne University, has been appointed professor of pediatrics at the College of Medicine of New York University and chief of the children's medical service at Bellevue Hospital.

DR. PAUL F. HAHN, associate in biochemistry and experimental pathology at the School of Medicine of the University of Rochester, has become assistant professor of biochemistry at the School of Medicine of Vanderbilt University.

PROFESSOR HILTON A. SMITH, of Colorado State College, has been made associate professor of veterinary pathology at Iowa State College. Dr. Smith has also been a member of the faculties of the State College of Washington and of the Agricultural and Mechanical College of Texas.

DR. MAURICE L. TAINTER, director of research of the Winthrop Chemical Company, Rensselaer, N. Y., has been appointed professor of applied physiology at the Albany Medical College. This will not affect his relations with the Winthrop Chemical Company.

BERT H. NOREM has been appointed assistant professor of administrative engineering in the College of Applied Science of Syracuse University.

DR. ALLAN WATT DOWNIE, who since 1940 has been pathologist in charge of the Emergency Public Health Laboratory at Cambridge, England, has been appointed professor of bacteriology at the University of Liverpool.

THE Rockefeller Foundation has awarded a research grant to Dr. William C. Boyd, associate professor in biochemistry in the School of Medicine of Boston University, for the continuation of his research work on immuno-chemistry.

GILES E. HOPKINS has been appointed research manager of the Textile Research Institute. He replaces Malcolm E. Campbell, now dean of the textile school at North Carolina State College.

DR. BARRY G. KING, assistant professor of physiology at the College of Physicians and Surgeons of Columbia University, has accepted a commission as lieutenant in the U. S. Naval Reserve as physiologist. He will be engaged in medical research at the Naval Research Institute of the National Naval Medical Center, Bethesda, Md.

DR. E. CLIFFORD NELSON, parasitologist of the Department of Inland Fisheries and Game for the State of Maine, has been commissioned first lieutenant in the Sanitary Corps and has been assigned to Carlisle Barracks, Pa.

DR. J. S. KASANIN, director of the department of psychiatry of the Mount Zion Hospital, San Francisco, and assistant clinical professor of psychiatry at the Medical School of the University of California, has left for a two weeks' trip to El Paso, Texas. While in Texas, Dr. Kasanin will lecture under the auspices of the Rockefeller Foundation on psychosomatic medicine at the various U. S. Army hospitals of the Eighth Service Command.

FOR a second conference with the Surgeon General of the U. S. Army, Dr. Karl M. Bowman, professor of psychiatry at the Medical School of the University of California and director of the Langley Porter Clinic for mental diseases, San Francisco, has returned to Washington. He is serving as a member of a national committee concerned with the men rejected by induction boards for neuropsychiatric reasons. A report will be submitted to the government.

FACULTY members of the Michigan College of Mining and Technology at Houghton on leave for service in the armed forces include Commander J. H. Service, mathematics and physics; Lieutenant Commanders R. W. Drier, metallurgical engineering, and H. W. Risteen, mechanical engineering; Lieutenant C. J. Pratt, mathematics; Major F. A. Rohrman, chemical engineering; Lieutenants R. F. Lang, civil engineering, and T. E. Vichich, mathematics, and Corporal Vernon Johnson, forestry. Among faculty men on leave of absence as civilian employees of the Army is Professor George W. Swenson, head of the electrical

engineering department. In addition, Professor A. K. Snelgrove, head of the department of geological engineering, and Professor N. H. Manderfield, of the department of mineral dressing, and his entire staff have been assigned to full-time research on strategic minerals. Associate Professors W. A. Seaman and V. L. Ayres of Dr. Snelgrove's staff devote half time to this project. Chemical engineering investigations, among them the recovery of copper and zinc from gilded metal scrap, also form a part of the war research program. This work is in charge of Professor H. L. Coles, head of the department, and to it he and three members of his staff—Dr. Glenn H. Damon and Dr. G. M. Machwart, associate professors, and E. R. Epperson, research engineer—are devoting most of their time.

DR. SELIG HECHT, professor of biophysics at Columbia University, gave an address entitled "Science in Everyday Life" at the opening ceremonies on September 21 of the New School for Social Research, New York City.

THE eleventh E. Starr Judd lecture will be given by Major General Norman T. Kirk, Surgeon General, U. S. Army, War Department, at the University of Minnesota, on Monday evening, December 6, at 8:15 in the Museum of Natural History Auditorium. He will speak on "Surgery in War."

SIR ARTHUR NEWSHOLME bequeathed the residue of his estate to the London School of Hygiene and Tropical Medicine.

THE establishment of Leo F. Rettger Fellowships in the Yale Graduate School has been announced. The fellowships were founded by Dr. Leo F. Rettger, professor emeritus of bacteriology, who retired in June, 1942, after serving for forty years on the faculty. Well known for his researches on animal diseases and intestinal bacteriology, especially on the transformation of intestinal flora, he was the co-discoverer of acidophilous milk and received a patent on the process for producing it. The patent, Dr. Rettger explained, was secured not with the idea of limiting the production of acidophilous milk, but in order that the product might be controlled and made to conform to strict standards. The fund for the fellowships, amounting to $25,000, represents earnings since 1921 from the practical application of research under Dr. Rettger's supervision. Merrill Y. Van Wagoner, of Midway, Utah, and Irene E. Kuslowitz, of Baltimore, Md., have been appointed the first Rettger fellows.

A NEW course in personnel psychology, covering problems of selection and placement, including current applications of psychology to personnel problems of industry, the armed services and government agencies, will be offered jointly during the autumn term by the Graduate School of Arts and Science and the Graduate Division for Training in Public Service of New York University. The instructors, all associated with the Personnel Research Section, Classification and Replacement Branch, Adjutant General's Office, War Department, will be Lieutenant Colonel Marion W. Richardson, U. S. Army, officer in charge, Personnel Research Section; Captain Roger M. Bellows, U. S. Army, officer in charge, Technical Classification Unit, and Dr. Edwin R. Henry, chief, Technical Classification Unit. The course will be offered at the Washington Square Center each Wednesday evening for fifteen weeks.

CHARLES PFIZER AND COMPANY, of Brooklyn, N. Y., has purchased a refrigeration plant near its present property in order to expand the output of penicillin. It is planned to spend about $750,000 on the project, and highest priorities have been obtained for needed equipment, so that work may be completed by the end of this year if possible.

ACCORDING to the *Journal* of the American Medical Association, the Department of Health of Mexico has signed an agreement with the School of Medicine of the Tulane University of Louisiana to establish and maintain a health unit and field training station at Boca del Rio, Vera Cruz, with a full-time resident director and staff. The unit will function as a health center for the welfare of the community and serve as a training center for physicians named by the Department of Health of Mexico, or by Tulane University with the approval of the Mexican department. Patients in the health unit of the city of Vera Cruz and in the hospitals there and those obtained through the facilities of the Institute of Tropical Diseases and other hospitals in Mexico, D. F., and clinic patients of Boca del Rio will be available for study. Funds to construct and equip the building at Boca del Rio will be provided by the Department of Public Health of Mexico and by Tulane University, but the department will provide funds to operate the health unit as such.

A PRELIMINARY statement of Scottish vital statistics for the second quarter of 1943, issued by the Registrar-General for Scotland and reported in *The Times*, London, shows that the birthrate was 20.4 per 1,000 of the estimated population. This is 1.1 above the comparable rate for the second quarter of 1942. It is 1.4 above the average for the corresponding quarter of the previous five years, and is the highest birth-rate recorded in the second quarter of any year since 1930. It is lower than the birth-rates experienced up till the end of the first quarter of this century. The death-rate was 12.7 per 1,000. This is 0.4 below that for the second quarter of 1942, and 0.5 below the five years' average. The marriage-rate was 7.8 per 1,000. This is 2.0 below that for the second quarter of 1942

but 0.2 above the pre-war five years' average. The infantile mortality rate was 58 per 1,000 births. It is 6 below that for the second quarter of 1942 and 10 below the five years' average. It is the lowest rate recorded for the second quarter of any year. The maternal mortality was 3.5 per 1,000 live births.

DISCUSSION

GEOLOGISTS IN WAR SERVICE

THERE has been some recent discussion in SCIENCE concerning the utilization of geologists in the war effort. Very few geologists are satisfied that the full value of the profession or of its personnel is appreciated. However, there has heretofore been an almost complete lack of information on which to base an intelligent discussion. Information on the prewar and wartime occupations of Harvard-trained geologists has been gathered. Data on 318 men are available, as shown in Table I.

TABLE I

Degrees	Total number	Teaching Per cent.	Non-commercial and government research Per cent.	Commercial research Per cent.	Changed position as result of war Per cent.
Ph.D. and S.D.	115	50	14	32	28
M.A. } M.S. } M.E. }	79	32	18	46	32
Graduate School— no degree	73*	31	37	31	44*
A.B. and B.S.	51†	12	63	25	35
Totals	318	34	33	33	33

* Of this total 22 were students in 1941–42 and are omitted in calculating percentages, except in the final column.

† The present occupations of 93 other men with A.B. and B.S degrees are known. These men have gone into occupations other than geology or into the Army, and are not here listed.

Of the total of 318, a third each are employed as teachers, in non-commercial and governmental research and in commercial research. Only two of the teachers are in preparatory work; the rest are in college teaching. The per cent. of Ph.D.'s in this category is the highest, as men planning to teach usually attempt to doctorate. Many of those who have A.B. and A.M. degrees from Harvard hold doctors' degrees from other institutions.

The impact of the war has been severe, and there has been a shift of employment involving 33 per cent. of the total. The shift has been from commercial research into governmental research and administration or into the Army and Navy. Teachers have shifted mostly into commercial research, but most of the teachers have not shifted employment. They have, however, changed courses and adapted their teaching to new demands. Many have spent much time in temporary work for governmental bureaus or in commercial work or strategic minerals. It has been impossible to make estimates of these informal, confidential and part-time efforts, although their total value is large.

The proportion in the Army and Navy is fairly high: 10 doctors; 11 masters; 17 men with graduate work, and 5 bachelors who are recognized geologists or 13.5 per cent. of the total. Students who left college with bachelors' degrees to go directly into the Armed Forces are numerous but not considered. Some of these men intend to be geologists and have adequate training to be useful field assistants.

Of the group in uniform, 17 are mature men who are in specialized positions of research and administration which appear to be suitable to their talents. Men under 40, however, are mostly performing ordinary military or naval duties, for which they are presumably qualified, but which seem below their capacities. Every geologist believes that the Army and Navy need geologists as advisers on construction and on tactics and strategy. If these men were used as geologists, the situation would be more satisfactory. There are also others qualified and willing who could be recruited for duties in military geology.

These data cover the wartime changes in the occupation of a small group only, but a group presumably representative of the geologists who have graduated from other universities. The willingness of geologists to leave their ordinary occupations and assume new duties is obvious—a third have done so. That others are willing may be assumed. It appears, however, that a considerable fraction already in uniform are not being used to the best advantage. Many hesitate to change from one civilian position to another, but would shift to a uniform if they were to be used in a geologic staff.

KIRK BRYAN

CAMBRIDGE, MASS.

APPARENT TIME ACCELERATION WITH AGE

I AM interested in the article on "Apparent Time Acceleration with Age of the Individual," by F. W. Nitardy, appearing in SCIENCE for July 30. The theory set forth is "that elapsed time as measured by the recollection of an individual seemed long or short according to what relationship it had to the individual's total time experience." What is meant of course is a limited period of time in relation to the total time experience.

While the abstract lapse of time is a constant fac-