News and Notes

The International Congress of Mathematicians

C. Raymond Adams

Department of Mathematics, Brown University, Providence, Rhode Island

The congress was held at Cambridge, Massachusetts, August 30–September 6 under the auspices of the American Mathematical Society, with Harvard University as host institution and with the American Academy of Arts and Sciences, Boston College, Boston University, Massachusetts Institute of Technology, and Tufts College as co-hosts.

The sessions were formerly opened by Garrett Birkhoff, of Harvard, as chairman of the Organizing Committee, who introduced the president of the congress, Oswald Veblen, of the Institute for Advanced Study in Princeton. Jacques Hadamard, of the Collège de France, was honorary president. In his address of welcome, Veblen observed that by the time of the Oslo Congress in 1936 "the colonial period of American mathematics had ended," and an invitation to hold the next congress in the United States in 1940 was extended and accepted. He paid graceful tribute to his lifelong friend, the late George David Birkhoff, of Harvard, who was to have been president of the congress in 1940 had its postponement not been made necessary by World War II.

In recognition of recent research accomplishments of outstanding merit, the Fields gold medals, each accompanied by an honorarium of $1,500, were awarded to the Norwegian mathematician Atle Selberg, aged 33, now a permanent member of the Institute for Advanced Study, and to Laurent Schwartz, aged 35, of the University of Nancy, France. The awards were made by Harald Bohr, of the University of Copenhagen, acting as chairman of the International Committee of Selection. He referred to the decision of the committee to limit its choice to young men of already high attainment and great promise, in the face of the numerous and significant contributions made since 1936 by many older mathematicians of established reputation.

Bohr reviewed briefly the work for which the Fields awards were made. In 1896 an estimate was established for the frequency with which prime numbers appear in the succession of positive integers; this is known as *the prime number theorem.* The first and several later proofs of this theorem were based on sophisticated considerations involving the complex zeros of the Riemann zeta-function, and such an eminent expert in the field of number theory as the late G. H. Hardy, of the University of Cambridge, expressed the belief that no "elementary" proof of the theorem could be devised. Selberg has found several such elementary proofs and has substantially increased our knowledge of the distribution of primes among the integers.

In contrast with Selberg, who has introduced new methods into the study of old problems now regarded as classical, Schwartz has brought forward new fundamental ideas, in particular a fruitful extension of the common notion of function which he terms a *distribution.* He has already made several applications of this idea, which not only makes possible the more elegant formulation of known results of harmonic analysis, but promises to provide a useful tool for attacking many problems in potential theory, spectral theory, and the theory of partial differential equations. The 1948 paper by Schwartz on the theory of distributions "will stand as one of the classical papers of all time," predicted Bohr.

By invitation of the Organizing Committee addresses were given by 22 speakers: A. A. Albert, A. Beurling, S. Bochner, H. Cartan, S. S. Chern, H. Davenport, K. Gödel, W. V. D. Hodge, H. Hopf, W. Hurewicz, S. Kakutani, M. Morse, J. von Neumann, J. F. Ritt, A. Rome, L. Schwartz, A. Wald, A. Weil, H. Whitney, N. Wiener, R. L. Wilder, and O. Zariski. Conferences on algebra, analysis, applied mathematics, and topology, with about 90 participants, were a feature of the program. At additional sessions more than 400 papers were contributed on algebra and theory of numbers, analysis, geometry and topology, probability and statistics, actuarial science, economics, mathematical physics and applied mathematics, logic and philosophy, and history and education.

At the plenary session on September 6 Marshall Stone, of the University of Chicago, reported plans for the organization of an International Mathematical Union, which had been made by representatives from 22 countries who met August 27–29 in New York City. This union will come into effective existence as soon as the organized mathematicians of 10 countries become adherents under the bylaws formulated by the New York convention. On behalf of his colleagues in Holland, J. G. van der Corput, of the University of Amsterdam, presented an invitation to hold the next congress at Amsterdam in 1954. This invitation was unanimously accepted.

Attendance at the congress—by far the largest gathering of mathematicians ever held—exceeded 2,300 persons, including about 300 representatives and delegates from more than 40 foreign countries, representatives from the U. S., and delegates from 15 American societies and academies. The USSR Academy of Science sent a cable to J. R. Kline, of the University of Pennsylvania, secretary of the congress, expressing appreciation of its invitation and the hope that the congress would be a significant event in mathematical science, but regretting that "Soviet mathematicians, being very much occupied with their regular work, will be unable to attend."

Social events included receptions at the Fogg Museum of Art and the Gardner Museum, a reception and organ recital at Boston University, a tea at Wellesley College, a banquet tendered by Harvard University, and concerts by the Busch Quartet, Richard Dyer-Bennett, and Helen Traubel.

The Econometric Society held its summer meeting at Harvard in conjunction with the congress. Special conferences and symposia were held immediately preceding or directly after the congress on fluid mechanics, on the theory of functions of several complex variables, and on algebraic geometry at Harvard; on differential geometry at Boston University; on computing machinery at the National Bureau of Standards, Washington, D. C.; on differential equations at the University of Maryland; and on plasticity at Brown University.

In his address Veblen remarked, "Mathematicians are terribly individual." So, also, is mathematics, in the sense that it has become specialized to an extent that makes out of place here a more detailed description of the scientific program of the congress. For such a report interested readers must await the publication of the *Proceedings* of the congress.

The sessions gave ample evidence that on a wide front the boundaries of mathematical knowledge are being pushed back, as rapidly as they have ever been in the past, by a host of competent workers and by a substantial number of men of exceptional imagination and power. The increasing mathematical requirements of government and industry, both in the U. S. and other countries, and the availability of modern calculating machines, are accelerating the influx of problems from the natural sciences that not only has long been recognized as healthful and vitalizing, but also as actually essential to the well-rounded development of mathematics. Whether the present generation of mathematicians includes men of the stature of Gauss (1777–1855), Riemann (1826–66), Poincaré (1854–1912), and Hilbert (1862–1943) can only be determined later. But we can be confident that this generation will prove to be responsible trustees of the tradition of scientific progress that has been handed down by its predecessors.

American Chemical Society's 118th National Meeting

Walter J. Murphy

American Chemical Society

An appeal to President Truman to act at once to prevent a dangerous waste of scientific manpower in the current international crisis was made by the American Chemical Society, through its Board of Directors, at the society's 118th national meeting, which was held in Chicago September 3–8.

In a unanimously adopted resolution, the board specifically asked the President to designate some one Federal agency to formulate and administer an effective program for the training and use of technical personnel in time of national emergency. The resolution also invited other scientific associations to join the ACS in setting up a national committee to work with the government on this problem.

Ernest H. Volwiler, in his presidential address, urged Congress to spell out in selective service legislation a three-point policy on the drafting of scientists and their utilization in the armed forces. His three points were: that key scientists in industry, government, and education be left in their posts to carry through total mobilization of the nation; that scientists in the armed forces be assigned to the tasks in which their special training would be most valuable; and that outstanding science students be deferred while they completed their training. No blanket deferment for chemists, chemical engineers, or other scientists is sought by the ACS, it was emphasized; the society merely seeks the most efficient utilization of the special skills of all scientists and engineers.

A serious lag in scientific research in colleges was reported by Charles A. Kraus, professor emeritus in Brown University, who received the society's Priestley Medal at a general assembly in the Hotel Stevens, convention headquarters. Dr. Kraus, a director and former president of the ACS, said the failure of many colleges to sponsor adequate research programs resulted to a large extent from lack of appreciation of the importance of research and not from financial limitations alone. Yet, he said, "our continued well-being, indeed our very existence," may depend on the effective application of research to our ever-growing problems.

The names of eight 1951 award winners were announced by Dr. Volwiler. They are: Garvan Medal—Katherine B. Blodgett, General Electric Company Research Laboratory, Schenectady, N. Y.; American Chemical Society Award in Pure Chemistry—John C. Sheehan, Massachusetts Institute of Technology; Fritzsche Award in Essential Oils—Edgar Lederer, Institut de Biologie Physico-Chimique, Paris, France; Precision Scientific Company Award in Petroleum Chemistry—Louis Schmerling, Universal Oil Products Company, Chicago; Fisher Award in Analytical Chemistry—Hobert H. Willard, University of Michigan; Borden Award in the Chemistry of Milk—Thomas L. McMeekin, Eastern Regional Research Laboratory, Philadelphia; Paul-Lewis Laboratories Award in Enzyme Chemistry—Arthur Kornberg, National Institutes of Health, Bethesda, Md.; Eli Lilly & Company Award in Biological Chemistry—John M. Buchanan, University of Pennsylvania School of Medicine.

A new theory of virus invasion of living cells, which may hold far-reaching implications for the prevention and treatment of virus diseases, was announced in one of the 1,181 technical papers—an all-time record—presented at the meeting. Based on the discovery that a virus at-

tack on a specific cell is a two-step process, the theory explains that in the first step the virus becomes attached to the target cell as the result of a purely electrical attraction, governed by metallic ions normally present in the cell's environment, according to Theodore T. Puck, head of the Department of Biophysics in the University of Colorado Medical Center. Laboratory experiments have shown that by introducing certain other metallic ions, such as zinc, which are not ordinarily present, it is possible to block this attraction and thus make the cell immune to the virus, Dr. Puck said.

Evidence that arteriosclerosis may be prevented through the use of the vitaminlike substance inositol was reported by Stephanie J. Ilka, William C. Felch, and Louis B. Dotti, of St. Luke's Hospital, New York. Their experiments on animals indicate that inositol can effectively reduce the blood's content of cholesterol, the fatty compound widely suspected of causing arteriosclerosis by clinging to the arterial walls.

Broad new fields of application for antibiotics may be opened by discoveries concerning the special properties of two compounds announced at the meeting. One of the new compounds, known as Netropsin, "has been found to be active against clothes moth larvae and the black carpet beetle," according to A. C. Finlay and three colleagues, of Charles Pfizer & Company, Brooklyn. The other new antibiotic, which was isolated from the roots of a tropical flowering plant instead of from the soil, has shown high potency as a fungicide. This substance, called Plumericin from the name of the source—*Plumeria multiflora*—was reported by John Little, head of the Department of Agricultural Biochemistry at the Vermont Agricultural Experiment Station, who is testing more than 1,700 plants in a search for other antibiotics.

Successful preparation of both curium metal and americium metal was announced at a session on the chemistry of the actinide elements. Curium metal is so radioactive that it glows as brightly as a flashlight in the dark, according to J. C. Wallman, W. W. Crane, and B. B. Cunningham, of the University of California. With berkelium (element 97) and californium (element 98), discovered in the past year, nuclear chemists now believe the actinide series runs as high as 103, although they are not sure the last few elements in the series ever will be isolated, said Glenn T. Seaborg, University of California.

Effective methods of disposing of radioactive waste materials, new insecticides and other agricultural chemicals from petroleum, and recent progress in the production and use of cortisone and ACTH also were reported at the meeting, in which 8,000 chemists and chemical engineers participated.

Appointment of John H. Nair, assistant director of research of Thomas J. Lipton, Inc., Hoboken, N. J., as chairman of the society's Diamond Jubilee Committee was announced by Dr. Volwiler at close of the meeting. Dr. Volwiler said the society's anniversary celebration in New York in September, 1951, and the sessions of the International Union of Pure and Applied Chemistry and the International Congress of Pure and Applied Chemistry, scheduled for the same month, will be held as planned unless they are precluded by the international situation at that time.

About People

Felix T. Adler, member of the Institute for Advanced Study, Princeton, 1941–42, and **Julius Ashkin,** formerly assistant professor at the University of Rochester, have been appointed to the faculty of the Carnegie Institute of Technology Physics Department.

Now a member of the Department of Physiology and Pharmacology, Wayne University, **Marion I. Barnhart** will continue at Wayne her research work in cellular physiology. Miss Barnhart has just completed her work for the doctor's degree at the University of Missouri.

Ralph Buchsbaum, formerly research associate in the Department of Zoology and in the Institute of Radiobiology and Biophysics at the University of Chicago, has been appointed professor of zoology in the Department of Biological Sciences, University of Pittsburgh. He will be in charge of invertebrate studies and will continue his investigations in cell biology.

Nicholas D. Cheronis, formerly at the Wright Branch of Chicago City College, has been appointed professor and chairman of the Department of Chemistry of Brooklyn College.

Appointed managing editor of the *Biological Bulletin,* to succeed H. Burr Steinbach, is **Donald P. Costello,** of the University of North Carolina.

The inauguration of **Earl Hampton McClenney, Sr.,** as third president of St. Paul's Polytechnic Institute, Lawrenceville, Va., took place October 12. Among the delegates attending were Reuben Roosevelt McDaniel, American Mathematical Society; Lorin A. Thompson, American Academy of Political and Social Science; Keturah E. Whitehurst, American Psychological Association; M. E. V. Hunter, American Home Economics Association; and John Peter Wynne, National Philosophy of Education Society.

A Special Fellow of the National Cancer Institute, U. S. Public Health Service, for the coming year is **Alfred Novak,** of the Department of Biological Science, Michigan State College. He will work with **Henry Borsook** on the biosynthesis of proteins at California Institute of Technology.

Jane M. Oppenheimer, associate professor of biology at Bryn Mawr College, has been awarded a Rockefeller fellowship for the academic year 1950–51, to enable her to make an international survey of the problem of raising the general level of scientific understanding in the world today.

Visitors

Under the sponsorship of ECA, **Demetrius Thalellis,** director of the Plant Improvement Institute, Salon-

ika, and **Demetrius S. Katakouzinos,** director of the Soils Laboratory, Athens, Greece, have been making a study of saline and alkaline soils and their relation to plant growth, on the Davis campus of the University of California. **Erik Hjalmer Akerberg,** associate professor of research and technical instruction, Royal Agricultural College of Sweden, also visited the Davis campus, to study forage crop improvement.

The Institute for Fluid Dynamics and Applied Mathematics, University of Maryland, recently presented **Werner Heisenberg** in two public lectures. Dr. Heisenberg is director of the Max Planck Institute for Physics, University of Göttingen, Germany. He spoke on the "Statistical Theory of Turbulence" and the "Present Situation in the Theory of Elementary Particles."

Nobuyoshi Kato, Kyoto University, **Yoshihiro Asami,** Hokkaido University, and **Yasushi Watanabe,** Tohoku University, Japanese educators, are making a tour of engineering colleges in the U. S. under the Exchange-of-Persons Program sponsored by the Department of the Army's Far East Command. The program was arranged by the Institute of International Education.

Charity Weymouth, director of the Tissue Culture Section of the Chester Beatty Research Institute, Royal Cancer Hospital, London, is visiting the Tissue Culture Laboratory of the University of Texas Medical Branch, Galveston, for special work with Charles M. Pomerat. She will also visit other representative tissue culture laboratories in this country.

Fellowships

The Institute of Industrial Health of the University of Cincinnati is accepting applications for a limited number of fellowships for graduate studies leading to the degree of Doctor of Industrial Medicine. Any registered physician who is a graduate of a Class A medical school and who has completed satisfactorily two years of residency (including internship) in a hospital accredited by the American Medical Association may apply. The course of instruction consists of a two-year period of intense preliminary training in the basic phases of industrial medicine, followed by one year of practical experience under adequate supervision in industry. During the first two years, the stipends vary from $2,100 to $3,000. In the third year, the candidate will be compensated for his service by the industry in which he is completing his training. Requests for additional information should be addressed to the Institute of Industrial Medicine, College of Medicine, Cincinnati 19, Ohio.

The World Health Organization is offering 9 to 12 fellowships for foreign study in the field of health, available for 1951. Grants are for periods of two to three months for observation and up to 12 months for study. Transportation is provided to the place of study and in the country visited. The stipend is from $160 to $200 a month for those studying in one place, and from $240 to $300 for those moving about. Applications may be obtained from the Educational Programs Branch, Division of International Health, U. S. Public Health Service, Washington, D. C., and must be returned in triplicate by *January 1, 1951.*

The 11th annual **William Lowell Mathematical Competition** will be held March 31, 1951, under the sponsorship of the Mathematical Association of America. The competition is open to undergraduate students in universities and colleges of the U. S. and Canada. The questions will be taken from the fields of calculus (elementary and advanced), with applications to geometry and mechanics not involving techniques beyond the usual applications, higher algebra (determinants and theory of equations), elementary differential equations, and geometry (advanced plane and solid analytic). Prizes to be awarded to the departments of mathematics of the institutions with the winning teams are $400, $300, $200, and $100. In addition, prizes of $40, $30, $20, and $10 will be awarded to the members of these teams, $50 to each of the five highest contestants, and $20 to each of the succeeding five highest contestants. Each winner will receive a medal. A $1,500 **William Lowell Putnam Prize Scholarship** at Harvard University or at Radcliffe College will go to one of the first five, to be available immediately or on completion of the student's undergraduate work. Any college or university wishing to enter contestants may secure application blanks from L. E. Bush, 112 Albertus Magnus Hall, College of St. Thomas, St. Paul 1, Minn. Applications must be filed not later than *March 1, 1951.*

Colleges and Universities

An interscience commission has been established at the **University of Pennsylvania** in recognition of the growing need for closer interaction between workers in the physical sciences and engineering, and those in the biological and medical sciences. Functions of the commission include integration of those research programs which bring the influence of the physical sciences into the solution of medical or biological problems, and the survey of physical facilities required for this type of interscience. Only students of high caliber, willing to devote four years of full-time study to doctoral programs, are encouraged to elect the new area of specialized study. The chairman of the commission is Britton Chance, director of the Johnson Foundation for Medical Physics. David R. Goddard, professor of botany, and S. Reid Warren, professor of electrical engineering in the Moore School of Electrical Engineering, are members of the Advisory Committee.

The Einar Naumann Medal, one of the highest honors given for work in limnology, has been awarded to the **University of Wisconsin** by the International Association of Limnology, at its annual meeting in Ghent, Belgium, in memory of two pioneers in the field, the late President Emeritus Edward A. Birge and the late Chauncey Juday. Professor Birge, who died June 9, 1950, at the age of 98, was the oldest holder of the Ph.D. degree in

the U. S., the oldest member of Phi Beta Kappa, and the oldest active member of a university faculty. Birge and Juday began their work together in 1905, and their association lasted until Juday's death in 1944. The medal is named in honor of a Danish limnologist who was a contemporary of Birge and Juday.

Recent appointments to the **Applied Physics Laboratory, The Johns Hopkins University,** are Charles I. Beard, formerly with the Magnolia Petroleum Co., Dallas, Texas; Robert W. Hart, of Catholic University; Fred K. Elder, Jr., of the University of Wyoming; John B. Garrison, from the University of Chicago; John J. Sopka, Tufts College; Joseph H. Zelinski, Pennsylvania State College; Jordan J. Markham, Brown University; Gwynne B. Swartz, University of Maryland; Robert P. Rich, The Johns Hopkins University; Raydeen R. Howard, Duke University; and William Liben, Brookhaven National Laboratory.

Norman O. Smith, formerly of the Chemistry Department of the University of Manitoba, has joined the faculty of **Fordham University** as associate professor of physical chemistry. M. J. McGuinness, Jr., formerly research chemist for E. I. du Pont de Nemours and Company, has joined the faculty as assistant professor of chemistry.

Industrial Laboratories

Eli Lilly and Company has appointed A. Lee Caldwell head of its newly created Product Technical Service Department. Dr. Caldwell was formerly head of the company's nutrition and vitamin research.

Antara Products, General Aniline & Film Corporation, 444 Madison Ave., New York 22, has available on request *Data Bulletin #303,* an 8-page folder giving properties, characteristics, uses, and handling information for 1,4-butanediol.

Nutritional Biochemicals Corporation has issued a new catalogue listing nearly 500 biochemicals of nutritional, biological, microbiological, and medical significance. Included are amino acids, nucleoproteins, purines, pyrimidines, crystalline vitamins, accessory growth factors, miscellaneous biochemicals, media for microbiological procedures, purified proteins, carbohydrates, and various experimental diets. Copies can be obtained by writing to Nutritional Biochemicals Corporation, Cleveland 5, Ohio.

An injectable form of terramycin has been made available to the medical profession by **Chas. Pfizer & Co., Inc.,** sole producer of the new drug. Terramycin Intravenous, the name under which this new dosage form will be marketed, will be especially valuable for treatment where immediate therapeutic action is essential and in the treatment of hospitalized patients who cannot take the customary forms of oral antibiotic medication.

The Gulf Oil Corporation will assist in the establishment of a chair of geology at the American University of Beirut, Lebanon, beginning this academic year. Roy A. Wilson, a geologist with Gulf, will hold the chair and will teach physical geography, engineering geology, and physical geology, all new subjects in the university.

Meetings and Elections

The American Petroleum Institute will hold its 30th annual meeting in Los Angeles, November 13–16, at the Biltmore and Ambassador Hotels. In addition to almost 100 committee sessions, which will begin November 9, two general and numerous group sessions will be held. Frank M. Porter, president of the institute, will address the general session on November 15, and Benjamin F. Fairless, president of United States Steel Corporation, and Reese H. Taylor, president of Union Oil Company of California, will be speakers on November 16. Further information and the advance program may be obtained from the Department of Information, American Petroleum Institute, 50 W. 50th St., New York 20.

Governor Ernest Gruening will address the **Alaskan Science Conference,** to be held in Washington under the sponsorship of the National Academy of Sciences–National Research Council, November 9–11. The conference will consist of 20 individual sessions, including 3 symposia and one public meeting at which government officials will speak and special Alaskan films will be shown. The organization of the conference has been carried out by a steering committee appointed by the chairman of the National Research Council, and includes representatives from the Departments of the Interior, Agriculture, Commerce, Army, Navy, Air Force, the Federal Security Administration, the Arctic Institute of North America, the Smithsonian Institution, the American Geographical Society, the University of Alaska, and the Alaskan Territorial Government.

The Medical Women's International Association's 6th congress was held September 10–16 at the Woman's Medical College, Philadelphia. The opening exercises of the 101st year of the Woman's Medical College, at which A. Charlotte Ruys, of Amsterdam, president of the congress spoke, were a feature of the meeting. A program of clinic demonstrations and scientific papers by the faculty of the college, under the chairmanship of L. Kraeer Ferguson, professor of surgery, was also included. New officers elected at the association's meeting are Ada Chree Reid, New York City, president; G. Montreuil-Strauss, France, Inger Haldorsen, Norway, Zaida Eriksson-Lihr, Finland, Grace Cuthbert, Australia, Doris Odlum, England, and M. T. Cassassa, Italy, vice presidents. Dr. Odier-Dollfus, France, is honorary treasurer, and Janet Aitken, England, honorary secretary. Their terms of office will run until the next international congress, to be held in four years, if world conditions permit.

Two papers, one on the effect of the sun's altitude on daylight, by R. H. Bingham and Herman Hoerlin, research scientists at Ansco Research Laboratories, Binghamton, N. Y., and the other a short-cut photo process that eliminates fixing and washing of prints, by E. C. Yackel,

Kodak Research Laboratories, were high lights of the convention of the **Photographic Society of America** in Baltimore October 18–21. The organization elected 8 men to honorary membership and cited 23 new fellows and 69 associates. New officers of the PSA Technical Division, which represents the national society in matters of standards of photographic materials, equipment, and processes, are William F. Swann, Eastman Kodak Company, Rochester, chairman; Theron T. Holden, Graflex, Inc., Rochester, vice chairman; and William H. Fritz, National Carbon Division, Union Carbide and Carbon Corp., secretary-treasurer.

Three hundred chemists and chemical engineers attending a combined meeting of Oklahoma's three local sections of the **American Chemical Society** at Bartlesville heard Wayne E. White, research chemist for the Ozark-Mahoning Company, Tulsa, state that treatment of all drinking water with fluorine compounds to improve the dental health of the nation is now virtually assured.

The Association of Consulting Chemists and Chemical Engineers elected the following officers at its annual meeting, October 24: president, Erwin Di Cyan, Di Cyan & Brown; vice president, Earl D. Stewart, Schwarz Laboratories; treasurer, Robert S. Aries, Robert S. Aries & Associates; and secretary, Albert Parsons Sachs, consulting chemical engineer, New York City.

NRC News

The American Cancer Society will inaugurate in 1951 a program to help newly trained scientists establish themselves in the field of cancer research. The **Grants for Scholars in Cancer Research,** as the program will be known, are designed to bridge the gap between completion of fellowship training and the period when the scientist has thoroughly demonstrated his competence as an independent investigator. A limited number of American Cancer Society scholars will be appointed annually on recommendation of the Committee on Growth of the National Research Council. A grant of $18,000, payable over three years, will be made directly to each scholar's institution by the society as a contribution toward his support and research. Medical schools, hospitals, research institutes, and other institutions with a substantial interest in cancer research are invited to submit applications for these grants. They should be submitted before *January 1, 1951,* for grants to be effective July 1. Inquiries and requests for forms should be addressed to the Executive Secretary, Committee on Growth, National Research Council, 2101 Constitution Ave., Washington 25, D. C.

The Medical Fellowship Board of the NRC is now accepting applications for postdoctoral research fellowships for 1951–52 under the following programs: **National Research Fellowships in the Medical Sciences,** supported by grants from The Rockefeller Foundation, provide opportunity for training in research in all branches of medical science. They are open to citizens of the U. S. or Canada who hold the M.D. or Ph.D. degree. The fellowships are intended for recent graduates (who as a rule are less than 30 years of age). **Welch Fellowships in Internal Medicine,** also administered for The Rockefeller Foundation, provide a prolonged period of advanced training to persons of proved research ability. They are open to physicians under 40 years of age who are citizens of the U. S. **Fellowships in Tuberculosis** have been made available by a grant from the National Tuberculosis Association. These awards are limited in number and are designed to promote the training and development of investigators in this field. They are open to citizens of the U. S. who are graduates of American schools and preferably not more than 30 years of age. Preference will be given to applicants who have the degree of M.D. or Ph.D. Only in exceptional circumstances will a fellowship be awarded to an applicant without either of these degrees. Fellows will be appointed at a meeting of the Medical Fellowship Board early in March 1951. Applications for consideration at this meeting must be filed before *December 1, 1950.* Appointment may begin at any date determined by the board. For further information, address the Secretary, Medical Fellowship Board, National Research Council, 2101 Constitution Avenue, N.W., Washington 25, D.C.

Deaths

Ewald Boecking, 56, inventor and mechanical engineer, died at his home in Great Kills, Staten Island, N. Y., August 18. Dr. Boecking was the inventor of a film projector designed to eliminate flicker and to provide a clearer picture on the screen, a major improvement in projection technique.

Nicholas Mikhailovich Oboukhoff, 77, research professor emeritus of electrical engineering and professor emeritus of mathematical physics at Oklahoma A & M College, died July 30 in Stillwater, Okla. Dr. Oboukhoff was the author of many scientific and technical papers published in France, Russia, China, Germany, and the U. S.

James I. Shannon, S.J., director of the Department of Physics, Saint Louis University, St. Louis, Mo., since 1913, died September 8, at the age of 81. A member of the faculty from 1909, Father Shannon was active in building up the Department of Physics, and in addition taught field courses in geology.

Julius Terrass Willard, chemist, administrator, and college historian of Kansas State College, died July 26, at the age of 88. Dr. Willard had been a member of the faculty since 1883 and had served as dean of general science until 1930, as well as two terms as acting president of the college.

M. F. Coolbaugh, 73, president emeritus of the Colorado School of Mines and a nationally known consulting engineer, died September 9 as the result of a heart attack. The new million-dollar Colorado School of Mines chemistry building, now under construction, has been named in his honor.