

News and Notes

Abnormal and Pathological Growth in Plants

THE sixth annual symposium sponsored by the Biology Department of Brookhaven National Laboratory was held at the laboratory, August 3–5, 1953. The subject of this year's conference was abnormal and pathological growth in plants. It included a brief review of normal growth requirements, tissue culture studies on normal and abnormal tissues, and more detailed considerations of various atypical and pathological growths such as hereditary tumors, insect galls, bacterial tumors, and virus- and radiation-induced abnormalities.

In the first paper, F. Skoog discussed the chemical factors influencing normal growth with particular emphasis on the effect of indoleacetic acid on nucleic acid synthesis and the morphogenetic importance of the indoleacetic acid/adenine ratio.

The use of *in vitro* cultures for investigating the nutritional and morphogenetic aspects of normal and pathological growth and differentiation was considered by several of the participants. A. J. Riker and A. C. Hildebrandt presented data from an extensive series of experiments on the carbohydrate and nitrogen nutrition of several types of crown gall tissue. L. G. Nickell reviewed the nutritional requirements of virus tumor tissue and the effects on such tissue of certain growth stimulating substances and mitotic inhibitors.

The inhibition of sunflower tissue, with particular reference to the action of folie acid derivatives, was discussed by R. S. De Ropp. It was demonstrated by R. Wetmore that fern apices grown *in vitro*, with nitrate as the sole nitrogen source, have the capacity to reconstitute an entire plant. In contrast, angiosperm apices required more complex nitrogen sources. To elucidate this difference in nitrogen requirements, considerable data were obtained on the amino acid contents of developing lupin plant organs.

C. D. La Rue reported on the atypical growth potentialities shown by *in vitro* cultures of haploid tissue—Cycad female gametophytes and various gymnosperm male gametophytes, diploid tissue—various isolated plant organs, and of triploid tissue—the endosperm of maize.

In a review by R. Bloch, the different types of atypical and pathological plant growth were classified according to the outline of Küster. The developmental pattern of these growths and factors influencing their formation were discussed in detail by the subsequent speakers. A. E. Kehr gave an inclusive description of the hereditary tumors produced by many of the *Nicotiana* hybrids. It was observed that spontaneous tumor formation occurs at the seedling stage and again following production of flowers, presumably at times of metabolic stress when the influence of a genetic

imbalance can be manifested. E. G. Beck discussed the *Solidago* gall as an example of insect-induced galls.

A theoretical analysis of the mechanism of crown gall induction was presented by R. Klein. This report contained two items of special interest: first, a desoxyribonucleic acid fraction of pathogenic *Agrobacterium tumefaciens* was described which transforms bacteria of a related nonpathogenic strain into organisms capable of causing tumors; second, bacteria-free extracts of pathogenic cultures were reported to initiate tumor formation. The tumor-inducing principle was shown to be different from the bacterial-transforming agent, and the possibility of its containing an active desoxyribonucleic acid fraction was discussed.

A. C. Braun demonstrated the capacity of tumor cells to revert to normal cells, thus providing evidence for the concept that self-duplicating entities in the cytoplasm are responsible for, or associated with, the properties of tumor cells. Evidence against the theory that crown gall is a virus disease was discussed.

A review of the initiation, development, and final degeneration of leguminous root nodules was given by O. N. Allen. The curious behavior of the invading bacteria and the rigidly defined morphology of the galls were described in detail.

L. M. Black outlined a technique for isolating the wound-tumor virus by differential sedimentation and presented data on its size and shape secured from electronmicroscope studies. In a review of virus-induced growth abnormalities, L. O. Kunkel showed the profound influence and wide spectrum of structural changes that can be caused by virus infection.

A strikingly similar spectrum of aberrancies resulting from exposure to chronic gamma irradiation was reported by J. E. Gunkel and A. H. Sparrow. It was pointed out that radiation merely seemed to increase the frequencies of growth abnormalities found in unirradiated populations. S. Shapiro discussed the pattern of adventitious bud regeneration from stem segments and presented evidence that x-rays reverse the normal polarity of bud production. It was suggested that this effect may be due to the availability of auxin in different parts of the irradiated cutting.

The following moderators deserve much credit for evoking considerable discussion of the papers presented: K. V. Thimann, E. Ball, A. F. Blakeslee, A. E. Dimond, R. F. Dawson, P. R. White, I. F. Lewis, and H. J. Curtis. The list of participants is too long to be published here but much of the success of the symposium may be attributed to the thought-provoking comments following each paper. The papers and discussions will be published in the near future by Brookhaven National Laboratory.

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Scientists in the News

Smith, Kline & French Laboratories of Philadelphia has two new staff members. **Kaymond C. Bard**, formerly Assistant Professor of Bacteriology at Indiana University, has joined the company as Head of the Microbiology Section, and **Joseph V. Swintosky** resigned from his post at the University of Wisconsin to become a Senior Pharmacist in the firm's Pharmaceutical Chemistry Section.

Francis Birch has been appointed Chairman of the Division of Earth Sciences (formerly Division of Geology and Geography) of the National Research Council, Washington, D.C., for the year 1953-54. Dr. Birch, Sturgis-Hooper Professor of Geology at Harvard University, is also chairman of the Committee on Experimental Geology and Geophysics at Harvard. He is well-known in the field of geophysics for his work on geothermal gradients and properties of materials at high pressures and temperatures.

Earle Buckingham, Professor of Mechanical Engineering at the Massachusetts Institute of Technology, has retired. He will continue this fall as Emeritus Professor of Mechanical Engineering and as a lecturer. After attending the U.S. Naval Academy, Prof. Buckingham served as mechanical engineer with a number of New England manufacturing firms. In 1925 he joined the M.I.T. Department of Mechanical Engineering as Associate Professor of Engineering Standards and Measurements, and in 1931 he became Professor of Mechanical Engineering.

Prof. Buckingham is the author of several books on gearing and manufacturing problems, and is a member of the Society of Automotive Engineers and the American Society of Mechanical Engineers. In 1950 he was honored by the American Gear Manufacturers Association with the Edward P. Connell award.

Arthur H. Burr, Head of the Department of Machine Design in the Cornell University College of Engineering, is spending a sabbatical year at the Institute of Aeronautics in the Brazilian government's Aeronautics Center in São José dos Campos, São Paulo. Prof. Burr has been asked to reorganize the Institute's courses in machine design, drawing, and engineering mechanics.

Herbert L. Davis, formerly associated with Ethicon Suture Laboratories, has joined the staff of Wayne County General Hospital, Eloise, Mich., as an Associate in Surgical Research. He is conducting studies on fat embolism and other applications of colloid chemistry in medicine.

Marjorie W. Evans, a physical chemist, has joined the staff of the Department of Chemistry at the Stanford Research Institute. She was formerly at the Armour Research Foundation, Chicago, where she was a consultant on problems of thermodynamics, combustion, and explosion.

H. R. Gault has accepted appointment as Executive Secretary of the Division of Earth Sciences, National Research Council. Dr. Gault is on leave of absence from Lehigh University where he is a professor of geology.

The Thurman H. Bane Award, given annually by the Institute of Aeronautical Sciences to an Air Force officer or civilian for an outstanding achievement in aeronautical development, has been awarded for 1953 to **Benjamin F. Greene, Jr.** of the Air Force Cambridge Research Center, Cambridge, Mass. Mr. Greene was cited "for the development of an electronic system for airport traffic control which greatly increases the landing rate of aircraft under high density traffic or poor visibility conditions."

The University of Rochester has announced the appointment of four scientists to posts in the Physics Department. **Everett Hafner**, a member of the Brookhaven National Laboratory staff who has been at Cambridge University, England, this past year, will become a research associate. **Malcolm Savedoff** of Princeton University and the Mt. Wilson Observatory has been made a research associate and part-time professor. Dr. Savedoff, who recently returned from a year at the Leiden Observatory, Netherlands, will be engaged in research which is supported by the Office of Naval Research. **Jean Crussard** of the Ecole Polytechnique, Paris, France, has also been appointed a research associate. His work will be supported by the Air Research and Development Command. **Gregor Wentzel**, a professor at the University of Chicago, will become a part-time visiting professor of theoretical physics.

Robert R. Harry, Assistant Curator of Fishes in the Academy of Natural Sciences, Philadelphia, is participating in the coral atoll project in the Pacific for the second year. His participation is made possible by George Vanderbilt, who is a sponsor of the development of a fish study center in the Academy. Dr. Harry is one of the group of scientists representing the Office of Naval Research, National Research Council, Pacific Science Board, United States National Museum, and Harvard, Yale, and Stanford universities, that is studying the natural history and peoples among the trust islands taken over by the United States after World War II. This will be the project's fourth year.

C. B. Hunt, formerly Chief of the General Geology Section at the U.S. Geological Survey headquarters in Denver, has been appointed Executive Director of the American Geological Institute, Washington, D.C. He succeeds **Robert W. Webb**, who is returning to his post as Chairman of the Department of Geology at Santa Barbara College.

Arthur W. Lindquist, an entomologist in the U.S. Department of Agriculture since 1931, has been named Head of the Division of Insects Affecting Man and Animals. He succeeds Edward F. Knippling (News and Notes, July 17). Dr. Lindquist is a pioneer in

research to apply techniques of atomic science to entomological investigations.

Edmund H. MacLaughlin, Associate Professor of Biology and Pharmacognosy at the Philadelphia College of Pharmacy and Science and a member of its teaching staff since 1927, has been named Research Associate in the Pharmacy Section of Sharp & Dohme.

Earl B. Millard, Professor of Chemistry and Secretary of the Faculty at the Massachusetts Institute of Technology, has retired. Prof. Millard's association with M.I.T. began with his appointment as Instructor of Inorganic Chemistry in 1914. He became Professor in 1929, and from 1922-1935 he served in addition as Assistant Director of the Institute's Division of Industrial Cooperation.

Prof. Millard is a graduate of the University of Colorado. He holds an M.S. from the University of Wisconsin, and a Ph.D. from the University of Illinois. During World War I he participated in research which was in part responsible for the development of the gas mask. He held a number of administrative posts in connection with World War II activities at M.I.T., and was engaged in work with the Chemical Warfare Development Laboratory. Dr. Millard is an authority on textile and soap chemistry. His book on *Physical Chemistry for College Students*, first published in 1921, is now in its seventh revision and is still widely used in colleges throughout the country.

Luigi Z. Pollara, a professor at Siena College, has been appointed Associate Professor in the Department of Mathematics, Stevens Institute of Technology.

A. L. Putnam, Associate Professor of Mathematics, has succeeded **E. P. Northrop**, Professor of Mathematics, as Chairman of the Mathematics Staff in the College of the University of Chicago.

R. D. Schafer, an assistant professor in the University of Pennsylvania, has been appointed Professor of Mathematics and Head of the Department at the University of Connecticut.

Henry Scheffé, an associate professor in the Department of Mathematical Statistics at Columbia University, has been appointed Professor of Mathematics and Assistant Director of the Statistical Laboratory of the University of California, Berkeley.

O. H. Smith, Professor Emeritus of Physics at DePauw University, has been named the 1953-54 Hill Foundation guest professor at Hamline University and Macalester College, both in St. Paul, Minn. In 1952 the Louis W. and Maud Hill Foundation established a three-year series of guest professorships at five Minnesota institutions.

Walton R. Smith has been made Chief of the Forest Utilization Service at the Southeastern Forest Experiment Station, Asheville, N.C. Mr. Smith has served the U.S. Forest Service for 18 years. His new

position involves representing the Forest Products Laboratory in contacts with wood-using industries from Virginia to Florida.

Allen H. Spinner, who has been Visiting Assistant Professor of Industrial Engineering at Stevens Institute of Technology, will join the permanent faculty as Associate Professor.

Two research chemists of the Corning Glass Works, **S. Donald Stookey** and **Robert H. Dalton**, are to be awarded John Price Wetherill Medals by the Franklin Institute of the State of Pennsylvania for their discovery of a revolutionary photosensitive glass process.

Education

The Council on Dental Education of the **American Dental Association**, Chicago, has issued a list of accredited schools for dental hygienists. A total of 21 schools is included. In this first nation-wide evaluation of education for dental hygienists, the Council gave full approval to training courses at 18 universities and provisional approval to the curricula of three schools. A minimum of two years of college study is required for a certificate in the field, and advanced study for a degree is provided for students intending to serve in dental clinics, school systems, and the like.

Baldwin-Wallace College, Berea, Ohio, has joined with **Illinois Institute of Technology** in offering a combined educational program in liberal arts and engineering. Under the program, students earn degrees in both liberal arts and engineering simultaneously. Addition of the combined program at Baldwin-Wallace brings to 18 the number of schools participating with Illinois Tech in this educational plan. The program operates as follows: Students attend Baldwin-Wallace, or one of the other cooperating schools, for three years, then spend two years at I.I.T. Upon completion of the five-year program, they receive a B.A. degree from their former school and a B.S. degree in some field of engineering from Illinois Tech.

Ohio State University is planning to expand its teaching and research program in the field of aviation medicine in the near future, and it is anticipated that residencies will be available in this field within the current academic year.

A new **school of nursing** to provide basic nursing training in two years is to be opened in September at the Maisonneuve Hospital, Montreal, with financial assistance from the Canadian government. The new school will be an experiment with a threefold objective: (1) to improve clinical instruction of student nurses by ensuring more adequate supervision; (2) to improve courses of study, with emphasis on a better understanding of human nature and the role of the nurse as the doctor's assistant; and (3) to improve

means of developing a greater sense of responsibility among nurses.

Several experiments in nursing education have been carried out or are under way in Canada at the present time in an effort to increase the supply of nurses.

During the past three years the **University of Kansas** has greatly expanded its research activities and facilities for the training of graduate students in fields related to atomic energy. In this expansion, it has benefited from the generous cooperation of the United States Atomic Energy Commission.

Construction of the Radioisotopes Building was completed in July, 1952, and two projects dealing with various aspects of the biological effects of radiation, which had been under way elsewhere on the campus, were immediately transferred to the new building. The latter, which is now occupied almost to its entire capacity, is used for the reception and dilution of isotope shipments, preparation of active compounds for use in research, and housing of experimental animals for biological studies involving the use of radioactive substances. In addition, it provides space at present for five research projects, involving participation by four departments of the University.

A University Committee on Radioactive Substances is charged with supervision of the operation of the Radioisotopes Building, as well as with all responsibilities concerning the use of highly radioactive materials. This committee does not attempt to exercise any sort of censorship or even undertake any evaluation of the projected scientific problems, but rather, it deals with all matters relating to safety, health, space, and equipment in the new building. Its main purpose is to promote interest in radioactive substances and encourage and facilitate their application in research. The personnel of this committee includes the Director of the University Health Service, three members of the Department of Chemistry, two members of the Department of Physics, and one member each of the Departments of Anatomy, Chemical Engineering, and Zoology.

Grants and Fellowships

The **American Heart Association** and its affiliates recently announced the awarding of Career Investigatorships to two faculty members of the Harvard Medical School, Boston. They are John R. Pappenheimer, newly named Visiting Professor of Physiology, and Albert H. Coons, Visiting Professor of Bacteriology and Immunology.

Dr. Pappenheimer, has centered his studies on the way in which the blood supplies the tissues. Dr. Coons has been working in the field of disease immunity. Both will continue their investigations at the Harvard Medical School under the American Heart Association appointment.

The Career Investigatorship was created by the Association to encourage unrestricted, lifetime medi-

cal research. The latest awards bring to three the number of Career Investigators being supported by the American Heart Association and its affiliates throughout their productive careers. Victor Lorber, the Association's first Career Investigator, named in 1951, is now conducting studies of chemical processes within the heart muscle at the University of Minnesota.

The **National Science Foundation** has announced 34 awards totaling about \$208,000 for research in the biological and the physical sciences, and to support studies and conferences on science, scientific information exchange, compilation of scientific personnel information, and travel of American scientists to international scientific meetings.

This is the final group of awards to be made during fiscal year 1953 by the Foundation for the support of basic research and related matters. During the year, the Foundation made 292 awards totaling more than \$2,151,000 in support of scientific activities. Since the beginning of the program in 1950, over 400 such awards have been made, totaling about \$3,635,000. Additional proposals are being evaluated by the staff of the Foundation with the help of advisory panels of outstanding American scientists. A list of the grants follows:

University of North Dakota. Principal scientist, R. G. Severson, Dept. of Chemistry. Preparation and properties of certain substituted organosilanes, 1 year, \$3,300.

Ohio Department of Natural Resources. Principal scientist, G. N. Cady, Division of Geological Survey. Petrographic constitution of Ohio coals, 2 years, \$24,000.

Catholic University of America. Principal scientist, M. Gusinde, Department of Anthropology. Demography and physiology of South African Bushmen, 1 year, \$4,500.

University of Pennsylvania. Principal scientist, J. R. Preer, Jr., Department of Zoology. Genetic cytoplasmic factors in paramecium, 1 year, \$4,600.

Harvard University. Principal scientist, F. H. Westheimer, Department of Chemistry. Chemical models of enzyme systems, 15 months, \$6,000.

Yale University. Principal scientist, G. E. Hutchinson, Department of Zoology. Amino acids in lake waters, organisms and sediments, 1 year, \$1,000.

University of Maryland. Principal scientist, M. J. Pelczar, Department of Bacteriology. The microbiological degradation of lignin, 1 year, \$5,000.

Vanderbilt University. Principal scientist, F. R. Blood, Department of Biochemistry. Biochemistry and nutrition of the bat, 2 years, \$9,500.

Biological Abstracts, Inc. Emergency support of *Biological Abstracts*, 2 years, \$25,000.

Columbia University. Principal scientist, E. J. Simmons, Department of Slavic Languages. Translation of scientific papers from the Russian and compilation of a Russian-English scientific glossary, 1 year, \$40,000.

Smithsonian Institution. Program for foreign exchange of scientific, literary, and governmental reports, 6 months, \$6,000.

American Council of Learned Societies. Principal scientist, J. F. Wellemeier, Director, ACLS National Registration Program. For publication of the combined coding and classification systems used in its national registration

of the American Council of Learned Societies, 3 months, \$800.

American Mathematical Society. Principal scientist, E. G. Begle, Secretary. Survey to determine operating procedures to be followed in compilation and maintenance of a register of mathematicians, 3 months, \$650.

American Veterinary Medical Association. Principal scientist, J. G. Hardenbaugh, Executive Secretary. To establish a register of veterinarians, 3 months, \$2,600.

Federation of American Societies for Experimental Biology. Principal scientist, Milton O. Lee, Federation Secretary. To establish a register of experimental biologists, 1 year, \$11,400.

National Academy of Sciences. Principal scientist, Robert W. Webb, Executive Director, American Geological Institute. To establish a register of scientific and technical personnel in the earth sciences, 1 year, \$11,500.

Walter H. Hodge, Silver Spring, Md. For publication of results of basic research entitled "Flora of Dominica, B. W. I.," 1 year, \$1,700.

Studies in Science

Amherst College. Conference on physics research in colleges, \$4,200.

Columbia University. Symposium on the biochemical and physiological interrelationships of glutathione, \$8,200.

Duke University. Conference on cosmic rays, \$8,500.

Lowell Observatory. Colloquium of astronomers, \$5,000.

National Academy of Sciences. Support of Committee on Photobiology, \$10,000.

University of Rochester. Fourth Annual Conference on High Energy Nuclear Physics, \$3,000.

University of Wisconsin. Symposium on utilization of solar energy, \$6,000.

Attendance at International Meetings

Thirteenth International Congress of Pure and Applied Chemistry, \$1,000. Supported: M. L. Wolfrom, Department of Chemistry, Ohio State University, and J. T. Edsall, University Laboratory of Physical Chemistry, Harvard University.

Fourteenth International Congress of Zoology. \$1,100. Supported: R. L. Usinger, Department of Entomology and Parasitology, University of California, and G. W. Sinclair, Department of Geology and Geography, Ohio Wesleyan University.

Colloquium on Cosmic Rays, Commission on Cosmic Rays of the International Union of Pure and Applied Physics. \$560. Supported: G. T. Reynolds, Palmer Physical Laboratory, Princeton University.

Sixth International Congress for Microbiology. \$2,500. Supported: J. P. Fox, Department of Tropical Medicine and Public Health, Tulane University; S. E. Branham, National Microbiological Institute, National Institutes of Health; O. N. Allen, Department of Bacteriology, School of Agriculture, University of Wisconsin; R. Sager, Department of Biochemistry, Rockefeller Institute for Medical Research; and W. Szybalski, The Biological Laboratory, Long Island Biological Association.

On behalf of the **James Picker Foundation**, the National Research Council announces the continued availability of funds in support of radiological research. Applications are reviewed and funds are administered by the Committee on Radiology of the Council's Division of Medical Sciences. Final determination of awards is made by the Foundation upon recommendation of the Committee. The foundation has expressed

particular interest in the support of studies oriented toward the diagnostic aspects of radiology. Awards are not restricted to citizens of the United States.

Grants-in-aid are designed to encourage research offering promise of improvement in radiological methods and diagnosis or treatment of disease. *Applications for grants-in-aid for the fiscal year 1954-1955 must be submitted on or before 30 November 1953.*

Grants for scholars are a transitional form of support, designed to bridge the gap between the completion of fellowship training and the period when the young scientist has thoroughly demonstrated his competence as an independent investigator. A grant of \$6,000 per year will be made directly to the scholar's institution as a contribution toward his support, or his research, or both. Initial grants are limited to one year, but renewal may be recommended. *Applications for 1954-1955 should be submitted by the institution on behalf of the candidate prior to 31 December 1953.*

Fellowships in radiological research available under the program of the Foundation, have been announced separately. Further details and application blanks may be obtained from the Division of Medical Sciences, National Research Council, 2101 Constitution Avenue, N.W., Washington 25, D.C.

Meetings and Elections

The **American Dairy Science Association** has elected the following officers for the year 1953-54: pres., W. V. Price, University of Wisconsin; v. pres., L. A. Moore, Bureau of Dairy Industry, Washington, D. C.; sec.-treas., P. R. Ellsworth, Ohio State University.

The **Atlantic Estuarine Research Society** has elected the following officers for 1953-54: pres., James B. Engle, Chief, Chesapeake Shellfish Investigations, U.S. Fish and Wildlife Service, Annapolis, Md.; sec.-treas., David G. Cargo, Maryland Dept. of Research and Education, Solomons, Md.

The **Corn Belt Branch** of the **American Society of Agronomy** has elected the following officers for 1953-54: chairman, E. F. Frolik, University of Nebraska; sec.-treas., M. O. Pence, Purdue University.

Leading cardiologists, industrialists, and labor, insurance, and government representatives will participate in a conference devoted to the medical and socioeconomic problems of the cardiac person in American industry. The one-day meeting, called the **Heart-in-Industry Conference**, will be held Nov. 20 at the Hotel Statler in New York City. It is being sponsored by the N.Y. Heart Association. Norman Plummer, Medical Director of the N.Y. Telephone Co. and chairman of the Cardiovascular Diseases In Industry Committee of the New York Heart Association, has been appointed chairman of the Conference Steering Committee.

An **International Symposium on the Dynamics of Virus Infection** will be held at the Henry Ford Hospi-

tal, Detroit, on Oct. 21, 22, and 23. Moderators for the various sessions are: Thomas M. Rivers, The Hospital of the Rockefeller Institute for Medical Research; John G. Kidd, Cornell University Medical College; Albert E. Sabin, The Children's Hospital Research Foundation, Dept. of Pediatrics, University of Cincinnati; John Paul, Yale University School of Medicine; A. J. Rhodes, The Hospital for Sick Children, Toronto, Canada; and Gilbert Dalldorf, Division of Laboratories and Research, N.Y. State Dept. of Health, Albany.

In addition to specialists in virus research from all over the United States, the following distinguished visitors from abroad will participate: Alfred Gottschalk, The Walter and Eliza Hall Institute of Medical Research, Royal Melbourne Hospital, Melbourne, Australia; Preben von Magnus, State Serum Institute, Copenhagen, Denmark; F. C. Bawden, Rothamsted Experimental Station, Harpenden, Herts, England; J. Ralph Audy, Scrub Typhus Research Unit, Institute for Medical Research, Kuala Lumpur, Malaya; A. W. Downie, University of Liverpool, School of Hygiene, Liverpool, England; and F. O. MacCallum, Central Public Health Laboratory, London, England.

The **Kansas Academy of Sciences** has elected the following officers for 1953-54: pres., R. E. Mohler, Prof. of Biology, McPherson College; pres.-elect, A. C. Carpenter, Pres., Lesh Oil Co., Ottawa; v. pres., D. J. Rogerson, Asst. Prof. of Botany, Kansas State College, Manhattan; treas., Standlee Dalton, Registrar, Fort Hays Kansas State College, Hays. A. M. Guhl, Dept. of Zoology, Kansas State College, is representative to the AAAS Council.

The fourth annual **National Noise Abatement Symposium** is to be held Oct. 23-24 at the Armour Research Foundation of the Illinois Institute of Technology, Chicago. The symposium, designed to give a comprehensive picture of nation-wide activities in the field of noise, will feature talks by leading authorities on outdoor noise problems. One session will be devoted to the industrial noise hazard.

More than 300 scientists, engineers, doctors, architects, manufacturers, and civic authorities are expected to attend. Although the previous meetings have been one-day affairs, this year's symposium has a broader scope and will extend over a two-day period. Eleven speakers will fill out the agenda for the three sessions that have been scheduled.

A **symposium on population genetics**, under the auspices of the International Union of Biological Sciences, was held in Pavia, Italy, Aug. 20-22, with Professor A. Buzzati-Traverso as chairman. The contributed papers and discussions emphasized the effects of selection on the genetic structure of natural and artificial populations, as well as the mechanisms that help to integrate the genetic contents of a population into a co-adapted system.

Original papers were contributed by Scossiroli (Pavia), A. Robertson (Edinburgh), Wallace (Cold

Spring Harbor), Falconer (Edinburgh), and H. Lewis (Los Angeles). Among the leaders of the discussion were Buzzati, Dobzhansky, Lpling, and Haldane, as well as R. A. Fisher, Ford, Mather, Mayr, J. Clausen, Lerner, and others. Original papers and discussions of this symposium, which marks an important step in the development of new concepts in the field of population genetics, will be published shortly. Orders are to be placed with Professor Magni, Istituto di Genetica, Piazza Botta, Pavia, Italy.

The **University of Tennessee**, Knoxville, will observe the fortieth anniversary of its Department of Bacteriology with a symposium on Oct. 16. Speakers include C. E. Brehm, President of the University, Alexander Hollaender of the Oak Ridge National Laboratories, Frederick W. Fabian of Michigan State College, Francis B. Gordon of the Chemical Corps Biological Laboratories, Frederick C. Fink of Chas. Pfizer & Co., Inc., Oram C. Woolpert of the Ohio State University Research Foundation, and D. Frank Holtman of the University of Tennessee. All interested scientists are cordially invited to attend.

Miscellaneous

Two advisory committees to the U.S. **Atomic Energy Commission**, the Reactor Safeguard Committee and the Industrial Committee on Reactor Location Problems, have been combined to form a new group known as the **Advisory Committee on Reactor Safeguards**. The two committees were combined because the initial objectives of the Industrial Committee on Reactor Location Problems have been fulfilled, and the responsibilities of the committees were becoming closely associated. The new committee will have the following functions:

1. Reviewing hazards summary reports prepared by organizations planning to build or operate reactor facilities, including criticality experiments.
2. Advising the AEC regarding the consistency of proposed reactor locations with accepted industrial safety standards, taking into account the proposed exclusion areas for reactors and the proximity of surrounding population and property.

The following is a resolution recently adopted by the Council of the Institute of Mathematical Statistics regarding **Mina Rees**.

Dr. Mina Rees has resigned from her position as Chief of the Division of Mathematical Sciences of the Office of Naval Research, effective September, 1953, and assumes the position of the Dean of the Faculty at Hunter College, New York City. The Council of the Institute of Mathematical Statistics feels that her departure from the Office of Naval Research should not pass unmarked.

During the last war it became apparent that the state of science and technology of a country is a paramount factor in its survival. Hence, the end of World War II was followed by an epoch of peace-time Federal support of science, first through the activities of the Office of Naval Research, then through the activities of similar organizations in the two other armed services and, finally, through the birth and development of the National Science

Foundation. Thus, the Office of Naval Research did the pioneer work in Federal support of science.

Naturally, the armed services are most obviously interested in military research, hence in applied research. The Office of Naval Research has showed by example that it understood that, to be effective, applied research must be preceded by fundamental research. In order to have appropriate scientific personnel in case of war and in order to obtain without great delay the solutions of the various military-scientific problems arising from a war, it is necessary to train personnel in advance and to build a reservoir of new scientific results and new methods.

Under Dr. Rees' leadership the Division of Mathematical Sciences of the Office of Naval Research gave wholehearted support to basic research, in particular to basic research in mathematical statistics and probability. The whole action was conducted with remarkable foresight and wisdom. Basic research has always meant basic research, unhampered by possible demands that it be of immediate usefulness to the Navy. As a result, the long-range interests of the Navy and of the whole Nation were effectively served. The fruits of this activity have already been many and important and will continue to appear for many years to come.

The great demand for trained mathematical statisticians existed before and during the war, and still persists. As noted by the Committee of the National Research Council in the 1940's, there were at the time only a very few centers of instruction capable of training Ph.D.'s in mathematical statistics. Now the number of such centers has increased substantially. The Office of Naval Research basic research projects in these centers employ a great number of young men who thus obtain the training necessary for research and teaching.

The postwar development of mathematical statistics in the United States owes a great deal to the farsighted policy of the Office of Naval Research ably administered by Dr. Rees. Mathematical statistics owes Mina Rees a public "well done," and extends its best wishes to her successor at the Office of Naval Research.

Recent visitors at the National Bureau of Standards:

Sir David Brunt, who visited the National Bureau of Standards in his capacity as Chairman of the Research Council Electricity Authority. He is also Secretary of the Royal Society, London, England.

J. E. Fullard, Technical Officer, South African Bureau of Standards, Pretoria, South Africa.

Naonobu Shimomura, Chief Radio Engineer, Tokyo Shibaura Electric Company, Kawasaki, Japan.

M. L. Ghai, Assistant Director, National Physical Laboratory of India, New Delhi, India.

Koji Sato, Professor at Tokyo University, Tokyo, Japan.

R. Bouressa, Ministry of Health of the Province of Quebec, Montreal, Quebec.

Roberto Reyna, Civil Engineer, Panama City, Panama.

Antonio J. Sucre, Civil Engineer, Panama City, Panama.

Recent Deaths

Lawrence I. Barbier (47), electronics engineer, Takoma Park, Md., Aug. 16; **John H. Bateman** (61), professor of civil engineering, Baton Rouge, La., Aug. 23; **Wendell C. Bennett** (47), anthropologist and author, Martha's Vineyard, Mass., Sept. 6; **Frank G. Crandall, Jr.** (57), allergist, Los Angeles, Calif., Aug. 25; **Henry Ditenfass** (68), otolaryngologist, professor and author, Philadelphia, Pa., Aug. 25; **Kenneth H. Donaldson** (?), metallurgical engineer and professor, Cleveland, Ohio, Sept. 3; **Frank R. Ferlaine** (53), specialist in industrial medicine, Brooklyn, N.Y., Sept. 2; **Fred Gibson** (60), botanist, Superior, Ariz., Aug. 24; **Arthur K. Gilkey** (26), geologist, Mount Godwin Austen, Kashmir, Pakistan, Aug. 10; **Arthur M. Greene, Jr.** (81), Dean Emeritus of Princeton University's School of Engineering, Princeton, N.J., Sept. 2.

James G. Hardy (79), professor of mathematics, Portland, Ore., Sept. 5; **Samuel C. Harvey** (67), oncologist and professor, New Haven, Conn., Aug. 23; **Bradford K. Hawes III** (36), physicist, Bethesda, Md., Sept. 3; **Rudolph O. A. Hober** (79), physiologist, biological chemist and author, Philadelphia, Pa., Sept. 5; **Ernest E. Howard** (72), civil engineer and author, Kansas City, Mo., Aug. 19; **Elliott H. Hutchins** (73), surgeon and professor, Baltimore, Md., Aug. 24; **John C. Kaudy** (30), research chemist, Los Angeles, Calif., Sept. 1; **Stephen London** (67), internist and professor, New York, N.Y., Aug. 23; **Harris F. MacNeish**, professor of engineering mathematics, Miami, Fla., Aug. 28; **Richard O. Marsh** (70), civil engineer, explorer and author, Vero Beach, Fla., Sept. 4; **Henry E. Moskey** (61), veterinary medical director of the Food and Drug Administration, Arlington, Va., Aug. 24; **Emerson A. North** (73), psychiatrist and professor, Daytona Beach, Fla., Aug. 21.

John J. O'Neill (64), science editor and author, Freeport, L.I., N.Y., Aug. 30; **Roland G. Porter** (59), professor of electrical engineering, Beverly, Mass., Sept. 2; **Ludwig Prandtl** (78), aerodynamics expert, Göttingen, Germany, Aug. 19; **Lawrence Radford** (65), optical engineer, Washington, D.C., Aug. 19; **René Sand** (76), leader in international medical groups and author, Brussels, Belgium, Aug. 23; **Nathan Savitsky** (50), neuropsychiatrist, New York, N.Y., Sept. 4; **Eben T. Takamine** (63), president of Takamine Laboratory, Ridgewood, N.J., Aug. 28; **Lee M. Thurston** (58), U.S. Commissioner of Education, Washington, D.C., Sept. 4; **Alfred H. White** (80), professor emeritus of chemical engineering, Ann Arbor, Mich., Aug. 25; **William J. Withrow** (46), professor of chemistry, New York, N.Y., Sept. 4; **Frederick E. Wright** (75), geophysicist, Gananoque, Canada, Aug. 25.