lege of Agriculture at Cornell University. The part played by Bailey in the formulation of a bill and its enactment cannot be overemphasized.

Under Bailey the college grew rapidly. From an enrollment of 100 students in 1902, it grew to 1400 by 1913. The staff increased from 11 to about 100. By 1906 the functions of the college were established by the state as teaching, extension, and research. Bailey believed firmly in the freedom of research. He believed that extension work should reach children and women as well as the farmer. He created a department of home economics, now a large college at Cornell, and fostered nature study for children. Andrew D. White, the first president of Cornell, said in 1914, "When Mr. Roberts came a change began; that was the turning of the tide. Then came the prodigious success of Mr. Bailey."

Bailey's viewpoint on education was broad. In an address made in 1910, he discussed the "Place of agriculture in higher education." He referred to the fact that education in the past had not been related to the living and had been confined to the privileged classes. Then he stated:

> We have practically left the old definition of culture as the end-all and be-all. We are escaping our bonds. We are rising beyond the narrowness and poverty of old educational systems. . . . We shall not lose the old. If the old will no longer constitute the whole it will still contribute its part in the development of the race . . . and be absolutely more important than it has ever been in the past. . . . We really believe that an educated man is not determined by the particular route through which he has come, but by the perfectness to which he has developed in breadth of view, clear reasoning, good judgment, tolerance, high ideals, sensitiveness to art and nature and devotion to service.

Bailey was a prolific writer and was in great demand as a lecturer, not only in the United States, but in many foreign countries. He contributed countless articles to the press and to magazines. He edited and wrote many articles for the *Cyclopedia of American Horticulture,* four volumes; *Cyclopedia of American Agriculture,* four volumes; and *Standard Cyclopedia of Horticulture,* initially six volumes. Of all his publications, he was probably proudest of his book, *The Holy Earth,* which was recently reprinted. His writings ranged from verse to philosophic and social articles and to scientific treatises.

President Theodore Roosevelt, in 1908, appointed Bailey chairman of the Commission on Country Life, the result of which was a broad survey of agriculture in the United States; the report of this survey was written by Bailey.

After his retirement in 1913, Bailey resumed his botanical investigations. He had been interested in the great variability of plants of the genus *Rubus* (blackberries and raspberries), and throughout his career he had collected plants of this genus. He had maintained an extensive herbarium of natural and cultivated plants. Soon after his retirement, he gave Cornell University his herbarium, a valuable collection of botanical books, and the building in which they were housed. This is now known as the Bailey Hortorium and is a part of the College of Agriculture. It is devoted to the origin, evolution, and taxonomy of cultivated plants. Until a few years before his death, Bailey devoted his time to a study of palms, making arduous trips to the tropics for that purpose, and he became the world authority on this important group of plants. In addition, he published memoirs on *Rubus* and on various other genera of plants.

His leadership in the fields of horticulture, agriculture, and botany and his reputation as a philosopher and writer brought him honorary degrees from various universities, medals from horticultural societies of the United States and foreign countries, and membership in learned societies throughout the world. He was a fellow of the American Academy of Arts and Sciences and a member of the National Academy of Sciences and of the American Philosophical Society. He was president of the American Association for the Advancement of Science in 1926 and of the Botanical Society of America in 1928.

LEWIS KNUDSON

Department of Botany,
Cornell University, Ithaca, New York

News and Notes

Science News

Primary responsibility for the technical planning and preparation for this country's participation in the United Nations-sponsored **International Conference on the Peaceful Uses of Atomic Energy** has been assigned to the U.S. Atomic Energy Commission. Preliminary plans for U.S. participation in the conference, which is to take place in Geneva, 8–20 Aug. [*Science* **121,** 156 (4 Feb. 1955); **121,** 231 (18 Feb. 1955)] were announced on 23 Feb. At that time the commission named George L. Weil as technical director for U.S. participation. Weil, who wrote the article on "Hazards of nuclear power plants" that appears in this issue, pages 315–317 was formerly director of reactor development for the ACE; at present he is a consultant on atomic energy to the AEC as well as to private firms.

The AEC is assembling, through leading educational institutions, industrial establishments, and research centers, both Government and private, technical information in the fields appropriate to the agenda. The commission also is planning a technical exhibit in which more than 60 institutions and firms already have expressed an interest.

Invitations are being issued requesting that 500-word abstracts of the U.S. papers to be considered for the program be mailed *before 11 Mar.* to: Office for International Conference, U.S. Atomic Energy Commission, Washington 25, D.C. Abstracts of accepted papers must be submitted by the AEC to United Nations Secretary-General Dag Hammarskjold by 15 May; he must receive full texts before 1 July. Interested individuals should communicate with the administrative heads of their organizations for copies of the conference agenda and rules of procedure.

Homi J. Bhabha of India has been named president of the conference. Walter G. Whitman of Massachusetts Institute of Technology, who has been engaged as an officer of the U.N. Secretariat, has been assigned to serve as the meeting's secretary-general. Hammarskjold will appoint six vice presidents from nominees to be designated by Brazil, Canada, France, the U.S.S.R., Great Britain, and the United States. A U.N. internal working party to assist Hammarskjold on conference mattters includes Ralph Bunche, Gunnar Randers, and Ilya Tchernychev.

The conference is an outgrowth of President Eisenhower's atoms-for-peace proposal to the United Nations on 8 Dec. 1953, when he urged that the atomic resources of the world be mobilized to apply the benefits of atomic energy to the cause of peace. The program will include discussion of reactor technology; atomic power; radiation protection; applications of atomic energy to biology, medicine, and agriculture; and the industrial uses of radioisotopes.

Each participating country may be represented by no more than five persons, but these representatives may be accompanied by as many advisers as are necessary to insure adequate presentation and discussion of technical papers. A set of rules has been drafted that is intended to keep political issues out of the discussion.

On 7 Feb. during the hearings being conducted by the Joint Congressional Committee on Atomic Energy on the state of the United States **atomic energy industry,** Walker L. Cisler, president of the Detroit Edison Co., said that prices offered by the Government for atomic materials were "about half" of what he expected them to be and provided no incentive to private industry to construct commercial atomic power plants. He stated that private industry "could not carry out accomplishment of a breeder reactor without government help."

James G. Beckerly, former director of classification for the AEC, observed that existing secrecy rules were hampering the industrial development of atomic energy and have not deterred the "nuclear arming" of Russia.

This testimony indicates why progress in the peacetime development of nuclear energy has not been more rapid, although more than a year has passed since President Eisenhower's statement to the United Nations on this country's desire to facilitate the use of atomic energy for the good of mankind. However, recent events offer some encouragement in this area. On 10 Feb. the Consolidated Edison Co. of New York announced that it is planning to build what will probably be the first atomic power plant in the United States financed entirely by private capital, and on 12 Feb. the AEC made public an agreement to sell the Government of India 10 tons of heavy water, one of the most efficient materials available for moderating nuclear reactions under controlled conditions.

This latter move is particularly timely in the light of a statement by Sen. John W. Bricker (R., Ohio), who headed a Congressional subcommittee that has just completed a 5-wk tour of 11 nations in Europe and the Far East. He said that much of the goodwill won for the United States by the President's UN speech in Dec. 1953 would be lost unless this country came forward immediately with "some concrete and formal way of demonstrating its willingness to get on with atomic cooperation."

Britain has committed herself to a 10-yr program for building **12 nuclear power stations.** In a White Paper introduced in Parliament on 10 Feb., a plan that can be varied as necessary describes an initial capacity of 1.4 to 2 million kilowatts; Britain's present capacity is a little more than 20 million kilowatts. The price, 0.7 ct/kw hr, will be slightly higher than the current cost of coal-generated power; however, since Britain is having to import more and more coal, the price of coal-generated power is expected to rise.

The cost of the new program will be £300 million, or $840 million, but this will be offset by reduction and, perhaps, cessation in the construction of conventional generating stations. In discussing the project, Geoffrey Lloyd, Minister of Fuel and Power, said: "This is a historic day for Britain. I know of no other nation that has yet launched a nuclear power program on this scale."

The **bubble chamber,** a new device that combines the experimental possibilities of the Wilson cloud chamber with the high-mass density available in photographic emulsion techniques, was described at the recent meeting of the American Physical Society in New York. The feasibility of using the bubble formation in a liquid to make the path of ionizing particles visible was first demonstrated by D. A. Glaser of the University of Michigan, and the instrument was further developed by experimentalists at the University of Chicago and at the Radiation Laboratory in Berkeley. At present the device is being used in several laboratories to study high-energy nuclear events.

The bubble chamber makes use of the unstable system of a superheated liquid—that is, liquid hydrogen at a temperature above its boiling point. As soon as ionizing radiation enters the system, gas bubbles are formed and the liquid starts to boil almost immediately. If, however, a picture of the bubble formation is taken a few microseconds after the ionizing event takes place, then the bubbles formed along the path of the ionizing radiation give rise to a visible track.

The high density of the liquid, the almost complete absence of undesired tracks owing to the shortness of the time interval during which the chamber is sensitive to ionizing radiation, and the possibility of taking pictures in rapid sequence make the bubble chamber an extremely versatile instrument for the study of high-energy events.

At a New York Academy of Medicine conference on 10 Feb. [*Science* **121**, 284 (25 Feb. 1955)] Albert Szent-Györgi, director of the Institute for Muscle Research at Woods Hole, reported the isolation of a **flavonoidlike chemical in the thymus,** one of the least understood glands in the body and one that has heretofore been considered rather unimportant. In human beings it is located high in the chest. It continues to develop until the second year of life, remains stationary until about the 14th year, then undergoes a fatty metamorphosis and atrophy.

During his presentation Szent-Györgi exhibited a small vial of the new substance, which he had extracted from more than 15 kg of calf thymus, saying

> This little tube contains 1½ g of an intensely yellow substance which I extracted from animal tissues, from the thymus gland, in which it is present in amazingly high quantity of the order of 0.1 mg/g of fresh tissue and is present in the gland in a colorless form as part of a complex.

He explained that this existence in the gland in colorless form is the reason the material has eluded detection.

Voks, the bulletin of the U.S.S.R. Society for Cultural Relations with Foreign Countries, reports that the U.S.S.R. has established two **weather stations,** North Pole-3 and North Pole-4, **on drifting ice floes** in the central arctic. Describing life on the ice floes, the article states that there are two types of dwellings, prefabricated cottages on skids and tents. The tents "are made of many layers of fabrics stitched together with warm interlinings" and capable of providing warmth even when the temperature outside drops to −40°F. "The stations have helicopters, tractors, and cross-country motorcars at their disposal," as well as "gas heating, electric light, radio, and even telephone communications." Communication with the islands' personnel, "outstanding scientists and experienced polar explorers who have spent more than one winter in the arctic," is maintained by radio and aircraft.

Twelve scientists have accepted assignments to serve on the new **Human Embryology and Development Study Section** announced recently by the Division of Research Grants of the National Institutes of Health, Bethesda, Md. Louis M. Hellman of the State University of New York, New York, N.Y., has been named chairman, and the members are Josef Warkany, Children's Hospital, Cincinnati, Ohio; Warren O. Nelson, University of Iowa; Edith L. Potter, Chicago Lying-In Hospital; Howard C. Taylor, Jr., College of Physicians and Surgeons, New York; Harry H. Gordon, Sinai Hospital, Baltimore; Louis B. Flexner, University of Pennsylvania; Donald H. Barron, Yale University; Louis K. Diamond, Children's Hospital, Boston; Duncan Earl Reid, Boston Lying-In Hospital; Katherine Bain, Children's Bureau, Public Health Service; and William F. Windle, National Institute of Neurological Diseases and Blindness, NIH. Elsa Orent Keiles, Division of Research Grants, NIH, is executive secretary.

This study section will be concerned with human reproduction and early development, a field that has remained largely neglected. During the past few years, however, there has been a progressive awakening of interest in such problems as infertility, pregnancy and labor, congenital malformations, and the newborn, especially the premature.

The spectacular reduction in maternal and infant mortality related to infectious diseases is perhaps the most important factor responsible for this increased interest. Other factors have been the appearance of a number of promising research leads that have established a definite relationship between disease of the pregnant woman and congenital anomalies in the offspring; the recent developments in retrolental fibroplasia; and the growing trend toward appointment of full-time faculties in obstetrics and pediatrics.

The American Council on Education has proposed a **tax credit plan** to aid students in institutions of higher learning as an antidote to the serious manpower shortages that exist in professions and vocations for which a college education is essential. These shortages are defined in a comprehensive study recently completed by Dael Wolfle for the Commission on Human Resources and Advanced Training. His investigations show that of the students in the upper two-fifths of high-school graduating classes—a group of approximately 342,000 per year—only 51 percent enroll in college. There is evidence that of the remaining 49 percent, half are probably prohibited from continuing their education by lack of funds. In addition to reporting in detail on the areas in which the supply of college graduates is insufficient to meet immediate needs, Wolfle notes that as the population increases the demand for professional workers increases at double the rate.

If substantial tax relief were given for student fees paid to tax-exempt public and private educational institutions, parents in the $8,000 to $12,000 a year bracket, who now require partial scholarships to keep their children in college would be able to forego these scholarship funds, thus making them available for those children coming from homes of lesser financial ability. Some institutions, without curtailing the support given to superior students from low-income homes, could conserve some of the operational funds now used for scholarships and make them available for faculty salaries and maintenance of plants, thus improving the quality of instruction.

The plan proposed, which has been studied, in several different forms, by numerous educational groups for more than a year, is based on a formula suggested

by the Resolutions Committee of the Taxation Section of the American Bar Association at its 1954 convention. Briefly, the plan provides that 30 percent of student tuition and fees actually paid by the taxpayer be applied as a tax credit on the amount of income taxes otherwise payable. This means that all taxpayers who pay a given amount of tuition and fees would receive the same tax benefit in dollars, regardless of their income tax bracket.

There is now general agreement among those who have been involved in the study that this tax credit method is much superior to the previously suggested plan of making the cost of tuition and fees deductible from income. The tangible advantage to those in low-income brackets is evident.

The plan that is being proposed is supported in principle by the Association of State Universities, the Association of American Colleges, the American Alumni Council, and other educational groups; and it has been specifically endorsed in detail by three committees of the American Council on Education, which represents the entire range of public and private, low-tuition and high-tuition institutions existent in this country.

Scientists in the News

The Albert Einstein College of Medicine of Yeshiva University has announced the following appointments: department of anatomy, **Ernst Scharrer,** professor and chairman, and **Berta Scharrer,** professor; department of biochemistry, **Abraham White,** professor and chairman; department of medicine, **Irving London,** professor and chairman; department of pathology, **Alfred A. Angrist,** professor and chairman; department of pediatrics, **Henry L. Barnett,** professor and chairman; department of physiology, **Henry D. Lauson,** professor and chairman; department of preventive and environmental medicine, **Marcus D. Kogel,** dean, professor, and chairman, and **Henry B. Makover,** professor; department of pharmacology, **Alfred Gilman,** professor and chairman; department of psychiatry, **Milton Rosenbaum,** professor and chairman, and **John Frosch,** professor and executive officer; department of radiology, **Milton Elkin,** professor and chairman; department of surgery, **Leo M. Davidoff,** professor and chairman, and **Charles B. Ripstein,** professor and executive officer.

Marcus E. Hobbs, chairman of the Duke University department of chemistry since 1951, has been named dean of the Graduate School of Arts and Sciences, a post formerly held **by Charles S. Sydnor,** who died last March. New chairman of the chemistry department is **John H. Saylor,** who previously served as executive officer of the department and director of undergraduate studies.

The 1955 annual Hermann M. Biggs memorial lecture of the New York Academy of Medicine, on the "Medical aspects of alcoholism and drug addiction," was delivered jointly on 3 Feb. by **Giorgio Lolli,** director of the Silkworth Memorial Service, Knickerbocker Hospital, who spoke on alcoholism, and **Harris Isbell,** director of the Addiction Research Center, U.S. Public Health Service Hospital, Lexington, Ky., who dealt with drug addiction.

Thomas H. Ham, blood specialist and professor of medicine and chairman of the Committee on Medical Education at Western Reserve University, has been appointed to the National Advisory Health Council of the Public Health Service, U.S. Department of Health, Education, and Welfare.

F. Peyton Rous, pathologist and member emeritus of the Rockefeller Institute for Medical Research, delivered the annual Jean Redman Oliver lecture at the State University of New York College of Medicine in Brooklyn on 24 Feb. His subject was "Cancer causation as viewed today."

Duncan S. Ballantine has been appointed president of Robert College and the American College for Girls, both of which are divisions of Istanbul American College, Istanbul, Turkey. Ballantine was president of Reed College from 1952 until last fall; previously he was on the faculty of Massachusetts Institute of Technology.

Robert College is the oldest American college abroad, having been founded in 1863. The American College for Girls was opened as a secondary school in 1871. Although they are chartered as separate corporations in the United States, the colleges were united in 1932 under a joint administration to form one institution. Ballantine's appointment is subject to the approval of the Turkish Government.

Ephraim Shorr, professor of internal medicine at Cornell Medical School, New York, and director of the Special Metabolic Service of New York Hospital, will give the annual Meyer Bodansky lecture at the University of Texas Medical Branch, Galveston, on 21 Mar. on the subject of endocrine factors in relation to electrolyte and water balance.

Roy P. Pennington, who was born and educated in Canada, has returned to that country after serving from 1949 to 1955 in the agronomy department at Pennsylvania State University. He has assumed management of the American Potash Institute's Canadian office in Hamilton, Ont., following the retirement of **E. K. Hampson,** Canadian manager since the institute was formed in 1935.

Albert S. Richardson, for 33 yr a research chemist for the Procter and Gamble Co., Cincinnati, has retired. He received his A.B. degree in 1913 and his M.A. degree in 1915 from Princeton University and continued there until 1920 as an instructor in chemistry, with an interlude of 2 yr with the Army Chemical Warfare Service. In 1920 he joined the Du Pont Co. as a research chemist, and in 1921 he moved to Procter and Gamble. He returned to Princeton for several

months in 1927 and received his Ph.D. degree under Hugh S. Taylor. At Procter and Gamble he was largely responsible for the growth and development of the research department. Richardson's work has long been concerned with industrial catalytic hydrogenation and the chemistry and physical chemistry of long-chain organic compounds such as fats, oils, soaps, and synthetic detergents.

His American Chemical Society activities include many years of service on the advisory boards of *Industrial and Engineering Chemistry, Chemical and Engineering News,* and the American Chemical Society News Service. He is a past chairman and trustee of the Cincinnati section, and in 1951 the section chose him to receive the second annual Eminent Chemist award. Richardson has also been active in the affairs of the American Oil Chemists' Society, having served as president in 1931 and as a member of the governing board, the referee board, the editorial advisory board, and the Smalley Foundation Committee.

Joel T. Boone, vice admiral, MC, USN, retired, has resigned as chief medical director of the Veterans Administration. He is succeeded by **William S. Middleton,** a physician who has been associated with VA in a consultive capacity for more than 30 yr.

William C. Hoida, who has been a member of the *Biological Abstracts* staff since March 1954, has been appointed assistant editor by the board of trustees.

William A. Hickey, Capt., USN (Ret.), has been appointed dean of the Engineering College of Detroit Institute of Technology. A naval engineering and administrative officer for 31 yr prior to his retirement early in February, Hickey's most recent post was supervising inspector of naval materiel, Central District, with headquarters in Chicago. He succeeds **Clarence C. Winn,** who has become dean emeritus after holding his office for 31 yr.

Carl S. Marvel, professor of chemistry at the University of Illinois, under whose leadership more than 125 new kinds of synthetic rubber have been compounded, will be honored in Chicago with the gold medal of the American Institute of Chemists, which will be presented during the institute's 32nd annual meeting, 11–13 May. He is being cited for "noteworthy and outstanding service to chemists through his teaching for many years and because of his noteworthy research in the field of organic chemistry."

Jacob Cholak, associate professor of industrial health at the University of Cincinnati, has been named eminent chemist for 1955 by the Cincinnati section of the American Chemical Society.

At the annual meeting of the Academy of Natural Sciences of Philadelphia on 15 Feb., **Charles M. B. Cadwalader** announced his retirement, marking the end of 30 yr of active, official voluntary service to the academy. He had continued on the board of trustees after relinquishing the presidency at the close of 1950. His service began when he answered a request by the board to direct his talents toward increasing membership, and from then until he resigned as president, he devoted all of his time to the institution and, in addition, contributed substantially to its financial support.

In 1928 Cadwalader was elected managing director and in 1937 president, combining the duties of both offices until 1947, when H. Radclyffe Roberts became director. In 1934 Cadwalader received the Philadelphia award, founded by Edward Bok, and contributed the $10,000 accompanying the honor to the academy. He was educated at William Penn Charter, Philadelphia, and St. Paul's School, Concord, N.H. In recognition of his work in the academy, the University of Pennsylvania in 1937 gave him the degree of master of science.

The following appointments to assistant professor have been announced. Baylor University: **William L. Flannery,** microbiology. Loyola University: **Boris E. N. Spiroff,** biological science. Xavier University: **John Tafuri,** biology. Johns Hopkins Medical School: **Gertrude D. Maengwyn-Davies,** ophthalmology. University of Tennessee: **Gene M. Lasater,** neurology and psychiatry.

Meetings

The program for the **Southern Regional Conference on Premedical and Predental Education** that will take place in Birmingham, Ala., 18–19 Mar., includes round-table discussions that are expected to afford an excellent opportunity for medical, dental, and preprofessional educators to question and evaluate the findings and recommendations of the Severinghaus Committee and consider how these can be used to improve the program of preprofessional education in liberal arts colleges. Interested persons are cordially invited to attend. For information write to the sponsor of the meeting, Alpha Epsilon Delta, 7 Brookside Circle, Bronxville, 8, N.Y.

The **Centennial Symposium on General Education,** sponsored by the Basic College of Michigan State College, will take place in the Kellogg Center, East Lansing, 25–27 Apr. National figures in general education, business, law, medicine, and engineering will participate in the meetings, which commemorate the college's 100th year. Among those to be heard on the program are Clarence H. Faust, president of the Fund for the Advancement of Education; Clement L. Henshaw, professor of physics, Colgate University; Paul B. Diederich, member of the research department, Educational Testing Service, Princeton, N.J.; Wilbur S. Howell, editor of the *Quarterly Journal of Speech*; Ralph W. Tyler, director of the Center for Advanced Study in the Behavioral Sciences, Stanford, Calif.; Ernest E. Irons, former president of the American Medical Association and of the Medical Institute, Chicago; Gerald Holton, associate professor of phys-

ics and general education, Harvard University; A. L. Vaughan, assistant dean of the General College, University of Minnesota; Thomas S. Hall, dean of the College of Liberal Arts, Washington University; W. C. Van Deventer, head of the department of biology, Western Michigan College of Education; Clark W. Horton, consultant in educational research, Dartmouth College; and William Hered, examiner in physical science at the University of Chicago and assistant professor of chemistry, Indiana University.

The **Australian and New Zealand Association for the Advancement of Science** will hold its 31st meeting in Melbourne, 17–24 Aug. Visitors from overseas are cordially invited to attend. For information write to the Honorary General Secretary, Science House, 157–161 Gloucester St., Sydney.

The National Science Foundation will provide travel support for a limited number of American Engineers who wish to attend the 6th plenary meeting of the **International Association for Hydraulic Research,** to be held 29 Aug.–2 Sept. at Delft, Netherlands. Application forms may be obtained from the Division of Mathematical, Physical and Engineering Sciences, National Science Foundation, Washington 25, D.C. *Applications must be received by 1 May* in order to be considered.

The 8th annual **Technical Conference on Electrical Techniques in Medicine and Biology** will be held in November. The conference is jointly sponsored by the American Institute of Electrical Engineers, the Institute of Radio Engineers, and the Instrument Society of America. Tentative plans call for holding the conference in Washington, D.C.

The conference serves as a meeting place for physiologists, biologists, cardiologists, radiologists, physicians, physicists, and electronic, electrical and instrument engineers. A large portion of the registration is drawn from the research groups in universities and industries. Authors are invited to submit titles of papers for consideration by the program committee to E. Dale Trout, Conference Chairman, 4855 Electric Ave., Milwaukee 1, Wis.

The **Society of Technical Writers,** a professional organization of men and women in the field of technical publications, is completing arrangements for a national constitutional meeting on 19 Mar. at Hartford, Conn. The membership of the society includes technical writers, editors, and educators employed in various types of industry and in government agencies or, as college faculty members, in the training of technical writers. There are more than 300 members in 23 states, the District of Columbia, and England.

The society was founded in Boston late in 1953 [*Science* **120,** 481 (24 Sept. 1954)] by a group of technical writers and editors engaged in engineering and educational projects who recognized that a professional organization could serve many interests of technical writers. Inquiries concerning membership requirements and formation of chapters have been received by the secretary in recent months from nearly every state and from Hawaii, the Virgin Islands, Canada, England, Netherlands, Switzerland, Venezuela, Italy, Sweden, New Zealand, and India.

The society proposes to establish standards of technical writing, to stimulate the exchange of information of interest in this and allied fields, to encourage competent writers to enter the field, and to encourage the training of technical writers. Committees have begun to work toward these goals. One is considering the desirability of a joint military specification for handbook preparation. Another is preparing a proposal of requirements for technical writing courses on the college level.

The official publication of the society is a quarterly, *Technical Writing Review.* Officers of STW are Paul H. Flint of Tufts College, president; Ronald D. Eames of Raytheon Manufacturing Co., Waltham, Mass., vice president; Ralph W. Fullerton of Kenneth A. Young Associates, Boston, treasurer; and Hyman Kana of National Co., Malden, Mass., secretary.

An **International Symposium on Electromagnetic Wave Theory** sponsored by Commission VI of the International Scientific Radio Union (URSI) and the University of Michigan will be held 20–25 June at the University of Michigan. The work of the symposium will be separated into the following major topics: (i) propagation in doubly refracting media in wave guides (for example, ferrites); (ii) boundary value problems of diffraction and scattering theory; (iii) work in antenna theory of fundamental importance; (iv) forward scattering; (v) multiple scattering of light by colloidal particles.

The program will consist of invited and contributed papers. Those who wish to present papers at the meeting should submit abstracts of not more than 200 words *by 31 Mar.* to K. M. Siegel, Chairman, Symposium on Electromagnetic Wave Theory, Willow Run Research Center, University of Michigan, Ypsilanti, Mich.

Further information on the symposium—registration, housing, program and so forth—may be obtained from J. W. Crispin, Jr., at the same address. Registration and room reservations will be allotted in order of receipt.

The annual meeting of the **Colloquium of College Physicists** will occur at the State University of Iowa, 15–18 June. In addition to a number of invited lectures and reports, the two following items are to be emphasized: special lectures by Bruno Rossi of Massachusetts Institute of Technology on "Recent advances in cosmic ray research," accompanied by research reports from two universities; and the annual exhibit of new devices by members of the colloquium, including a special demonstration in supersonics.

Participating physicists will represent 75 colleges in more than 40 states. Housing will be arranged. For information, write G. W. Stewart, Dept. of Physics, State University of Iowa, Iowa City.

Society Elections

Explorers' Club: pres., Serge A. Korff, New York University; 1st v. pres., William Morden, Chappaqua, N.Y.; 2nd v. pres., A. Robert Leas, Washington, D.C.; 3rd v. pres., Chief of Clan Fhearghuis of Sta-chur, Scotland; sec., Charles Hitchcock, New York, N.Y.; treas., James Allis, Upper Montclair, N.J.

Washington Academy of Sciences: pres., Margaret Pittman, National Institutes of Health, Bethesda, Md.; pres. elect, Ralph E. Gibson, Applied Physics Laboratory, Johns Hopkins University, Silver Spring, Md.; sec., Heinz Specht, National Institutes of Health, Bethesda, Md.; treas., Howard S. Rappleye, U.S. Coast and Geodetic Survey (Ret.).

Society of Vertebrate Paleontology: pres., Robert W. Wilson, University of Kansas; sec.-treas., Joseph T. Gregory, Yale University.

Gerontological Society, Inc.: pres., Ollie A. Randall, New York, N.Y.; pres. elect, William B. Kountz, St. Louis, Mo.; sec., N. W. Shock, Baltimore, Md.; treas., J. E. Kirk, St. Louis, Mo.

Torrey Botanical Club: pres., Elva Lawton; 1st v. pres., Ralph H. Wetmore; 2nd v. pres., Edwin T. Moul; corresponding sec., Eleanor R. Witkus; recording sec., Donald P. Rogers; editor, Charles A. Berger; treas., Gily Bard. Representatives to AAAS council are Murray F. Buell, and Lindsay Olive.

Oklahoma Academy of Science: pres., Ralph E. Olson, University of Oklahoma; v. pres., A. M. Stebler, Oklahoma A. & M. College; sec.-treas., D. E. Howell, Oklahoma A. & M. College; asst. sec.-treas., Philip E. Smith, University of Oklahoma; permanent sec., A. C. Weese, University of Oklahoma.

New York Academy of Medicine: pres., Edward J. Donovan; vice presidents, J. Burns Amberson and Robert L. Levy; sec., Frederick H. Wilkie; trustees, Orrin S. Wightman and William F. MacFee.

Education

St. John's University, Brooklyn, has opened its laboratories and lecture halls to industrial scientists, scientific research workers, and laboratory technicians so that they may study on the graduate level in specialized fields of science while still pursuing careers in industry. The program was established with the opening of the spring semester.

Erection of the second major unit of the Medical Sciences Building at the **University of California Medical Center,** San Francisco, will begin this spring. Completion of the $5.6-million unit in 1958 will permit unification of the school's basic science and clinical departments for the first time since the San Francisco fire and earthquake of 1906. At present anatomy, physiology, and physiological chemistry are taught on the Berkeley campus. Space is available for only 76 students in these first-year medical courses; when the classes are transferred to the San Francisco campus, space will be available for a first-year class of 100. First step toward construction of the new unit will be the demolition of the Dental-Pharmacy Building, which was completed in 1898.

A grant of $50,000 from the **General Electric Educational and Charitable Fund** to aid in a fundamental revision of undergraduate electrical engineering education at Massachusetts Institute of Technology has been announced. The grant will aid Gordon S. Brown, head of the department of electrical engineering, in the development of new instructional methods, materials, and techniques based on new concepts of teaching electrical engineering.

A new 5-yr program of study combining work in liberal arts and engineering will be offered at the **University of Delaware** in 1955. It will lead to a B.A. degree in liberal arts and a degree in one of four branches of engineering.

At the end of November **Louisiana State University School of Medicine** held a special ceremony to celebrate the opening of the school's $3.5-million addition. Begun in 1952, the new eight-story medical wing is the first addition to the 24-yr-old school.

In January a ceremony took place for the laying of the foundation stone for the **Agricultural College,** Himayatsagar, near Hyderabad, India.

At the annual meeting of the American Physical Society, Keith R. Symon, formerly with Wayne University and now at the University of Wisconsin, described the design principle of a **new cosmotron** that the Midwestern Universities Research Association hopes to build in the Midwest. Symon conceived the original idea for a fixed-field, alternating-gradient (FFAG) accelerator at a summer-long conference at Wisconsin last year when MURA scientists representing Wisconsin and seven other schools—the universities of Illinois, Iowa, Michigan and Minnesota, Purdue University, Indiana University, and Iowa State College—considered plans for a cooperative research laboratory. Since then they have been working intensively to develop the idea.

The new design is fundamentally simpler, and is expected to present fewer operating difficulties, than present-day cosmotrons. The original designs, however, showed that the new machines would be about 3 times larger than comparable present-day machines, and MURA scientists are now working on ways to reduce the over-all size. The proposed cosmotron would accelerate particles to energies of 20×10^6 to 30×10^6 Mev and would generate many more high-speed particles per unit of time than old-style machines. Existing cosmotrons—and those under construction at the Brookhaven National Laboratory, Long Island, and in Geneva, Switzerland—provide a burst of high-

energy particles every 5 sec. The FFAG accelerator will be able to produce as many as 100 bursts/sec.

Symon's design also makes use of a fixed magnetic field, and no synchronization is necessary; further a simple, direct-current power supply is possible, which obviates the need for the huge flywheel now used. In addition, the fixed field eliminates the complications brought about by eddy currents and remanent fields when the magnetic field strength is varied. The design also permits shimming the iron magnets wherever an imperfection in field has occurred. It is hoped that construction can begin in 1956, although the site and method of financing have yet to be determined. An estimated 5 yr will be required to build the device, and the cost will probably be approximately $25 million.

Available Fellowships and Awards

The Reserve Mining Co. has made funds available to the University of Minnesota for the support of a fellowship in economic **geology and petrography.** The recipient will be expected to work on a Ph.D. thesis problem under the supervision of the Minnesota Geological Survey, a department of the university.

The fellowship is offered on a yearly basis, and reasonable field expenses will be provided by the survey. The recipient must be well trained for research in mineralogy and petrography and have at least the equivalent of the master's degree in graduate work. The stipend for 12 mo beginning 15 June or 1 July will be $3500. The fellowship probably will be renewable for an additional year. Applications for 1955–56 should be filed immediately. For further information write to the Chairman, Dept. of Geology, University of Minnesota, Minneapolis 14.

To combat a shortage of well-trained research workers in the field of veterinary medicine, Lederle Laboratories Division, American Cyanamid Co., has announced the creation of a $1000 **Lederle veterinary medical student research scholarship** for each accredited veterinary college. The scholarships, which become available on 1 July, will be turned over to the dean of each veterinary college for administration and selection of a student. It is hoped that the fund will encourage senior veterinary students to enter research, and that it will stimulate more students to act as assistants to trained research workers, thus relieving the shortage of trained workers.

A 3-yr **scholarship in dermatology and syphilology** has been announced by the New York University Post-Graduate Medical School, a unit of New York University–Bellevue Medical Center. The scholarship, which pays $3000 per year in addition to tuition, is open to graduates of approved medical schools who have completed 1 yr of internship. Recipients will be selected on the basis of academic background and character. Experience in one of the basic sciences is considered desirable but not essential.

Applicants should include a transcript and other pertinent data from the medical school from which they graduated, a letter of recommendation from the dean, and one from the individual responsible for their internship. At least one other letter of recommendation is required. *No applications will be accepted after 31 May* for the class beginning the following 1 Oct. Applications should be sent to the Dean of the Post-Graduate Medical School, 550 First Ave., New York 16.

The Graduate Institute for Applied Mathematics was founded at Indiana University in 1950, and in 1954 it was strengthened and transferred to the graduate school under its present title, the **Graduate Institute for Mathematics and Mechanics.** This unit, which works in close cooperation with the department of mathematics, is concerned with both pre- and postdoctoral study; for postdoctoral students it offers an opportunity to conduct research with a minimum of formal requirements. Research assistantships are available for outstanding graduate students who have completed at least 1 yr of postgraduate study. Inquiries should be addressed to the director of the institute, T. Y. Thomas, Indiana University, Bloomington.

In the Laboratories

The trend toward greater **capital spending by America's chemical industry** was reversed in 1954 for the first time since 1949, according to a survey by G. P. Neidig of White Weld and Co., New York, in the 10 Jan. issue of *Chemical and Engineering News.*

With the announcement of plans for the construction of a new research and administration center in Corning, the **Corning Glass Works** has undertaken the largest single building project in its 103-yr history. The project includes a three-story research laboratory, a one-story building housing laboratory and development shops, and a nine-story office building. Nearly 250,000 ft^2 of floor space will be added to laboratory and office facilities. The buildings will be ready for occupancy approximately 18 mo after ground is broken.

The new facilities will more than double the present amount of space devoted to research. A year ago the company spent $5,220,558 for research and development, a sum amounting to 3.5 percent of its sales and almost double the rate for all United States industries.

Foster D. Snell, Inc., New York chemical and engineering consultants, have announced the purchase of the **Crippen and Erlich Laboratories, Inc.,** of Baltimore, Md. Raymond C. Crippen founded this laboratory in 1949 after spending several years first as a graduate assistant in chemical engineering at Johns Hopkins University and later as director of research for Penniman and Browne, Inc., of Baltimore. The original laboratory was expanded early in 1954. Under the new ownership Crippen will continue as

secretary-treasurer of the corporation and director of the laboratory, which will operate for the present as a wholly owned subsidiary of Foster D. Snell, Inc. The other officers of the new subsidiary will be Foster Dee Snell, president, and Chester A. Snell, vice president.

The Baltimore subsidiary includes laboratories for analysis, instruments, paint and varnish, fuel and oil testing, and metal analysis and corrosion testing in addition to a small machine shop and pilot plant. The Snell organization works in such fields as insecticides and disinfectants, rubber products and plastics, soap and other detergents, abrasives and polishes as well as market research. Snell also has vitamin and toxicology laboratories at Bainbridge, N.Y., in its Supplee Division.

Frank Adair of the Memorial Cancer Center of New York and former president of the American Cancer Society paid tribute, as guest speaker, to the scientists of the **Waldemar Medical Research Foundation, Inc.,** Norman Molomut, David M. Spain, and L. J. Warshaw, at a recent dinner commemorating the first anniversary of the establishment of their cancer research laboratory in Port Washington, N.Y.

The name of the Atomic Energy Commission's test installation, the Nevada Proving Ground that is 63 mi northwest of Las Vegas, Nev., has been changed to **Nevada Test Site.**

Miscellaneous

The lead article in the March issue of **The Scientific Monthly** is "The oldest tetrapods and their forerunners" by Erik Jarvik. Other articles in this issue include "Sherlock Holmes as an anthropologist," Wilton M. Krogman; "Latent-image formation and chemical sensitization," W. F. Berg; "Identification and guidance of gifted children," Antonia B. Morgan; "New ideas in chemistry," the late John Lennard-Jones; and "The language of science," Charles E. Whitmore.

Among the AAAS activities described are an announcement of the forthcoming International Arid Lands meeting in New Mexico and reports on the recent AAAS Berkeley meeting. Included in this issue are letters from Jay A. Young, Adolf Grünbaum, Richard T. Vineski, Alexander Gode, J. M. Martinez, Jerome Richfield, and Bayard and Evelyn McConnaughey. There are also reviews of 14 books.

The National Foundation for Infantile Paraylsis Division of Professional Education, Medical Department, has announced the availability of vol. 8, No. 12 (Dec. 1954) of ***Poliomyelitis Current Literature,*** a periodic annotated list.

In February the Technical Assistance Program of the United Nations Educational, Scientific and Cultural Organization, United Nations, N.Y., announced **science and engineering vacancies** in Brazil, Egypt, India, Indonesia, Israel, Pakistan, Turkey, and Uruguay.

The Committee on the **Albert F. Blakeslee Memorial Fund,** Smith College, Northampton, Mass., has issued an appeal for contributions in the hope that sufficient money can be obtained to endow a lectureship. Checks should be made payable to Smith College, A. F. Blakeslee Fund. Contributions are deductible for income tax purposes.

A comprehensive 35- by 44-in. wall chart showing more than 120 organic **syntheses based on orthonitrochlorobenzene** is available from the organic chemicals division of the Monsanto Chemical Co., St. Louis, Mo.

Vacancies for statisticians exist in the Bureau of the Census, Suitland, Md., 1 mi from Washington, D.C. Appointments are temporary and salaries range from $4205 to $5940 a year. The positions are in connection with the census of manufacturing, mineral industries, and business. A few of the persons selected will be trained to work with a high-speed electronic computer. Applications should be filed directly with the Board of U.S. Civil Service Examiners, Bureau of the Census, Washington, D.C.

The **American Board of Clinical Chemistry** has authorized preparation and distribution of a *Directory of Certified Clinical Chemists.* This directory is now being distributed to the chemists listed therein and to numerous university departments of chemistry and biochemistry. Heads of hospital departments or other laboratories that engage in clinical chemistry can secure a copy by writing to the secretary-treasurer, Dr. O. H. Gaebler, Henry Ford Hospital, Detroit 2, Mich.

A copy of the "Instructions to Applicants for Certification," as approved by the board at its annual meeting in 1954, is also available without cost. Chemists wishing to apply for certification should secure this information at once, for considerable time is required to complete a formal application. Applications to be considered at the next annual meeting of the Board *must be completed before 31 Mar.*

The ***Directory of Commercial and College Testing Laboratories,*** a successor to the *Directory of Commercial and College Laboratories* published in 1947 by the National Bureau of Standards, is now available. Responsibility for its compilation and publication has been transferred from the NBS to the American Society for Testing Materials by agreement between the two organizations.

The directory lists the locations of testing laboratories equipped and prepared to undertake testing on a commercial or fee basis. Information is given concerning 278 commercial testing laboratories and their 151 branches or offices. A list is also presented of the laboratories of 86 colleges that are prepared to do testing under certain conditions. Research and consulting laboratories are not listed unless they also are engaged in testing on a commercial basis. Copies may be purchased for $1 apiece from the American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.