News and Notes

Annual Meeting of the AAPT

The 24th annual meeting of the American Association of Physics Teachers was held at the Hotel McAlpin in New York, 27–29 Jan., concurrently with the annual meeting of the American Physical Society.

Contributed papers occupied two sessions, and many excellent papers were presented. One of the most stimulating was "An experimental encounter with the equation of time" by Richard M. Sutton (Haverford College), and the most entertaining was "Demonstration experiments" by Eric M. Rogers (Princeton University).

One day was devoted to a somewhat pressing topic continued from a year ago, namely, the role of physics in engineering education. Discussion at the morning session was based on reports from six eastern universities of recent intramural conferences between their departments of engineering and their departments of physics and at the afternoon session on reports by both engineers and physicists of last year's conferences of the Society for Engineering Education, in particular, the ASEE recommendation that solid-state physics and nuclear physics be included in the engineering curriculum. The primary purpose was to acquaint the membership with what is being done and to get reactions. One came away with a feeling of encouragement that the question of what physics can and should contribute to engineering education is at last being faced squarely by physicists and engineers throughout the country and that they are making good progress toward understanding each other's viewpoints and settling differences in the interest of better engineering education.

The long-standing problem of physics in the secondary curriculum was the subject of a panel discussion under the following headings: report of the Berkeley meeting of AAAS on science teaching, the role of science in the secondary school, problems of the high-school teacher and the future outlook for science teachers. A symposium on audio-visual aids covered special methods in physics lecture demonstrations, science demonstrations on television, and the production of animated films in physics. A new film on stationary longitudinal waves and one on the properties of liquid helium were shown.

At the traditional joint session of AAPT and APS, the Oersted medal for notable contributions to the teaching of physics was presented to Vernet E. Eaton (Wesleyan University, Connecticut). The 13th Richtmeyer memorial lecture was delivered by Eugene P. Wigner (Princeton University), whose subject was "On the development of the compound nucleus model."

At the annual business meeting, special citations for meritorious service to the association were voted to William S. Webb (University of Kentucky) and Mark W. Zemansky (City College of New York). Officers for the coming year are president, R. Ronald Palmer (Beloit College); president-elect, Walter C. Michels (Bryn Mawr); secretary, Frank Verbrugge (Carleton College); treasurer, Francis W. Sears (M.I.T.).

Concurrent meetings of AAPT and ASEE will be held at Pennsylvania State University, 21–23 June.

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Science News

During the Joint Atomic Energy Committee hearings 31 Jan.–3 Feb. on the state of the atomic energy industry, the resignation of Kenneth D. Nichols, general manager of the Atomic Energy Commission, was discussed. Two senators cited this resignation as an example of **"raiding" by private industry;** then Sen. Albert Gore (D., Tenn.) said that his office is considering the introduction of a bill that would bar an engineer, for 3 yr after his resignation, from working for a private firm on any project with which he had been connected while in Federal service. There is a similar law in effect that applies to Government lawyers, but the ban runs for only 2 yr.

Lewis L. Strauss, chairman of the AEC, stated that he would favor a bill such as Gore described; Commissioner Thomas E. Murray would not. Murray stated that such a law would have most unfortunate effects on the effort to recruit AEC personnel. Gore still has the bill under consideration.

Last summer the 18 nations on the United Nations Economic and Social Council unanimously adopted a resolution introduced by the Government of India asking all governments, whether U.N. members or not, to study the problem of calendar reform and present their views by May 1955. The calendar that is under consideration is the 12-mo, equal-quarter plan called the **World Calendar.** The AAAS Council endorsed the World Calendar in 1935 and in 1954 the Board of Directors reaffirmed this endorsement. The material that follows has been taken from the *Journal of Calendar Reform* that is published by the World Calendar Association, Inc., New York.

> In this proposed calendar every year is exactly the same; 1 January is always a Sunday. Each month has twenty-six weekdays plus Sundays. January, April, July, and October, the first months of each quarter, have thirty-one days; the other months thirty. The calendar is stabilized by ending the year with a 365th day which follows 30 December and is dated W, or Worldsday, a world holiday. (Leap-Year Day is similarly added after 30 June every fourth year, and becomes another world holiday.)
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> The World Calendar is a workable synthesis of many proposals. Its key feature reaches back to 1834 when an Italian priest, Abate Marco Mastrofini, was struggling with the puzzle of how to fit

weeks, months, quarters, and half-years into a year of 365 days. Since 365 is divisible only by five, the puzzle had stumped the experts. But Mastrofini hit upon an ingenious solution: take the 365th day out of its weekday sequence, treat it as an extra holiday without a weekday name, and thus obtain, in effect, a year of 364 days, which can be divided evenly into fifty-two weeks. By the simple device of having one "blank" day any date of a given month will fall on the same day of the week every year.

In 1952 Prime Minister Nehru named a calendar reform committee, and early in 1953 he publicly stated that today's calendar, introduced by Caesar in 45 B.C., and readjusted by Pope Gregory in 1582, "has defects which make it unsatisfactory for universal use." Then in the fall of 1953 the Government of India proposed to the U.N. the adoption of The World Calendar. India officially stated this reform would overcome the "drawbacks of the present Gregorian Calendar. It is scientific, uniform, stable, and perpetual. It offers harmony and order to all strata of society—government, finance, industry, labor, retail trade, administration of justice, home life, transportation, and education."

Civil defense exercises and demonstrations at one of the **atomic explosions** in the 1955 spring test series in Nevada will be witnessed by hundreds of invited civilian observers. The series started in mid-February. The "open shot" for civil defense exercises and demonstrations has been scheduled tentatively for mid-April and Lewis L. Strauss, chairman of the Atomic Energy Commission, has stated that the date will be announced about 1 mo in advance. He warned, however, that indefinite postponement is possible if weather conditions at the scheduled time are not suitable for the detonation.

The Federal Civil Defense Administration will invite state governors, as well as city and state civil defense officials and other observers, to witness the exercise. Representatives of press, radio, television, and motion pictures will also be invited. The technical program to be held in conjunction with the open shot will be conducted jointly by FCDA and private industry. Observers will be able to inspect some test structures before and after the shot.

A report on what appears to be the cause of a **widespread rice disease,** known in Java, Malaya, Ceylon, India, and Burma, has been published in the 5 Feb. issue of *Nature* by F. N. Ponnamperuma, R. Bradfield, and M. Peech, agronomists of Cornell University. Browning of leaves and roots was observed in rice grown in greenhouse tests; this was traced to too much iron. No disease organisms were found to account for the effect, which was similar to that caused by potassium deficiency.

Cycloserine, a new broad-spectrum antibiotic that was discovered by Roger Harned and Elinor Kropp, microbiologists at the laboratories of the Commercial Solvents Corp., Terre Haute, Ind., has been found, in preliminary tests, to be **effective against tuberculosis.** Plans for putting the new drug on the market depend on the results of the further studies that will be conducted beginning 1 Mar. by the Veterans Administration as part of its chemotherapy program.

Cycloserine, which has been given the trade name Seromycin, has been administered orally to 37 tubercular patients at New York's Metropolitan Hospital since last September. Twenty-nine of these patients were chronic cases that had not responded to treatments with other antibiotics during a year or more. Thirty-six patients showed clinical improvement; x-rays indicated some improvement in infected lung areas in 28 patients; 30 gained from 4 to 14 lb during a 16-wk period, and their fever was reduced; simple smears of sputum and gastric concentrates, previously positive for all 37 patients, became negative in 30.

These preliminary results were reported by Israel G. Epstein, K. G. S. Nair, and Linn J. Boyd of New York Medical College, on 9 Feb. at the 14th VA-Army-Navy conference on tuberculosis in Atlanta, Ga., which was held in cooperation with the National Tuberculosis Association.

Cycloserine was also tried on infections of the genitourinary tract by George R. Nagamatasu and Lois Lillick of New York Medical College and Russell D. Herrold of the University of Illinois College of Medicine. They got good results in 46 of 62 stubborn infections that had resisted all other treatment. These last results were summarized at the Atlanta meeting by Henry Welch of the U.S. Food and Drug Administration, Washington, D.C., who also reported his own test-tube studies of cycloserine.

The development of an atomic "clock," the **Cesium Atomic Frequency Standard,** has been announced by Jerrold R. Zacharias, director of the Laboratory for Nuclear Science at Massachusetts Institute of Technology. He is working on a model so precise that if it had been ticking away since the time of Christ it would now be inaccurate by only ½ sec. Manufacture of a commercial model of the clock has been undertaken by a company in the Boston area and it will be available for many uses within a year.

Associated with Zacharias in the work have been James G. Yates, an English electrical engineer who was a visiting professor at M.I.T. and is now at Trinity College, and Robert D. Haun, a research assistant in the department of physics at M.I.T. The device was developed in the research laboratory of electronics with support in part from the Signal Corps, the Office of Scientific Research, the Air Research and Development Command, and the Office of Naval Research. Zacharias will give technical details of the clock at a meeting of the Institute of Radio Engineers on 23 Mar.

Time-keeping in the device is controlled by the oscillation of electrons in the cesium atom. As an electron revolves around the nucleus of an atom, it "wobbles" very slightly but at a constant rate. This unvarying rate of oscillation is reflected in the frequency of waves that are emitted.

Cesium is an element that has a frequency of approximately 9192.632 Mcy/sec, and it is this fre-

quency that serves as the unit of time in the clock. A metal crucible encloses 0.01 g of cesium. When heated to a temperature of about 100°C the cesium shoots a stream of atoms through a hole in the crucible. The atoms strike a detector screen, and their frequency is reported through a complex apparatus. The cesium emits atoms at a rate of about 1 million per second, but the loss is only about 1 μg/day and, for all practical purposes, the clock is perpetual.

Standard time, with 1 sec equal to 1/86,400 of the mean solar day and generally measured by the frequency of the oscillations of a crystal, is accurate to 10^{-3} μsec. The Atomic Frequency Standard is accurate to 10^{-4} μsec. Zacharias expects, through further development, to obtain accuracy of 10^{-6} μsec. The Cesium Atomic Frequency Standard is similar to the "maser," microwave amplification by stimulated emission of radiation, developed recently at Columbia University but operates on a different principle.

Hearings were begun 31 Jan. on H.R. 3005 to extend the **Selective Service authority to induct.** In order to support the position that Selective Service is no longer selective and that it should be returned to operation on the basis of selection, the Engineering Manpower Commission and the Scientific Manpower Commission request information on specific case histories that appear to demonstrate the abandonment of the criterions essential to selection. Cases in which all appeal procedures were exercised would be particularly useful. The EMC and the SMC would prefer to be able to use the information as is, but realize that many organizations are understandably reluctant to involve their companies and/or specific employees in such discussion. Upon request, therefore, the material will be used without identification of source. Data should be forwarded to W. T. Cavanaugh, Executive Secretary, Engineering Manpower Commission of Engineers Joint Council, 29 W. 39 St., New York 18.

The Spanish Ministry of Agriculture has announced plans to **irrigate 1¼ million acres** of unproductive land at the rate of 125,000 acres/yr. The work will be carried out by the National Institute of Colonization, partly with United States equipment granted to Spain by the Foreign Operations Administration. The institute, directed by agronomist Angel Martinez Borque, was founded in 1939 for the purpose of improving and reclaiming land to increase production. It is empowered by law to expropriate land. The institute permits owners of expropriated property to retain between 50 and 250 acres; the rest is purchased by the institute at the prevailing market value, which is assessed on the annual yield. The new 5- to 10-acre farms that are created are sold to agricultural laborers on moderate terms.

A new chicken, the **Beltsville broiler,** which grows from a chick to a 3-lb bird in 10 wk, has been developed by poultrymen at the U.S. Department of Agriculture's Beltsville, Md., research center. The result of 7 yr of experimental work, the broiler is a Silver Cornish–New Hampshire cross. Geneticists responsible for the new bird emphasize, however, that the Beltsville broiler is not a breed. They explain that it must be produced by mating the new Silver Cornish, also developed at Beltsville, and New Hampshire stock. The best characteristics of these parents are reproduced only in the first generation. Although further work is needed with the breeding, the demand for the new broiler is already far greater than the supply. When available, limited numbers of eggs are sold to breeders and distributed to cooperating state experiment stations.

Thomas Francis, Jr., director of the **Polio Vaccine Evaluation Center** at the University of Michigan, has issued the following statement concerning the security measures taken in connection with the forthcoming vaccine report.

> Only the Vaccine Evaluation Center receives all of the requisite data from all the Vaccine Field Trial Areas. These reports from all areas are subjected to uniform standards of interpretation, employing the same criteria throughout for the final diagnoses and classification of cases reported to be poliomyelitis.
>
> It was agreed by everybody officially concerned with the Field Trial that no preliminary guesses or fragmentary estimates of results would be made by any agency prior to the report of the total results by the Vaccine Evaluation Center; this agreement is still firmly in effect.
>
> For security reasons the preparation of material for analysis is handled in such a manner that no person has more than a limited view of the data. The transcribing of information concerning cases to be entered on punch cards is done in code with different persons preparing the various sections of the data: The Clinical and Epidemiological Reports, the Muscle Examinations and the Laboratory Reports. Diagnostic classification will be made without reference to the vaccination status of the patient, so long as he is a member of the total study population. Advisory consultation on any phase of the work is concerned only with establishing criteria for analysis, not with results.
>
> Thus, when the various investigations leading to final diagnoses of a case are completed, the data are compiled in a series of codes which would be impossible to interpret without the proper keys. It has not been the practice to prepare preliminary evaluations at repeated intervals, since attention and effort have been necessarily focused upon the essential job of obtaining complete and accurate reports which will permit a reliable diagnosis of poliomyelitis and paralysis.
>
> When analyses are made, they are handled entirely by certain designated members of the senior staff of the Center so that the information cannot be available to others. There is, hence, little likelihood that significant information can be gained casually. It is even more unlikely that the professional staff of the Vaccine Evaluation Center will be communicative, except when the report is made. Due provision is made for maintaining this restrictive security throughout the period of preparation of the report and its presentation. When the results are presented, it is intended that they will be made available to all parties at the same time.

Scientists in the News

Albert Szent-Gyorgyi, Hungarian-born winner of the 1937 Nobel prize in medicine who is now director of the Institute for Muscle Research at Woods Hole, Mass., was honored 10 Feb. at a dinner at the New York Academy of Sciences for his contributions to humanity. The dinner preceded a daylong conference on "Bioflavonoids and the capillary" at which all the work reported had its genesis in Szent-Gyorgyi's discoveries in the 1930's. Szent-Gyorgyi then isolated hesperidin as the factor that controls capillary function. It was later learned that ascorbic acid also has to be present in order that hesperidin exert its influence upon capillaries. More than 500 professional papers have since been written on the subject to which these discoveries provided the key. Szent-Gyorgyi presided over the meeting and in addition was presented with a citation dedicating the conference to him.

Paul J. Kramer, professor of botany at Duke University, will spend 6 to 8 wk this spring at the Earhart Plant Research Laboratory of California Institute of Technology, where he will study the effects of different photoperiods and day and night temperatures on the distribution and length of growing season of certain tree species. The series of experiments, supported by a National Science Foundation grant, will continue for 3 yr at both the Earhart Laboratory and Duke University under Kramer's direction.

Dennis Sikes, former professor of veterinary science at the University of Tennessee, joined the faculty of the School of Veterinary Medicine, University of Georgia, on 1 Feb. as professor and head of the department of pathology and parasitology.

Leslie C. Dunn, director of the Institute for the Study of Human Variation, Columbia University, will deliver the 1955 Westbrook free lectureship on the subject of "Heredity and the human community" at the Wagner Free Institute of Science in Philadelphia on 14, 21, and 28 Apr. Individual topics to be discussed on these dates are "The essence of heredity," "The community as viewed by a biologist," and "The social direction of evolution."

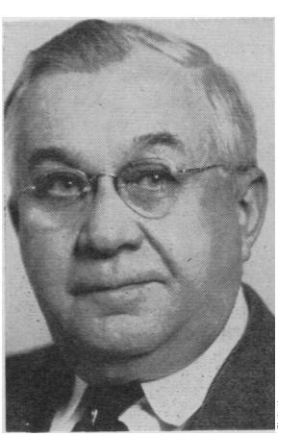
Two visiting professors have been named this term in the division of the geologic sciences at California Institute of Technology. **Felix Chayes,** petrologist in the Geophysical Laboratory of Carnegie Institution, has been appointed visiting professor of petrology. **William W. Rubey,** geologist for the U.S. Geological Survey and chairman of the division of geology and geography of the National Research Council, is filling a 6-mo appointment as visiting professor of geology. He is known for his work on fluid mechanics as applied to the geologic processes of running water, deposition, and sedimentation as well as for his studies of the origin and evolution of the oceans.

Gordon Millichap, associate professor of pediatrics, St. Bartholomew's Hospital Medical College, London, is conducting research in the department of pharmacology at the University of Utah College of Medicine under the auspices of a British Medical Research Council fellowship.

Aldo P. Truant, former associate professor of pharmacology at Tufts Medical and Dental College, has joined the staff of a new research laboratory, Astra Pharmaceutical Products, Inc., Worcester, Mass., as director of biological research. The laboratory will be in operation by 1 May.

Donald A. Quarles, Assistant Secretary of Defense for Research, has appointed **Edward B. Doll,** chairman of the physics department at Stanford Research Institute, director of the military effects group for the spring series of atomic tests to be conducted in Nevada. In addition to administrative supervision of the group's activities, Doll will have charge of the scientific aspects of an extensive program dealing with the military effects of atomic weapons. He served in a similar capacity for the 1953 spring series in Nevada.

Carl F. Speh, assistant director of utilization research for the U.S. Department of Agriculture, retired on 31 Jan. First as assistant chief of the Bureau of Agricultural and Industrial Chemistry, 1942–54, and later as assistant director of utilization research, he was responsible for the development, coordination, amplification, and refinement of the bureau's program of utilization research on cereal and forage crops, sugar, naval stores, tobacco, tanning materials, and wild plants carried on at the four large regional laboratories of the USDA.



Speh graduated from Yale University with the Ph.D. degree in chemistry in 1906. He later did 2 yr of postgraduate work in organic chemistry at the same institution. His first job was as a chemist with the U.S. Forest Service in Washington, and it was here that he began his research on naval stores. From 1908 to 1916 he carried on the same type of work at the department's Bureau of Chemistry, where his responsibilities included analyses of turpentine and rosin to establish their properties and determine their suitability for various uses, work on the distillation of pine wood, and the establishment of official United States rosin standards.

From 1916 to 1927 Speh was secretary-manager of the Turpentine and Rosin Producers Association and

concurrently, 1925 to 27, secretary-treasurer of the Naval Stores Export Corporation, which he organized under the Webb-Pomerene Act. From 1927 to 1934 he was secretary-manager of the Pine Institute of America, and from 1934 to 1936, secretary of the A.A.A. Gum Control Committee. His work during this period covered the planning and inauguration of all chemical and industrial research on naval stores, initiation of a timber conservation program, supervision of the research fellowship at Mellon Institute, and development of new uses for gum rosin and gum turpentine.

Speh returned to Government service in 1936 as senior technologist in the naval stores research division of the Bureau of Agricultural and Industrial Chemistry. In 1938 he was made chief of that division, a position he held until he became assistant chief of the bureau in 1942. He served in this capacity until the reorganization of the USDA in January 1954 when he became assistant director of utilization research.

Charles E. Wilson, president of the board of scientific directors of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Me., has announced three new elections to the board: **Charles H. Best,** director of the Banting and Best department of medical research at the University of Toronto; **Walter E. Heston,** chief geneticist of the National Cancer Institute, Bethesda, Md.; and **John G. Kidd,** pathologist-in-chief of the New York Hospital and Cornell Medical College. Other members of the board in addition to Wilson, who is vice president of the National Academy of Sciences and professor emeritus of the Harvard School of Public Health, are Frank A. Beach, department of psychology, Yale University; Clarence Cook Little, founder and director of the Jackson Laboratory; H. B. Andervont, senior biologist, National Cancer Institute; Leonard Carmichael, secretary, Smithsonian Institution; L. C. Dunn, professor of zoology, Columbia University; John J. Morton, professor of surgery, School of Medicine and Dentistry, University of Rochester; Richard E. Shope, member, Rockefeller Institute for Medical Research.

Gerhard Herzberg, director of the division of physics of the National Research Council of Canada, has been elected an honorary fellow of the Indian Academy of Sciences "in recognition of his scientific eminence and of his outstanding contributions to knowledge."

During a sabbatical leave, and with the assistance of a U.S. Public Health Service grant, **William F. Diller,** associate professor of zoology at the University of Pennsylvania, will undertake cytological studies of protozoa at the department of biology, University of Mysore, Bangalore, India.

Under the auspices of the Foreign Operations Administration and the U.S. Department of Labor's Bureau of Apprenticeship, **N. R. Kuloor** has joined Foster D. Snell, Inc., consulting chemists and engineers, as a trainee chemical engineer. Kuloor, who will be with Snell about 4 mo, is on leave of absence from the Shri Ram Institute for Industrial Research in New Delhi, India, where he has worked as chief chemical engineer for more than 7 yr on the design and fabrication of pilot plants. The Shri Ram Institute is a privately endowed foundation that provides assistance to industry on technical problems and performs applied research.

Marshall C. Harrington, professor of physics at Drew University, has resumed his teaching duties after a 2½-yr absence on a UNESCO technical assistance mission in Baghdad, Iraq. During his stay he was concerned with developing facilities, planning the curriculum, and recruiting teachers for the physics department of the College of Arts and Sciences; in his first year in Iraq he also taught at the college. Following the completion of his UNESCO assignment he traveled in several European countries, and then spent a sabbatical leave visiting various English universities to observe programs of undergraduate laboratory work in physics.

Ralph B. Houlihan, who has been associated with Cutter Laboratories, Berkeley, Calif., since 1946, has been appointed associate director of research. During the past year, as director of biological research, he has been in charge of the production of the Salk-type polio vaccine.

Necrology

Raymond Asserson, 64, former assistant chief engineer for the Federal Communications Commission, Washington, D.C., 3 Feb.; **Moses N. Baker,** 91, retired editor of *Engineering News,* Upper Montclair, N.J., 7 Feb.; **William E. Galt,** 50, psychologist, author, research associate for the Lifwynn Foundation, Westport, Conn., 5 Feb.; **Theodore J. Hoover,** 84, mining engineer, author, fish and game conservationist, dean emeritus of the Stanford University School of Engineering, Stanford, Calif., 4 Feb.; **Hugh Keeling,** 89, chief engineer in the building of New Delhi, India, 3 Feb.; **Joseph B. Kincer,** 80, agricultural meteorologist, retired head of the Climatological Services Div. of the U.S. Weather Bureau, Washington, D.C., 14 Dec.

Adolph Magnus-Levy, 90, physiologist, biochemist, pioneer in the fields of metabolism and diabetes, New York, 6 Feb.; **Phillip H. Mitchell,** 71, biochemist, physiologist, author, former professor and head of the biology department at Brown University, Providence, R.I., 2 Feb.; **Charles J. Pannill,** 75, pioneer in the development of radio communications, president of the Radiomarine Corp. of America and R.C.A. Institutes, New York, 7 Feb.; **Edward Reiter,** 59, oral surgeon, lecturer, Cleveland, Ohio, 5 Feb.; **Queenie H. Shirley,** 42, electrical engineer, instructor in physics and engineering at Assumption College, Windsor, Ont., 1 Feb.; **Charles B. Sloane,** 60, profes-

sor of chemistry at Seton Hall University, South Orange, N.J., 3 Feb.; **Norman Strauss,** 54, gastroenterologist, author, former associate professor of medicine at New York Medical College, New York, 6 Feb.; **Frederic A. Woll,** 80, optometrist, author, professor emeritus and retired chairman of the hygiene department of City College, New York, 5 Feb.

Meetings

The **New Jersey Academy of Science** held its annual meeting in Chester on 31 Jan., during which the membership adopted a constitution and bylaws. The aims of the organization are

> To stimulate scientific education and research and the diffusion of scientific knowledge in the various departments of science; to promote fraternal relationship among those engaged in scientific work; to assist in the development [of] and in making known the material and other resources of the State; to publish the reports of scientific investigations; to unify the scientific interests of the State; to encourage interdisciplinary study and research; and to investigate and report on any subject of science or industry, when called upon by any department of the State government of New Jersey.

Papers were presented by Hirsch L. Silverman, Robert Zuck, and Michael Charney. The following officers were elected: pres., Roger H. Charlier; v. pres., Robert Zuck; sec., Courtland J. Daley, director of the audio-visual aids department of Cranford High School; treas., Hirsch L. Silverman.

The second **Microcirculatory Conference for Physiology and Pathology,** sponsored by the American Association of Anatomists, will take place 5 Apr. in the Benjamin Franklin Hotel, Philadelphia.

The feasibility of **consultation by pathologists through the medium of color television** was explored for the first time by a 3-day symposium sponsored by the Armed Forces Institute of Pathology at its new building in northwest Washington. The meeting, which began on 17 Jan., was climaxed by a color television presentation that brought pathologists from different cities together for consultation. In Philadelphia, at the hospital of the University of Pennsylvania, a surgeon performed an operation. A waiting pathologist there carried out an examination of the tissue removed; TV cameras then transmitted the picture to pathologists in Baltimore and Washington who assisted in the diagnosis.

At the AFIP symposium, also for the first time, representatives from medicine and industry discussed how the newest communications medium can best be used in medical education and in the diagnosis and treatment of disease. Although color television has been used for several years in medicine and surgery, no evaluations have been made of this medium in the field of pathology.

Education

Forty teenagers—eight girls and 32 boys—were named as finalists in the 14th annual **Science Talent Search,** a competition that began with 16,033 aspirants in high schools in all 48 states and the District of Columbia. Begun in 1942, the Science Talent Search is conducted by Science Clubs of America through Science Service. The awards are made by the Westinghouse Educational Foundation, which is supported by the Westinghouse Electric Corp.

Named by a committee of judges as the nation's most promising future scientists, the 40 students were awarded all-expense trips to Washington and a chance to compete for $11,000 in Westinghouse science scholarships. They arrived in Washington 24 Feb. to attend the annual 5-day Science Talent Institute, during which the winners were chosen and scholarships were awarded. The finalists were all graduating seniors from high schools in 17 states.

The University of Texas Medical Branch in cooperation with the Texas Academy of Science is presenting a series of 16 weekly television broadcasts, entitled *Man and Medicine,* over KPRC in Houston. The program is given at Sunday noon.

The new 325-bed, $6.5 million St. Vincent Hospital in Little Rock, Ark., operated by the Sisters of Charity of Nazareth, was dedicated recently. Fifteen rooms have been allotted to the laboratory section, which is connected with an accredited **School of Medical Technology.** This school has been in existence since 1953 and has just recently graduated its first students. In July 1954, the school was given a grade of 98 percent by the American Council of Medical Education.

The High Voltage Engineering Corp., of Cambridge, Mass., will supply all the vital components of a 6-Mev Van de Graaff accelerator soon to be assembled at **Imperial College,** Kensington, England. The machine will be used in a program of fundamental nuclear research conducted by Samuel Devons, professor in the college.

Construction has begun at **Columbia University** on a new physics research building to be known as the **George B. Pegram Laboratory.** Scheduled to be completed in August, the building's cost is estimated at $350,000, approximately $295,000 of which is being provided by the Atomic Energy Commission. The remainder will come from the income from a special bequest to the university that is available only for scientific purposes. The AEC will also provide the laboratory with a new 6-Mev Van de Graaff generator. Unlike the building, which becomes the property of Columbia, the generator will be on indefinite loan and will remain the property of the AEC. The machine is being made by the High Voltage Engineering Corp., Cambridge, Mass. The cost of the generator, auxiliary equipment, and installation will be about $450,000.

The laboratory—which is named for Pegram, a nuclear physicist and at present special adviser to the president of Columbia—will stand next to the eastern end of the present Pupin Physics Laboratories building on 120th St. near Broadway. The main section of the three-story structure will measure 45 by 65 ft. A seven-story tower section will house the vertical accelerator and its metal shield.

The new Van de Graaff generator will bring to three the number of nuclear particle accelerators at Columbia. The other two are the 385-Mev cyclotron at Nevis in Irvington-on-Hudson, N.Y., and the "baby" cyclotron in Pupin laboratory, both of which produce beams at energy levels of from 10 to 20 Mev. The Van de Graaff machine will have the lowest power of the three, but its energy level will be readily adjustable up to a maximum of 6 Mev.

Educational television was expanded to 11 stations by the addition of three new stations during the first weeks of January. Transmitting their first programs within a few days of one another were KCTS, Seattle, Wash.; WEDM, Munford, Ala., and WUNC, Chapel Hill, N. C. The three new stations can reach a potential audience of about 5 million viewers, bringing the total population living within range of educational TV stations to nearly 20 million. Weekly schedules of the three new stations will soon total some 80 hr, raising the total weekly program output of educational TV to more than 250 hr. The nation's first statewide network entered its initial stage of active programing when Munford, main link in Alabama's educational TV network, started regular telecasting on 15 Jan.

Yale University's Edwards Street Laboratory, supported by the Office of Naval Research, is described in the February issue of the *Yale Alumni Magazine*. Details of the research under way there cannot be made public, but the laboratory came into being late in 1950 when the U.S. Navy suddenly realized that, because of an inadequate harbor defense, it had temporarily lost command of the sea in Korean waters. Louis W. McKeehan, professor of physics at Yale and a retired naval captain, [*Science* **121**, 54 (14 Jan. 1955)], persuaded both Yale and the Navy to join in a research and experimentation project dealing with harbor defense. McKeehan was director of the laboratory until July of last year, when he was succeeded by Andrew Patterson, Jr., associate professor of chemistry. Although he is a physical chemist, Patterson worked in the field of underwater sound during World War II and has served as a consultant on sonar and related topics at the Navy Underwater Sound Laboratory in New London, Conn. The Edwards Street Laboratory is reported to be the only laboratory in the country working on the problems of harbor defense.

All the activities of the laboratory, however, are not carried on in the Edwards Street building, which is for the most part occupied by offices, a rapidly growing library of books and scientific papers, calculating machines, a machine shop, and photographic equipment. Field studies directly involving submarine mines have been carried on at Yorktown, Va., Charleston, S.C., and New London, Conn., and much research in radar has been conducted in Narragansett Bay, R.I.

Regionalization of health resources and services in defined areas to maintain highest levels of medical care has been advanced as a solution of the problem of continuous postgraduate education. Such a plan was brought forward in 1949 when grants of $1.2 million were authorized under the Hospital Survey and Construction Act, but appropriation was halted because of the Korean War. In an article in the February issue of the **Journal of Medical Education,** John B. Grant of the Rockefeller Foundation division of medical and public health has outlined a plan that envisions an area hospital council, a system of independent hospitals integrated as one giant hospital with distant branches related as if they were wards or divisions of a large medical center. The purpose is to develop in the community hospital an approximation of the teaching hospital. Grant describes the administration, activities, and support of 12 selected programs.

The 14th annual **Frontiers in Chemistry lecture series** started at Western Reserve University on 25 Feb. with a presentation on "Recent advances in photochemistry" by Albert Noyes of the University of Rochester. The balance of the program is as follows: 4 Mar., "Chemistry of free radicals," M. S. Kharasch, University of Chicago; 11 Mar., "Radiation chemistry of liquids," Milton Burton, University of Notre Dame; 18 Mar., "Rearrangements in carbonium ion reactions of aliphatic and alicyclic compounds," John D. Roberts, California Institute of Technology; 25 Mar., "Effects of high-energy radiation on polymers," A. M. Bueche, General Electric Co.; 15 Apr., "Aromatic complexes as intermediates in substitution reactions," Herbert C. Brown, Purdue University; 8 Apr., "Radiation chemistry of inorganic solids," John A. Ghormley, Oak Ridge National Laboratory; 29 Apr., "Formation and behavior of intermediates from neighboring group participation," Saul Winstein; 22 Apr., "Paramagnetic resonance studies in radiation chemistry," Max S. Matheson, Argonne National Laboratory; 6 May, "Reaction mechanisms involving elemental sulfur," Paul D. Bartlett.

Color telecasts from an operating room at the Walter Reed Army Hospital were used for the first time by the Army for nursing instruction during the Army Nurse Corps Postgraduate Workshop on Military Operating Room Nursing held 14–25 Feb. at the Army Medical Service Graduate School, Walter Reed Army Medical Center. Workshop participants in another room both saw and heard an operating surgeon progress through the various steps of an operation.

Available Fellowships and Awards

Saint Louis University has been awarded an $8100 grant by E. I. du Pont de Nemours and Co. for the general support of its Institute for the Teaching of Chemistry. A $4500 fund will provide 12 **fellowships in chemistry** for high-school and junior-college teachers who wish to attend the institute during the summer. The fellowships provide tuition of $100 and living allowance of $180.

In addition $3600 will support two fellowships for college graduates who wish to work toward an M.S. degree in the teaching of chemistry. A year's study will prepare recipients of the fellowships to teach chemistry, physics, or mathematics in a secondary school. Each fellowship will provide $450 tuition and a stipend of $1200. Further information may be obtained from Dr. Theodore A. Ashford, Director of the Institute for the Teaching of Chemistry, Saint Louis University, St. Louis, Mo.

The annual **Aero-Corry research award** competition for graduate and undergraduate engineering students has been announced by the Aero Supply Mfg. Co., Inc. The new competition was established recently by Aero Supply to encourage research and design in the field of aircraft fuel systems. A first-place cash prize of $1000—then $500, $300, and $100—will be awarded for the best research papers dealing with (i) complete fuel system design, and (ii) fuel system component design.

Engineering schools are asked to encourage students to compete for the prizes. Circulars containing competition rules and fifteen sample problem statements are available. Among the suggested problem statements for possible research are "Ignition limits when hot air is used to transfer fuel" and "Behavior of fuel at temperatures below 20°F." Entries for the 1955 competition *must be postmarked no later than 30 Apr.* and should be addressed to Aero-Corry Research Award, Aero Supply Mfg. Co. Inc., Corry, Pa.

The **University of Texas M. D. Anderson Hospital and Tumor Institute** offers an extensive program of cancer fellowships and residencies that are under the auspices of the University of Texas Postgraduate School of Medicine. For information and application forms write to Grant Taylor, M.D., Office of Education, The University of Texas M. D. Anderson Hospital and Tumor Institute, Texas Medical Center, Houston 25.

To encourage the attainment of the highest standards of scientific reporting, the American Heart Association will present annual awards to the individuals whose creative efforts in any medium of mass communication are judged to have contributed most to public understanding of progress in research, and in the prevention, care, and treatment of heart and circulatory disease.

The deadline date for submission of entries for the 3rd annual **Howard W. Blakeslee** awards has been *extended until 1 May.* The number of awards and the media from which winners are to be selected will be determined by the judges; a minimum of $500 will be presented to the winner.

In order to be eligible for the 1955 awards, materials in the fields of press, magazines, books, radio, television, and films must have been published, issued, or produced between 1 Jan. 1954 and 1 Mar. 1955. Entry blanks and information may be obtained from the Chairman, Managing Committee, Howard W. Blakeslee Awards, American Heart Association, 44 E. 23 St., New York 10.

Grants and Fellowships Awarded

The **National Science Foundation** has announced 120 grants totalling approximately $1.6 million for the support of basic research in the natural sciences, for conferences and studies on science, for scientific information exchange, for the scientific manpower register, and for travel of American scientists to international scientific meetings. This is the second such group of awards to be made during fiscal 1955.

Harvard University. G. R. Willey, Peabody Museum. Prehistoric settlement patterns in the Maya area, 1 yr, $11,500.

Columbia University. J. Schilt, astronomy. Trigonometric parallaxes of stars, 1 yr, $2400.

Indiana University. J. B. Irwin, astronomy. Photoelastic observations of southern cepheids, 1 yr, $5800.

Brigham Young University. J. R. Goates, chemistry. Mechanism of adsorption of ions by silicate minerals, 1 yr, $5100.

University of California, W. F. Giauque, chemistry. Thermodynamic and magnetic properties of matter at low temperatures, 1 yr, $30,000.

Cornell University. J. Meinwald, chemistry. 1,3 shift in molecular rearrangements, 2 yr, $11,000.

Harvard University. G. B. Kistiakowsky, chemistry. Unstable intermediates in gas reactions, 2 yr, $25,400.

University of Illinois. B. R. Ray, chemistry. Transference numbers of salts in nonaqueous solvents, 6 mo, $3400.

Iowa State College of Agriculture and Mechanic Arts. G. S. Hammond, chemistry. Primary products of thermal decomposition reactions in solution, 2 yr, $12,900.

Johns Hopkins University. A. H. Corwin, chemistry. Synthetic studies on chlorophyll, 2 yr, $13,900.

Mellon Institute of Industrial Research. F. A. Miller, research in chemical physics. Relative energies of polar and equatorial derivatives of cyclohexane, 2 yr, $6200.

Northwestern University. A. A. Frost, chemistry. Molecular potential energies, 2 yr, $10,000.

University of Pittsburgh. J. L. Rosenberg, chemistry. Chemiluminescence of photosensitizing organic dyes in condensed systems, 3 yr, $10,700.

University of Rochester. W. D. Walters, chemistry. Kinetics and mechanism of thermal reactions, 3 yr, $16,000.

Smith College. M. D. Soffer, chemistry. Synthetic and structural investigations in the sesquiterpene series, 2 yr, $9000.

University of Washington. K. B. Wiberg, chemistry. Mechanisms of oxidation reactions, 3 yr, $17,000.

Wayne University. C. Djerassi, chemistry. Alpha-amyrin chemistry, 2 yr, $16,000.

University of Wisconsin. E. E. Van Tamelen, chemistry. Synthesis of alkaloids, 2 yr, $9000.

Duke University. C. G. Bookhout, Duke University Marine Laboratory. Reproduction, life histories, and metamorphosis of shrimp, 1 yr, $3500.

University of Chicago. H. Ramberg, geology. Thermodynamic study of minerals, 3 yr, $27,000.

Columbia University. J. L. Kulp, geology. Carbon-14 dating of archeological and anthropological specimens, 1 yr, $10,000.

Dartmouth College. J. B. Lyons, geology. Systematic compositional variation in metamorphic minerals, 2 yr, $7200.

Franklin and Marshall College. R. M. Foose, geology. Structural patterns around the perimeter of the Beartooth Block in southwestern Montana, 2 yr, $10,000.

Johns Hopkins University. R. B. Montgomery, oceanography. Analysis of serial oceanographic observations, 2 yr, $9000.

Lehigh University. H. R. Gault, Geology. Studies of carbonate rocks, 2 yr, $6800.

University of Minnesota. F. M. Swain, geology. Stratigraphy of bituminous deposits, 2 yr, $15,000.

Paleontological Research Foundation. K. V. W. Palmer, paleontological Research Institute. Molluscan fauna of the Ocala Limestone (Upper Eocene) of westcentral Florida, 2 yr, $11,900.

Pennsylvania State University. C. L. Hosler, College of Mineral Industries. Aggregation of ice crystals to form snow, 2 yr, $10,000.

Saint Louis University. R. R. Heinrich, geophysics and geophysical engineering. Atmospheric microoscillations and short-period microseisms, 3 yr, $36,000.

Texas A. & M. Research Foundation. D. W. Wood, oceanography. Calcium carbonate solubility equilibrium in sea water, 3 yr, $20,000.

Bureau of Reclamation, Dept. of the Interior. R. C. Mielenz, Design and Construction Div. Hydration of Portland Pozzolan Cement, 1 yr, $10,000.

California Institute of Technology. C. B. Milikan and H. W. Liepmann, aeronautics. Stability of fluid flow, 2 yr, $23,000.

Carnegie Institute of Technology. H. L. Toor, chemical engineering. Transfer of matter across gas-liquid interfaces, 2 yr, $13,500.

Georgia Institute of Technology. R. S. Ingols, Engineering Experiment Station. Protein changes with chlorine, 1 yr, $7100.

University of Illinois. M. E. Clark and O. M. Sidebottom, theoretical and applied mechanics. Inelastic behavior of columns, 1 yr, $8600.

Kansas State College. R. C. Hall, chemical engineering. Effect of sonic vibration on the rates of mass transfer, 2 yr, $12,000.

University of Maine. H. Gray, civil engineering. Moisture content and density of granular soils, 3 yr, $7900.

Massachusetts Institute of Technology. J. G. Trump, electrical engineering. Fundamental processes in high voltage discharges in vacuum, 2 yr, $18,700.

New York University. M. Telkes, Research Div. Solar energy collectors, 1 yr, $7000.

North Carolina State College. N. L. Nemerow, civil engineering. Mechanism of biochemical oxidation of organic matter, 1 yr, $7000.

Pennsylvania State University. W. E. Ranz, engineering research. Disintegration and dispersion of a liquid into droplets, 18 mo, $6300.

Pennsylvania State University. A. H. Waynick, electrical engineering. Ionosphere observations by long wave radio methods, 1 yr, $10,000.

Polytechnic Institute of Brooklyn. E. Weber, Microwave Research Institute. Electromagnetic networks and information-handling circuits, 1 yr, $10,000.

Princeton University. A. E. Sorenson, mechanical engineering, V. Olgyay and A. Olgyay, architecture. Thermal behavior of buildings by means of study of models, 2 yr, $19,100.

Swarthmore College. C. Barus, electrical engineering. Electronic instrumentation for neurophysiology, 1 yr, $7300.

University of California, Berkeley. C. L. Hubbs, Scripps Institution of Oceanography, La Jolla. Ecological conditions associated with eruptions of human populations, 3 yr, $25,200.

Duke University. P. J. Kramer, botany. Physiological processes of forest tree species, 3 yr, $18,900.

University of Notre Dame. A. L. Delisle, biology. Cytogenetic studies on the asters, 2 yr, $5000.

Union College. H. M. Butzel, Biology, W. B. Martin, Jr., chemistry. Mating type development and determination in paramecium, 2 yr, $8000.

Brown University. H. Federer and W. S. Massey, mathematics. Topology and measure theory, 30 mo, $36,500.

Carnegie Institute of Technology. A. Schild, mathematics. Relativistic particle mechanics, 2 yr, $8500.

Dartmouth College. J. G. Kemeny, mathematics. Mathematical methods in the behavioral sciences, 1 yr, $10,000.

Illinois Institute of Technology. G. Berman, mathematics. Finite projective geometries, 1 yr, $6100.

Morgan State College. L. I. Mishoe, mathematics. Eigenfunction series for a non-self adjoint system, 1 yr, $4600.

New York University. A. Douglis. Hadamard's conjecture and related problems in the theory of wave propagation, 1 yr, $7500.

Oberlin College. J. D. Baum, mathematics. Topological dynamics, 1 yr, $3600.

University of California, Berkeley. J. Neyman, mathematics. The distribution of galaxies, 2 yr, $21,800.

Oklahoma Agricultural and Mechanical College. E. W. Titt, mathematics. A new approach to partial differential equations, 2 yr, $26,000.

University of California. A. Tarski, mathematics. Theory of models, 2 yr, $19,800.

University of Georgia. M. K. Fort, Jr., mathematics. Functional equations, 1 yr, $6500.

University of Illinois. A. H. Taub, mathematics. Analytic program for digital computer, 1 yr, $14,500.

University of Southern California. H. Busemann, mathematics. Geometry with nonsymmetric distances, 2 yr, $6600.

University of Tennessee. W. Givens, mathematics. Continuous geometry, 18 mo, $13,300.

University of Michigan. M. O. Reade, mathematics. Subharmonic, harmonic, and analytic functions, 2 yr, $12,600.

University of Michigan. E. E. Moise, mathematics. Topology of manifolds, 30 mo, $13,600.

University of Minnesota. H. Yamabe, mathematics. Structure of manifolds, 2 yr, $11,100.

University of Wisconsin. R. H. Bing, mathematics. Imbedding sets in manifolds, 2 yr, $17,000.

California Institute of Technology. R. B. Corey, chemistry. X-ray diffraction studies of crystalline proteins, 3 yr, $36,000.

California Institute of Technology. L. Pauling, chemistry. Configurations and polypeptide chains in proteins, 3 yr, $30,000.

Columbia University. S. Lieberman, obstetrics and gynecology. Steroid hormone biosynthesis by perfused human placenta, 3 yr, $25,000.

University of Illinois. J. Larner, chemistry. Carbohydrate absorption; synthesis and degradation of polysaccharides, 3 yr, $16,000.

Pennsylvania State University. R. Pepinsky, physics. Nucleic and desoxynucleic acid fragments, 2 yr, $20,000.

Amherst College. T. Soller, physics. Metals and paramagnetic salts below 0.1°K, 2 yr, $19,500.

University of California, Berkeley. D. S. Saxon, physics. Theoretical nuclear and atomic physics, 2 yr, $21,100.

Indiana University. R. W. Thompson, physics. Construction of a double cloud chamber for research on fundamental particles, 2 yr, $78,900.

Midwestern Universities Research Association, University of Illinois. D. W. Kerst, University of Illinois. High-energy accelerator problems, 9 mo, $69,400.

University of Pennsylvania. K. R. Atkins, physics. Superfluidity of liquid helium, 2 yr, $22,200.

University of Pennsylvania. W. E. Stephens, physics. Photonuclear and transmutation processes, 2 yr, $24,700.

Principia College. S. L. Leonard, physics. Direct pair production by electrons of 200 to 500 Mev energy, 2 yr, $4200.

University of Rochester. M. P. Givens, Institute of Optics. A study of solids with soft x-rays, 2 yr, $14,200.

Stanford University. W. K. H. Panofsky, physics. Design study for high-energy magnetic spectrometers, 1 yr, $15,600.

Vanderbilt University. I. Bloch, physics. Normal modes of vibration of nuclei, 1 yr, $9300.

University of Washington. J. H. Manley, physics. Nuclear emulsion studies of pion-proton scattering, 3 yr, $9000.

Yale University. V. W. Hughes, physics. Atomic beam magnetic resonance investigations, 2 yr, $26,300.

Harvard University. E. G. Heinemann, psychology. Simultaneous contrast in human vision, 18 mo, $7600.

Harvard University. P. Teitelbaum, psychology. Effect of hypothalamic lesions on behavior, 1 yr, $5000.

Lehigh University. N. B. Gross, psychology. Neurophysiological processes in the auditory cortices, 2 yr, $9600.

Pennsylvania State University. J. F. Corso, psychology. Neural quantum theory of hearing, 1 yr, $7100.

Stanford University. C. P. Stone, psychology. Behavior of hypophysectomized rats, 2 yr, $9100.

University of Washington. M. H. Smith, Jr., psychology. Aspects of biological motivation 2 yr, $8900.

Yale University. P. D. MacLean, psychiatry. Effects of hippocampal seizures on conditioned behavior, 1 yr, $7500.

University of California, Berkeley. S. Roberts, physiological chemistry. Hypothalamic regulation of pituitary function, 3 yr, $24,000.

University of California, Berkeley. L. Machlis, botany. Metabolic pathways in the filamentous fungus, *Allomyces*, 3 yr, $15,400.

Indiana University. E. D. Weinberg, bacteriology. Mutual effects of metallic ions and antibiotics, 2 yr, $6500.

Rutgers University. A. F. Hopper, zoology. Role of thyroid gland in fish, 2 yr, $4000.

University of Texas. J. A. Scott and E. M. Macdonald, medical branch. Nature of racial or species immunity, 2 yr, $12,000.

Washington University, St. Louis. T. Rosebury, bacteriology. Interactions of microorganisms indigenous to man, 2 yr, $12,250.

University of Michigan. P. Dansereau, botany. Phytosociological studies in the Canary Islands, 1 yr, $3500.

University of South Carolina. H. W. Freeman, biology. A study of fish in the Wateree River system, 2 yr, $6300.

American Academy of Arts and Sciences. P. G. Frank. The acceptance of scientific theories, 2 yr, $22,000.

Carnegie Institution of Washington. Preliminary studies of a committee on radio astronomy, $6800.

University of Michigan. Preliminary studies of the National Astronomical Observatory Panel, $9700.

Attendance at international meetings

Second Inter-American Congress of Psychology. American Psychological Association, $2000.

Interim Council of the International Union of Biochemistry. S. Ochoa, biochemistry, New York University College of Medicine, $640.

Interim Council of the International Union of Biochemistry. E. Stotz, biochemistry, University of Rochester, School of Medicine and Dentistry.

Conferences in support of science

American Anthropological Association, Peabody Museum. Fifth international congress of anthropology and ethnology, $10,000.

American Association for the Advancement of Science. International arid lands symposium and conference, $10,000.

American Psychological Association. Conference on evolution of behavior, $8600.

California Institute of Technology. Conference on the theory of numbers, $5000.

National Academy of Sciences. International conference of marine biological laboratory directors, $4000.

University of Rochester. Fifth annual conference on high-energy nuclear physics, $4500.

Wenner-Gren Foundation for Anthropological Research, Inc. Conference on man's role in changing the face of the earth, $12,000.

University of Wisconsin. Conference on metabolic aspects of transport across cell membrances, $4600.

Education in the sciences

University of Michigan. Research and training at the University of Michigan Biological Station, 1 yr, $6900.

Scientific information exchange

Indiana University. Study on the history of psychology as a natural science, $2300.

Massachusetts Institute of Technology. V. H. Yngve. Methods of translating languages by machine, $18,700.

National Academy of Sciences. Committee on international scientific unions, Office of International Relations, $7500.

Smithsonian Institution. Biological sciences information exchange, $22,000.

Smithsonian Institution. Publication of an annotated bibliography of termites, $3600.

Scientific manpower

American Institute of Physics. Maintaining the national register of scientific and technical personnel in the field of physics, 15 mo, $14,500.

In the Laboratories

Under the Colombo Plan, India will receive $33,600 from Canada for the establishment of a **Biological Control Laboratory.** In this connection a field station will be set up at Bangalore to collect beneficial insects and other organisms in India and to import other insects and organisms with a view to utilizing them to destroy crop pests in India.

The Government of Canada, with the concurrence of the Government of India, will provide an expert who will be assisted by an Indian scientist. Other countries will be able to secure parasites and predators from the laboratory.

Beckman Instruments, Inc., Fullerton, Calif., has acquired the Specialized Instruments Corp. and Spinco Service Co., both of Belmont, Calif. These companies, to be operated as the Spinco Division of Beckman Instruments, manufacture and distribute a line of instruments for advanced research in chemistry, biophysics, and medicine.

Seven industrial companies have signed as participants in the nuclear-reactor research program at **Armour Research Foundation** of the Illinois Institute of Technology in Chicago. They are Arc Equipment Co., Bryan, Ohio; Armour and Co., Chicago; Borg-Warner Corp., Chicago; Elgin National Watch Co., Elgin, Ill.; Illinois Tool Works, Chicago; Richardson Co., Melrose Park, Ill.; and U.S. Steel Corp.

A new corporation to be known as the **General Ultrasonics Co.** has been organized in Hartford, Conn., by Alexander S. Keller, Stanley R. Rich, and Wilfred Roth. The company will handle the Rich-Roth "400" Ultrasonic Generator and associated transducers and will manufacture and market other industrial ultrasonic processing equipment.

Rich and Roth are the inventors of the Ultra-Viscoson, the ultrasonic instrument for the continuous automatic measurement of viscosity.

Established by Act of the Congress as the Government Hospital for the Insane, **St. Elizabeths Hospital** in Washington, D.C., observes its centennial this year. As part of the celebration, a meeting will be held 5–6 May featuring invited guest speakers of international reputation. Among the several "firsts" with which the hospital is credited are the use of the malaria treatment for paresis and the adoption of psychodrama as a valuable therapeutic tool. Winfred Overholser, the present superintendent, is the fifth the hospital has had in its 100-yr existence.

Recently the **Standard Oil Development Co.** changed its name to Esso Research and Engineering Co. The change was of company name only and affected neither the policies nor operation of the company.

A **sinter plant** for producing iron oxide from pyrite ashes recently began operation at the Mo and Domsjö sulfite mill at Alfredshem in northern Sweden. This is the first such plant in the world to be installed in the cellulose industry. By means of the sinter process, the waste ash, a by-product, is now converted into a cokelike substance easy to transport and useful, without further processing, in the production of iron.

Erratum: In the issue of 4 Feb. one line of the affiliation was inadvertently omitted from the heading to the article "A method of rapidly transferring a substance on paper to the origin of a chromatogram" by Garold F. Gregory. Mr. Gregory's address is Iowa State College, Ames, Iowa.

Erratum: In the news note on the President's proposed budget for the National Institutes of Health that appeared on page 155 of the 4 Feb. issue of *Science*, the first figure given, $6,399,000, is the operating budget, not the total budget.