such courses. Some unquestionably do make incipient chemists, but not enough, otherwise the shortage would not be so acute. Only the most dedicated survive. This is an avenue of service that can be followed best by those in the business of teaching, but chemists in industry also might have some thoughts on the subject that could be helpful.

The satisfaction one derives from serving along any avenue has been mentioned. Unfortunately, there is another side to the picture. Serving is not all beer and skittles. Disappointments and frustrations are also part of the game. One's motives and good intentions even may be questioned occasionally. All of this must be taken in stride. One must continue to work for the realization of the ends which were thought good, so long as there is some measure of progress toward their attainment. Differences of opinion with respect to procedures constantly arise. One cannot always be right. Others equally sincere and with comparable ability may have the better solutions. Frequently organizations which gave great promise at their inception fail to function or to grow as planned. Where they fail, others with similar programs, profiting from earlier errors, might succeed. Discouragement has no place in the curricula of those whose sights are set high. But there can be no compromise with principles. When the issues in a particular organization demand their sacrifice, get out and go on to something else.

The avenues for service are legion. It is only necessary to make a choice, to select those which our inclinations and ability permit us to follow. A whole gamut of organizations is spread before us, offering an endless variety of challenging, of rewarding paths to follow.

Science does not have the answer to all human problems. Neither are scientists necessarily the best qualified to attack them. In a world increasingly dependent upon scientific findings for many, although not all of the good things of life, the special competence of scientists lies in helping people to acquire their ability, and their will, to unshackle their minds when attacking new problems in their field. The all-important issue today, the one that overshadows everything of a political or economic nature is the elimination of war. In this, scientists have no ready answer. In this atomic age, the attainment of peace is a new and different problem from what it was in the past. Each of us, in his way, had better give thought to the possibility of helping to achieve it. That it is receiving such consideration by some scientists is indicated by a document prepared by the National Research Council Committee on Unesco and the Engineering Joint Council for the Third National Conference of the U. S. National Commission for Unesco. Its assigned topic was "The Opportunities for Scientists and Engineers to Contribute to Peace through the United Nations System."

I would like to close with a quotation from the article by Hill previously mentioned. It expresses more tersely and in clearer language than I can command, the gist of what I have been trying to say. Hill wrote: "Science is in the best sense, I believe, key to the whole culture of our modern world, that general culture which exists in its different and presently contesting forms along the Potomac, the Volga, and the Yangtze. But scientists are only the special professional exponents of their way. What will count in the end is not their acts alone nor their understanding of their duties, however deep, but the degree to which the general ends of science gain adherence among the people as a whole."

In the final analysis that is the goal toward which all avenues of service by scientists and engineers should lead.

# *News and Notes*

## Harvard and the Fifth Amendment

THE appeal to the Fifth Amendment by witnesses before Congressional committees of investigation, in order to escape answering questions regarding either their own past relations with the Communist Party or those of associates, has raised grave issues of academic freedom and responsibility and of professional conduct. Some professors have been dismissed or suspended outright; in other cases the administration and trustees have acted contrary to the recommendations of the faculty. In contrast, other institutions have adhered to some measure of due process (see the case of Byron T. Darling, Associate Professor of Physics at Ohio State University, in SCIENCE, April 24, 1953, p. 445). The latest chapter in this history has been written by Harvard University, whose stout defense in times past of intellectual freedom and the principle of personal responsibility makes its handling of this problem of particular note.

The following is a verbatim transcription of a Harvard press release on the matter:

> The Harvard Corporation has completed its study of the activities of three officers of instruction.
>
> Here is a summary of its findings:
>
> 1. Associate Professor Wendell H. Furry's actions during membership in the Communist Party included "grave misconduct."
>
> Dr. Furry will not be dismissed, because the "grave misconduct" took place nine years ago "in a very different climate of political opinion."
>
> The finding of "grave misconduct" will remain in full effect for three years. If at any time during that period, either because of Dr. Furry's future conduct or because of new evidence as to his past conduct, the Corporation should deem it to be for the best interests of the University to remove him, he will be removed.

After the three year period, Dr. Furry will not be subject to removal solely on the basis of the present finding of "grave misconduct." When the three years are ended, he may be removed only after new proceedings.

(Under University Statutes, a finding of "grave misconduct or neglect of duty" is necessary for dismissal.)

2. Dr. Furry, Assistant Professor Helen Deane Markham and Teaching Fellow Leon J. Kamin were guilty of misconduct, but not "grave misconduct," in using the Fifth Amendment to avoid answering questions of Congressional committees. Neither Dr. Markham nor Mr. Kamin will be dismissed.

The Corporation deplored the use of the Fifth Amendment by faculty members, saying:

"In the first place, we think full and candid testimony by all teachers would disclose that there is little Communist activity today in educational institutions. But more important, the use of the Fifth Amendment is in our view entirely inconsistent with the candor to be expected of one devoted to the pursuit of truth."

3. Dr. Furry dropped out of the Communist Party in 1947, Mr. Kamin dropped out of the Party in 1950, before he became a Teaching Fellow, and Dr. Markham is not, and never has been, a member of the Communist Party.

4. None of them has given a Communist slant to teaching, or has sought to influence the political thinking of students.

As to present membership in the Communist Party, the Corporation said:

"We would regard with the gravest concern the presence on our teaching staff today of a person who is now under the domination of the Communist Party. We think membership in the Communist Party by a faculty member today, with its usual concomitant of secret domination by the Party, goes beyond the realm of his political beliefs and associations. It cuts to the core of his ability to perform his duties with independence of thought and judgment. By the same token, it is beyond the scope of academic freedom. In the absence of extraordinary circumstances, we regard present membership in the Communist Party by a member of our faculty as grave misconduct, justifying removal."

The Corporation added:

"Since we are not conducting a criminal trial, we will not shut our eyes to the inference of guilt which the use of the Fifth Amendment creates as a matter of common sense. Hence, the use of the Fifth Amendment by a member of our teaching staff, within the critical field of his possible domination by the Communist Party, makes it necessary in our judgment for us to inquire into the full facts. We regard it as misconduct, though not necessarily grave misconduct."

In its proceedings, the Corporation considered each of the three cases separately. The Corporation studied the transcript of Congressional committee hearings. A special committee interviewed the individual and his faculty colleagues. Each individual then had a hearing before the full Corporation. Throughout the proceedings, the Corporation discussed the case fully with the Faculty Advisory Committee appointed last January.

Another case—that of Dr. Daniel Fine, Teaching Fellow in Medicine—remains to be decided. Dr. Fine also is on the staff of the Peter Bent Brigham Hospital, and his case is being considered in cooperation with the Hospital trustees.

*Editorial Note*: SCIENCE *will endeavor to report fully all news of this kind in as objective a manner as possible. It is the belief of the members of the Editorial Board that scientists throughout the nation and abroad should be fully informed of all important developments, social, political, or economic, that affect science and scientists.*

## New President at University of Pennsylvania

GAYLORD P. HARNWELL, who has been Chairman of the Department of Physics at the University of Pennsylvania for the past 14 years, has been elected president of the institution. He succeeds Harold E. Stassen, who relinquished the post to become director of the Mutual Security Agency. When he takes office on July 1, Dr. Harnwell will be the first physicist to head the University in its 212-year history. Graduate of Haverford College in 1924, he studied at Cambridge University in 1924–25, and later at Princeton University, where he received the degree of Doctor of Philosophy in 1927. He was a National Research Council Fellow at the California Institute of Technology in 1927–28. In 1928 he returned to Princeton to teach physics, serving successively as an assistant professor and an associate professor.

His association with the University of Pennsylvania faculty began in 1938 when he was appointed professor of physics and director of the Randal Morgan Laboratory of Physics at Pennsylvania. Besides holding the Mary Amanda Wood Professorship of Physics and serving as Director of the Morgan Laboratory and Chairman of the Physics Department, he also has been Professor of Radiologic Physics in the University's Graduate School of Medicine. His research work in nuclear physics, discharge of gases, and acoustics is widely known. From 1942 to 1946 he served in the position of Director of the University of California Division of War Research, U.S. Navy Radio and Sound Laboratory, San Diego, Calif. For his services in that capacity Dr. Harnwell was awarded the Medal for Merit, accompanied by a citation in which he was credited with having been "directly responsible for the severing by submarines of the last sea route from Japan to the mainland of Asia by his intelligent and constant supervision of the work of preparing for the United States Navy certain special weapons and devices."

At the University of Pennsylvania after the war, Dr. Harnwell reorganized the instructional and research programs in physics in recognition of the wartime developments in that field. The schedule of elementary and graduate courses in physics for engineering students was extended by the inclusion of a one-year course in atomic physics, and the undergraduate courses were changed primarily through the introduction of courses dealing with modern atomic and nuclear physics and the inclusion of additional laboratory work in all undergraduate courses. Changes likewise were made in the courses at the graduate level. Courses of theoretical nature in modern quantum mechanics were introduced, as well as experimental courses in modern laboratory techniques. In addition, a series of courses in two fields of particular specialization—the physics of solids and nuclear physics—were introduced. There was a steady increase in the facilities for research in physics at the University, an outstanding addition being a $200,000 betatron laboratory, or "atom smasher," which was erected in 1948 on the University campus. Dr. Harnwell has played a large part in planning the facilities for instruction and research to be provided in the University's new $2,700,000 building for physics, mathematics, and astronomy, which is now being erected. In addition to his University connections, Dr. Harnwell is chairman of the Ordnance Committee of the Research and Development Board of the Department of Defense and chairman of the Committee on Undersea Warfare of the National Research Council. He also serves on the Advisory Board of the United States Naval

Ordnance Laboratory, Silver Spring, Md., the Advisory Committee of the Ordnance Corps of the Department of the Army, and the Board and Executive Committee of the American Institute of Physics. For a number of years he has been consulting editor of the "International Series in Pure and Applied Physics," published by the McGraw-Hill Book Company, Inc.; editor of *The Review of Scientific Instruments,* and editorial director of *Physics Today,* the latter two being publications of the American Institute of Physics. He is the author of *Principles of Electricity and Electromagnetism,* published in 1929, and the co-author, with John J. Liningood, of *Experimental Atomic Physics,* published in 1936. He is a member of Phi Beta Kappa and a Fellow of the American Physical Society.

In unanimously nominating Dr. Harnwell for the presidency of the University, the Trustees followed a recommendation made by a committee of Trustees appointed to explore the field of potential nominees for that office. A faculty committee, headed by Dr. Alexander H. Frey, Professor of Law, was appointed by the University Senate, a faculty organization, to cooperate with the trustees in an advisory capacity.

## Scientists in the News

**Loyal V. Bewley,** Head of the Department of Electrical Engineering at Lehigh University, received the R. R. and E. C. Hillman award of $1000 given annually "to a member of the faculty who is deemed to have done most toward advancing the interests of the university."

**Edmund J. Blau** has joined the Organic Coatings Section of the National Bureau of Standards Chemistry Division. A specialist in physical chemistry, Dr. Blau will investigate the drying process in paint and related films and the physical and chemical changes occurring during film formation.

**C. West Churchman** has been appointed Professor of Engineering Administration and Director of the Operations Research Group at Case Institute of Technology, Cleveland, Ohio.

**Ainsley H. Diamond,** Chief of the Mathematics Branch, U.S. Army Office of Ordnance Research, has been named Professor of Mathematics at Stevens Institute of Technology. Professor Diamond will assume his new post next September.

**William J. Farrisee,** Dean of Students at Clarkson College of Technology, Potsdam, N. Y., has been appointed Associate Dean and Professor of Civil Engineering at Stevens Institute of Technology. Dr. Farrisee will assume his new duties this summer.

**Edward I. Feigon,** formerly research engineer with Tufts College, Department of Systems Analysis, has been appointed chemist in charge of research and development for Kitchen Art Foods, Inc., Chicago.

**Solomon Lefschetz,** Chairman of the Princeton University Department of Mathematics, will retire July 1 and will be succeeded by **Albert W. Tucker,** a member of the Princeton faculty and leader of the logistics project. Dr. Lefschetz will continue to work at Princeton on nonlinear differential equations, a study on which he has been employed for five years for the Office of Naval Research.

**Milton Orchin** has been appointed Associate Professor of Applied Science at the University of Cincinnati. For the past 10 years Dr. Orchin has been chief of the organic chemistry section, research and development branch of the office of synthetic liquid fuels, Bureau of Mines, Pittsburgh.

**Raymond E. Ovelgonne** has joined the staff of Eli Lilly and Company as a biochemist.

**Clarence V. Reichelt** has been appointed Assistant Director of Engineering for Chas Pfizer & Co., Inc. Mr. Reichelt, who assumes his new duties immediately, will make his headquarters at the company's main offices in Brooklyn. **Gerald L. Eble,** who has been serving as assistant to Mr. Reichelt, will succeed him as Head of the Engineering Department at Pfizer's Vigo Plant in Terre Haute, Indiana.

**Albert Schatz,** co-discoverer of streptomycin, has been appointed director of the new Research Laboratory of the National Agricultural College, Farm School, Pa.

**Joseph E. Smadel** of the Walter Reed Army Medical Center has been awarded the Howard T. Ricketts Medal of the University of Chicago, in recognition of his discovery of the beneficial effects of antibiotic drugs in the treatment of typhus fever.

**Edward L. Tatum** of Stanford University has received the Annual Award for Distinguished Service in Chemistry presented by the Maryland Section of the American Chemical Society.

**Oswald Tippo,** Chairman of the University of Illinois Botany Department, has been appointed Dean of the Graduate College, effective September 1. In addition to his new duties, he will continue as head of the Botany Department.

**J. Harold Wayland,** Associate Professor of Applied Mechanics at California Institute of Technology, will spend the 1953–54 academic year in Europe on the John Simon Guggenheim Fellowship which he has just been awarded. Most of his work will be done at the University of Strasbourg, but he will visit other institutions. He will investigate engineering aspects of the technique of fluid flow visualization by streaming double refraction.

**Maynard Owen Williams,** chief of the foreign editorial staff of the National Geographic Society since 1930, retired on June 1 after 34 years of service with National Geographic. His travels for the Society have averaged some 25,000 miles a year for over 25 years.

## Education

The Special Training Division of **Oak Ridge Institute of Nuclear Studies** will offer an advanced course, Sept. 14–25, covering clinical applications of radioisotopes. This is the second in a series concerned with medical uses of isotopes. Participation is limited essentially to physicians having clinical experience with radioisotopes. Additional information can be obtained from the Special Training Division of the Institute, P. O. Box 117, Oak Ridge, Tenn.

The Department of Geography, **University of California** at Los Angeles, will conduct its annual Field Camp June 29–Aug. 7. R. F. Logan and C. H. MacFadden will be in charge and inquiries should be sent to the department. The first week will be reconnaissance study in the Mojave Desert, followed by four weeks of field work in Ventura County. During the final week reconnaissance studies will be carried on in two other contrasting areas.

The **Woods Hole Oceanographic Institution** is offering a course of lectures on Physical Oceanography by R. S. Arthur in the Old Lecture Hall, Marine Biological Laboratory, Aug. 3–Sept. 4. A comprehensive elementary account of the principles of oceanography will be presented in these free public lectures, which carry no official college credit.

## In the Laboratories

Among speakers at the **Cathode Ray Sterilization Symposium** held May 21 in conjunction with the opening of a new Cathode Ray Sterilization Laboratory by General Electric at Milwaukee, Wis., were W. M. Urbain of Swift and Company, G. M. Dack of the University of Chicago, and E. J. Lawton and W. D. Bellamy of the GE Research Laboratory at Schenectady.

A plant for manufacturing phenol from air and oil, dedicated May 27 in Montreal East, Quebec, is designed to use a process developed in this country by the **Hercules Powder Company.** It is owned and is to be operated by B.A.–Shawinigan Ltd., under license from Hercules and from the Distillers Company Ltd., of England. The Shawinigan plant is designed around a process which is the culmination of more than 15 years of fundamental research by Hercules, on the oxidation of terpenes, *p*-cymene, and cumene.

A small atomic pile, contained in a cube of graphite measuring only five feet on a side, has been placed in operation as a research tool at the **Knolls Atomic Power Laboratory,** which is operated by the General Electric Company for the Atomic Energy Commission. The new low-power nuclear reactor appears not much larger than a bank of four ordinary office filing cabinets. The device was developed by a team of scientists, H. B. Stewart, E. G. LaViolette, C. L. McClelland, G. B. Bavin, and T. M. Synder.

The John Thompson Dorrance Building, new home of the Departments of Biology and of Food Technology at **Massachusetts Institute of Technology** will be dedicated the morning of June 25. Detlev W. **Bronk** will deliver the dedication address. Two scientific symposia, "Perspectives in Quantitative Biology" and "Global Concepts of Food Technology," will be held in the afternoon. The Campbell Soup Company is the principal donor of the new building. It honors one of the company's former presidents who was an MIT alumnus of the class of 1895.

## Meetings and Elections

The **Aero Medical Association** has installed the following new officers: president, Bertram Groesbeck, Jr., and president-elect, Otis O. Benson, Jr., Vice presidents elected were Kenneth E. Dowd, Andre Allard, Trajano Bernardo, and E. O. Errebo-Knudson. M. S. White, Seymour Fisk, and Edward J. Baldes were chosen to serve on the Executive Council.

A European Conference of Chemical Engineering, to be sponsored by the **Dechema** (Deutsche Gesellschaft für chemisches Apparatewesen) and the Société de Chimie Industrielle, will be held in Paris, opening June 22, in connection with the 2nd Salon de la Chimie and the 26th Congrès International de Chimie Industrielle. This conference will also form the program of lectures of the Annual General Meeting of the Dechema for 1953. Dechema Institute, at Frankfurt am Main, will open, on July 3, a new information center for the chemical apparatus and equipment industries, with the object of gathering for display chemical apparatus and equipment, metering and control apparatus, materials used in construction of chemical apparatus, and new raw materials for use in the industry.

The **Fourth Annual Biological Symposium** will be held at the University of Michigan, July 6–17, sponsored jointly by the Division of Biological Sciences and the Michigan Memorial-Phoenix Project. Speakers will include G. W. Beadle, California Institute of Technology, Roberts Rugh, Columbia University, A. H. Doermann, Oak Ridge National Laboratory, and Henry Eyring, University of Utah. Subjects will cover such topics as the effect of radiation on mechanisms of heredity, on gene function, and on human growth and development.

The **Georgia Academy of Science** held its 1953 Annual Meeting at Mercer University, Macon, on April 24–25. Fifty-six papers were presented, and a symposium on cerebral palsy was held by the Psychology and Medicine Section. Officers for 1953 are: F. Homer Bell, president; W. A. Calder, vice president; and Lane Mitchell, council member for three years.

**North American Philips Company, Inc.,** and its western dealers will hold the First Western **X-ray** Diffraction School at the Sir Francis Drake **Hotel,**

San Francisco, August 24–28. The new school will repeat on the west coast the annual program which has been successful in the New York territory for the past seven years. Sessions will be devoted to lectures and laboratory demonstrations using the latest types of equipment.

New officers of the **Society of American Bacteriologists** include: president, G. M. Dack, University of Chicago; vice president, C. B. Van Niel, Hopkins Marine Station, Pacific Grove, Calif.; secretary-treasurer, J. H. Bailey, Sterling-Winthrop Research Institute; business manager, F. C. Harwood, Baltimore, Md. Councilors-at-large are Sara E. Branham, C. H. Werkman, J. E. Blair, and W. H. Ewing.

A **Solar Energy Conference,** sponsored by the National Science Foundation and the University of Wisconsin, will be held at the University Sept. 12–14. About 30 physical scientists and engineers from the U. S. and abroad will meet to assess present knowledge of solar energy utilization and to point out needed areas for basic research. The Wisconsin meeting will cover aspects of solar energy utilization not discussed at a previous conference held last fall in Gatlinburg, Tenn. Biological methods, including research in photosynthesis, were discussed at that time. At Madison the conference will discuss conversion into other forms of energy, such as electricity and heat; storage of solar energy in various ways including chemical reactions; and the use of fluid-solid phase changes and crystal alterations as mechanisms for the storing of energy. The findings and recommendations of the conference will be published. The committee to plan the conference includes Farrington Daniels, chairman; Werner A. Baum, F. G. Brickwedde, Hoyt C. Hottel, Everett D. Howe, and Ralph A. Morgen.

## Miscellaneous

A Joint United States-Canadian program to investigate the most probable source of Arctic ice islands is now under way. The expedition is sponsored by the **Canadian Defense Research Board,** the **Geological Survey of Canada,** the **Air Research and Development Command** of the U.S. Air Force and the **Snow, Ice and Permafrost Establishment** of the U.S. Army. Two Canadian scientists, Geoffrey Hattersley-Smith, glaciologist with the Arctic section of the Canadian Defense Research Board, and Robert A. Blackadar, geologist of the Geological Survey of Canada, have departed for the Ellesmere Ice Shelf. The Shelf is a sheet of ice 10 to 15 miles wide and 100-200 feet thick fringing most of the northwest coast of Ellesmere Island. Its physical features will be compared with T-3 Fletcher's Island, a floating Arctic ice island near the North Pole, where the U.S. Air Force has its northernmost weather and geophysics research stations.

**Five Capper Pass Awards** have been given by the Councils of the Institution of Mining and Metallurgy and the Institute of Metals, London, for papers published in 1952 in the *Transactions of the Institution of Mining and Metallurgy* and the *Journal of the Institute of Metals.* The awards are made annually from a fund placed at the disposal of the Councils by the Directors of Capper Pass and Son, Ltd., of Bristol. Award winners were Edwin Davis and S. G. Temple, C. P. Paton, E. C. Ellwood and T. A. Henderson, P. M. J. Gray, and E. A. Hontoir.

The **Florida State Museum** has completed negotiations with the U.S. Department of the Interior through the National Park Service to excavate four Indian sites on the west bank of the Chattahoochee River. The National Park Service will make available a grant of $1500 for the work, which will be carried out in territory scheduled to be inundated by the construction of the Jim Woodruff Dam. Ripley P. Bullen, Curator of Social Sciences at the Museum, will direct the field work.

Five new members have been appointed to the staff of the **National Science Foundation.** Harry Alpert of the Bureau of the Budget will be study director for social science research; James W. Cole, Jr., of the University of Virginia will be program director for scientific manpower; Walter R. Kirner of the National Research Council will be program director for chemistry; Raymond W. Mayhew of the U.S. Navy will be physical science administrator; and H. Kirk Stephenson of the Los Alamos Scientific Laboratory will be program director for earth sciences.

The **Smithsonian Institution's Division of Physical Anthropology** has passed its 50th anniversary. Starting with a few boxes of bones in storage, this division has become one of the foremost depositories of human skeletal remains in the world, including more than 18,000 human skulls, representing essentially every division and subdivision of the human race. The Division was started in 1903 under the direction of the late Aleš Hrdlička, and the present curator is T. Dale Stewart. Marshall T. Newman is associated with Dr. Stewart.

A two-day symposium was held at the **University of Rhode Island** in connection with the dedication of the new Pastore Chemical Laboratory. Frederick G. Keyes of MIT, Charles A. Kraus of Brown University, and W. Albert Noyes, Jr., of the University of Rochester, discussed three phases of "Chemistry and the Progress of Man." Honorary degrees of Doctor of Science were conferred upon the three chemists at the University's convocation, and Farrington Daniels, Elvin C. Stakman, and Samuel T. Arnold were similarly honored. Dr. Stakman also addressed the University's new chapter of Sigma Xi.

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ERRATUM. In the April 17th issue of SCIENCE on page 402, John Pfeiffer referred to J. G. Feinberg, author of *The Atom Story*, as a "British" biochemist. The book was commissioned by a British publisher, Allan Wingate, and was first published in England, but the author is an American.