

member of the regular staff pursues some field of research. Ray C. Friesner's interests are in the taxonomy of Indiana plants, the goldenrods of North America, and dendrology; C. M. Palmer specializes in algae, with emphasis on Lemanea, and J. E. Potzger works in phytosociology, grasses of Indiana and pollen analysis. Collaborating in departmental research are Wm. Daily, of the Eli Lilly Laboratories, in Cyanophyceae, and Mrs. Wm. Daily in Characeae.

In 1919 Butler had no herbarium, to-day it is possessor of 70,000 sheets of ferns and higher plants, 1,600 algae and 1,000 packets of mosses. These represent collections by members and students of the department, or exchanges for collections made by the staff. The department sent out 39,220 sheets to herbaria all over the world, and received 23,220 sheets. The Botanical Library receives 240 current magazines.

In 1928 the Butler Botanical Garden was founded, and in 1929 the department began publication of the "Butler University Botanical Studies." They are gradually becoming a valuable source for ecological studies of Indiana forests. Members of the staff and majors in the department make a sociological study of every larger tract of comparatively undisturbed timber in Indiana that is brought to their attention. The Butler Studies reach 167 universities all over the world. To date the members of the staff and graduate students have contributed 160 scientific articles.

#### THE ANNUAL MEETING OF THE OPTICAL SOCIETY OF AMERICA

THE twenty-ninth annual meeting of the Optical Society of America will be held at the Hotel Pennsylvania, New York, N. Y., on October 20 and 21.

On the morning of Friday, October 20, there will be a symposium of invited papers entitled "A Review of Some Applications of Optics." The papers included are "The Projection of Light," by Frank Benford; "Practical Applications of Metallic and Non-Metallic Films on Optical Elements," by Dean A. Lyon; "Photography of the Ocean Bottom," by Maurice Ewing; "Techniques in Applied Electron Microscopy," by

Robert D. Heidenreich. Following luncheon on the same day Professor Richard M. Sutton will present a brief report of the recent National Research Council Conference on Present and Postwar Problems Facing Physicists. In the afternoon a continuation of the symposium of invited papers is planned. The program includes "Recent Studies on the Fluorescence of Glass," by N. J. Kreidl; "Color Motion Pictures of the Whole Sky," by H. R. Condit; "The Application of Spectro-Chemical Analysis in the Steel Mill," by P. R. Irish. The speaker at the dinner will be Professor R. W. Wood, professor of physics at the Johns Hopkins University, who will present some "Reminiscences." Prior to his address the Adolph Lomb Medal for 1944 will be presented to Dr. R. Clark Jones, of the department of physical research of the Bell Telephone Laboratories. On Saturday, October 21, both morning and afternoon, there will be sessions for contributed papers.

All members intending to present papers at the sessions on Saturday are urged to submit abstracts as soon as possible and not later than September 12 in order that proper clearance may be obtained from the authorized Government agencies. Members of the Armed Forces and representatives of Government agencies should obtain clearance for their own abstracts, forwarding a copy of the authorization to the secretary with the abstract. Should a large number of contributed papers on spectroscopy be received, arrangements will be made for simultaneous sessions on Saturday.

Train and hotel reservations should be made early. The meeting will be open to non-members as well as members of the society and all those interested are cordially invited to attend. Non-members who desire to receive the advance program or other information in regard to the meeting should address their requests to Arthur C. Hardy, Secretary, Optical Society of America, Massachusetts Institute of Technology, Cambridge 39, Mass.

### SCIENTIFIC NOTES AND NEWS

PROFESSOR S. A. MITCHELL, who is retiring after serving for thirty years as director of the McCormick Observatory of the University of Virginia, has been presented by colleagues, former students and friends with an album containing a hundred and twenty-six letters of appreciation.

PROFESSOR SOLOMON LEFSCHETZ, of Princeton University, has been elected an honorary member of the Mexican Mathematical Society.

LIEUTENANT COLONEL GARFIELD GEORGE DUNCAN, M.C., has been awarded the Legion of Merit for his

"outstanding experimental work on the suppressive treatment of malaria in the Southwest Pacific area."

THE Bisset Hawkins Medal of the Royal College of Physicians, London, has been awarded to Brigadier J. A. Sinton, in recognition of his work on preventive medicine, particularly on malaria.

SIR JOHN MARSHALL, from 1902 to 1931 director-general of archeology in India, has been awarded the Gold Medal of the Royal Asiatic Society.

THE Royal Astronomical Society of Canada has conferred the Chant Medal for 1943 on Cyril Geoffrey

Wates, of Edmonton, Canada. The medal is awarded to an amateur astronomer resident in Canada, "on the basis of the value of the work which he has carried out in astronomy and closely allied fields of original investigation."

THE Vega Medal of the Swedish Anthropological and Geographical Society has been awarded to Professor Lennart von Post, of Stockholm, in recognition of his contributions to the development and application of the methods of pollen analysis.

COMMANDER GEORGE C. PAFFENBARGER, of the Dental Corps of the U. S. Navy, was awarded the honorary degree of doctor of science at the graduation exercises on September 1 of the Ohio State University.

WALDO L. SEMON, of the B. F. Goodrich Company, has been elected by the Goodyear lecture committee of the Division of Rubber Chemistry of the American Chemical Society the Goodyear Lecturer for 1944 in recognition of "his outstanding contributions in the chemistry and technology of rubber." It is expected that the lecture will be given next year at the spring meeting, as the meeting of the division that was planned for this autumn has been cancelled.

A UNITED PRESS dispatch from Paris dated August 28 reads "Dr. Pasteur Vallery-Radot, the new French Minister of Health, said to-day that he had dismissed Dr. Alexis Carrel from his post and intends to modify 'deeply' the Carrel Institute in Paris. The minister said the dismissal was one of his first actions of necessary 'purification.'" A later dispatch, dated August 31, states that Dr. Carrel has been arrested on the ground that the Carrel Institute has been "founded for the purpose of supplanting the great French universities and introducing Fascism and Marxism to students."

TWENTY-SEVEN associates and nineteen members were initiated into the Stanford University Chapter of the Society of the Sigma Xi at the annual dinner held on June 9. Professor G. Szegő, of the department of mathematics, gave the address of the evening. He spoke on "Scientific Research in European Universities." During the year the chapter sponsored lectures by C. E. Kenneth Mees, director of research and development of the Eastman Kodak Company; by Dr. H. F. Mark, professor of organic chemistry at the Polytechnic Institute of Brooklyn; by Dr. Selig Hecht, professor of biophysics at Columbia University; by Dr. A. J. Carlson, emeritus professor of physiology at the University of Chicago, president of the American Association for the Advancement of Science, and by Karl K. Darrow, physicist of the Bell Telephone Laboratories, national secretary of the American Physical Society. The following have been elected officers for the coming year: *President*, Professor G. S. Parks, chemistry; *Vice-president*, Professor O. C. Shepard, mining engineer-

ing; *Secretary-Treasurer*, Professor H. M. Bacon, mathematics; *Assistant Secretary-Treasurer*, Professor W. H. Johnson, biology.

THE Chapter of the Society of the Sigma Xi of the University of Southern California has elected officers for 1944-45 as follows: *President*, Dr. Arthur W. Nye, professor of physics; *Vice-president*, Dr. Howard de Forest, professor of botany; *Secretary*, Dr. Winslow Whitney Smith, associate professor of bacteriology; *Treasurer*, Dr. Robert Rutherford, associate professor of histology and pathology (dentistry). At the installation meeting on May 15, ten persons were elected to membership and thirteen to associate membership. Following the meeting, the spring public lecture was presented by Dr. A. J. Carlson, who spoke on "Nutrition."

MEMBERS of the National Committee for Mental Hygiene have been elected as follows: Dr. Thomas Parran, Surgeon General of the U. S. Public Health Service; Senator Elbert D. Thomas, of Utah; Dr. Frank Fremont-Smith, medical director of the Josiah Macy Jr. Foundation; Dr. Robert P. Knight, of the Menninger Clinic, Topeka, Kans., and Captain Forrest M. Harrison, a senior psychiatrist in the Navy Medical Corps and chief of neuropsychiatry of the Naval Hospital at Bethesda, Md.

DR. C. OTTO ROSENDAHL, professor of botany at the University of Minnesota and for twenty-one years chairman of the department, has retired with the title professor emeritus. He joined the faculty as an instructor in 1901. He will continue his researches on the flora of the state in the herbarium of the University of Minnesota.

DR. HERBERT INSLEY, senior petrographer of the National Bureau of Standards, has been appointed professor of petrography and head of the department of earth sciences at the Pennsylvania State College.

DR. CARROLL B. NASH has been appointed assistant professor of biology at the American University, Washington, D. C.

DR. WILLIAM A. FITZGERALD, for sixteen years librarian and archivist of the Brooklyn Preparatory School, N. Y., has been appointed librarian of the School of Medicine and assistant professor of medical history at St. Louis University.

A DIVISION OF ACOUSTICAL RESEARCH to investigate air-borne sounds has been established in the College of Engineering of Rutgers University under the direction of Dr. Carl F. Eyring, professor of physics at Brigham Young University. Work will be done under contract with the Office of Scientific Research and Development.

DR. PAUL D. STURKIE, of the Alabama Polytechnic Institute, has been appointed associate professor of

poultry husbandry at the New Jersey College of Agriculture, Rutgers University.

DR. E. E. TURNER, of Bedford College, University of London, has been appointed professor of chemistry.

DR. J. A. SALZMANN, head of the Dental Service of the New York City Vocational Schools, recently gave a series of lectures and clinics before the Asociacion Dental Mexicana and also the Asociacion Mexicana de Orthodoncia, Mexico, D. F., and before the Sociedad de Orthodoncia de Guadalajara.

DR. CLARENCE COTTAM, biologist of the Fish and Wildlife Service, has been appointed to the newly established position of assistant to the director. Since 1934 he has been in charge of a section devoted to research on economic wildlife problems for the service. In this position, he will serve as coordinating and liaison officer for the service in the field of wildlife conservation and management in connection with other land-use agencies, particularly with the Bureau of Reclamation, the Army Engineers of the War Department, the Tennessee Valley Authority and other Federal and State agencies. His headquarters will remain in Chicago, Ill., at the Central Office of the service.

DR. EMMELINE MOORE, who recently retired as chief aquatic biologist and director of the Biological Survey for the New York State Conservation Department, has become research assistant in the Bingham Oceanographic Laboratory at Yale University for the academic year 1944-1945. She is engaged in work on the program involving studies on the utilization of marine resources undertaken by this laboratory in cooperation with the Connecticut State Board of Fisheries and Game and the Woods Hole Oceanographic Institution.

MAJOR JOHN C. SWARTZWELDER, assistant professor of parasitology at the School of Medicine of the Louisiana State University, has returned from sixteen months' service with the Army Medical Corps in the South Pacific. He has been assigned to the Surgeon General's Office in Washington, D. C.

DR. ANN G. KUTTNER, lecturer in bacteriology at the Harvard Medical School, has been appointed bacteriologist of the Mary Imogene Bassett Hospital in Cooperstown, N. Y.; Dr. Halvor N. Christensen, instructor in biological chemistry, has been appointed biochemist.

PROFESSOR H. RAISTRICK, F.R.S., professor of biochemistry at the London School of Hygiene and Tropical Medicine of the University of London, has been designated honorary scientific adviser on penicillin production to the British Ministry of Supply. Professor Raistrick is a member of the General Penicillin Committee.

PROFESSOR J. L. SIMONSEN, director of research of

the British Colonial Products Research Council, and Professor Sir Robert Robinson, Waynflete professor of chemistry at the University of Oxford and a member of the council, are now on a visit to the Caribbean area where they are discussing fundamental problems of research on new uses for colonial raw materials, with specific reference to the coordination of the work of the Colonial Products Research Council with that of the Caribbean Research Council. The latter was created last year to provide the Anglo-American Caribbean Commission with technical and scientific advice on matters concerning the social and economic advancement of the Caribbean peoples.

THE annual clinical congress of the American College of Surgeons, that was planned to be held in Chicago from October 24 to 27, has been canceled because of the war-time transportation situation.

THE American Association of Textile Chemists and Colorists will resume its annual meetings with a three-day program to be held at Atlantic City from October 12 to 14.

THE National Industrial Chemical Conference will be held from November 15 to 19 in conjunction with the third biennial National Chemical Exposition at the Coliseum in Chicago. Arrangements are being made for a number of educational exhibits.

THE British Colonial Office announces that the Secretary of State for the Colonies has decided to institute a number of Colonial Research Fellowships, open to university graduates in the natural or the social sciences, for research work in the Colonial Empire. The fellowships will be awarded by the Secretary of State on the advice of the Colonial Research Committee. They will normally be reserved for university graduates under thirty-five years of age with experience in research and giving evidence of high ability. The fellowships will be tenable for two years or possibly three if the work of the first year is satisfactory. They will carry a basic allowance of £400 per annum, which may be increased to £600 if the fellow is married; travelling expenses will also be paid. The fellowships will be tenable in any part of the British Colonial Empire. Fellows may be attached to centers of higher education in the colonies and required to give occasional lectures. The fellow will be responsible to a supervisor, through whom he will submit a concise progress report yearly and a full report on completion of tenure.

A HUMAN Nutrition Research Unit has been established by the British Medical Research Council, with Dr. B. S. Platt as director. The unit is already engaged in important investigations affecting colonial nutrition, and is offering hospitality for study and research to nutrition workers from the colonies. It

will also be ready to advise Colonial Governments on technical questions. Its formation is regarded only as a first step towards a wider organization which, it

is hoped, will include both teaching and research in its scope, and will cooperate closely with workers in the Colonial Dependencies.

## DISCUSSION

### FREEDOM IN SCIENCE

IN conversation with scientific colleagues in this university, I have heard the opinions expressed that the American Association for the Advancement of Science could fulfill in the United States the functions of the British Society for Freedom in Science and that the vigorous opposition recently shown to the Kilgore Bill by scientific organizations is an indication of the support that the ideals of this society would receive in this country. On the former question, of course, nothing can be said until the association itself goes on record either for or against, but it is the conviction of the writer that the second opinion is unduly and perhaps dangerously complacent.

It seems reasonable that the article by Professor P. W. Bridgman<sup>1</sup> on the British Society for Freedom in Science expresses a point of view likely to receive more support in this country than in Great Britain, where the general tendency towards socialization has been developed and extended more fully. Necessary as such a development may be in twentieth century political economy, it is clearly dangerous to attempt to extend it to cover every phase of human activity. The only question that an investigator should ask is "Is it true?" and the question "Is it socially useful?" is irrelevant to science.

Because of a resentment towards social controls over the advancement of science many persons engaged in pure or academic research are in agreement with Dr. Vannevar Bush<sup>2</sup> when he says: "(Any government) support (of pure science) should be divorced from governmental control of the scientists and laboratories themselves, or it will stifle rather than expedite their true accomplishments." This statement was made in connection with the Kilgore Bill. But while opposed to the Kilgore Bill on the grounds of too great externally applied control of science, pure scientists found themselves in the company of others who were opposed to it for reasons totally different: whose freely admitted motives are "public good and corporation profit."<sup>3</sup> Neither of these motives, important as they are, is primary with the pure scientist and consequently, sooner or later, he will be in opposition to those with whom he was previously allied against this bill. He can, therefore, take no comfort from the

opposition shown to the Kilgore Bill: he was not responsible for its vigor. The fact that the membership of the British Society for Freedom in Science is only 134, after three years of existence, shows how pitifully few he can muster in his support.

Almost the first schism that one can foresee between pure scientists and scientists who rely on private industry for their livelihood is likely to be on the question of whether or not the Government should be encouraged to spend greatly increased sums of money for the support of research. The negative attitude of industry towards Government sponsored research has been pointed out quite clearly on page 147 of Bernal's book, "The Social Function of Science" (Macmillan, 1939). In the original Kilgore Bill<sup>4</sup> the sum of two hundred million dollars is appropriated to carry out the purposes of the act. Solely from the point of view of the advancement of human knowledge it is highly desirable that this sum of money, or even greater sums, be spent on scientific research, both pure and applied. While opposed to the terms of the Kilgore Bill for the administration of this money, most pure scientists would yet encourage the scientific advance that its expenditure would create. Nevertheless the opponents of the bill that have so far been heard are in favor of its total rejection rather than of some constructive counter-proposals for the administration of the money.

These general remarks are intended to point out to persons engaged in academic research that the opposition expressed by men of science to the terms of the Kilgore Bill is not necessarily a sign of wide-spread public sympathy with the ideals of the British Society for Freedom in Science.

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AN article by Dr. P. W. Bridgman in the issue of *SCIENCE* for July 21, 1944, considers the need for support in the United States of the British Society for Freedom in Science. In his introduction to a statement by the founders of the British Society, Dr. Bridgman notes that in the United States there exists to-day a growing tendency toward "totalization" of science and that there is a need for support of a society dedicated to combating this trend. The state-

<sup>1</sup> *SCIENCE*, July 21, 1944.

<sup>2</sup> *SCIENCE*, 98: 2557, 577, 1943.

<sup>3</sup> *SCIENCE*, 97: 2529, 554, 1943.

<sup>4</sup> *SCIENCE*, 97: 2523, 407, 1943.