

surements and the Basic Sciences. The students' sessions are to be held in the afternoons of Wednesday and Thursday. On Thursday morning Major E. H. Armstrong, of Columbia University, will give an address on "Frequency Modulation."

There will be an informal reception by the president at the Ambassador Hotel on Tuesday at 5:30 P.M. and in the evening a student counselor dinner and conference, followed by a lecture on "Comets and Meteors" at the Griffith Park Planetarium. A golf tournament is planned on Thursday and in the evening there will be a dinner at the Riviera Club, amusements and dancing.

Points of interest selected for inspection trips are as follows:

Columbia Steel Plant at Torrence.

KNX Broadcasting Transmitter.

Ship-to-Shore Radio Station of the Southern California Telephone Company.

New Receiving Station E of the Bureau of Power and Light.

Laboratories of the California Institute of Technology.

The 200-Inch Telescope at Mount Palomar.

The 200-Inch Mirror, now undergoing final polishing at the California Institute of Technology.

If conditions permit, a visit to an aircraft factory may be included, although this of course will depend on national defense requirements at the time.

Trips will also be available to the Huntington Library and Art Gallery and to see the famous stained-glass window of the "Last Supper" at Forest Lawn, as well as to

Chinatown and the Olvera Street Mexican Village. Additional trips to other local points of interest will be arranged on request.

RECENT DEATHS AND MEMORIALS

DR. JAMES FLACK NORRIS, professor of organic chemistry at the Massachusetts Institute of Technology and director of the research laboratory of organic chemistry, died on August 3 at the age of sixty-nine years.

FRANK BOND, ornithologist, formerly chief of the United States Geographic Board, died on July 2 at the age of eighty-four years.

Nature reports the death of Dr. G. S. Blake, formerly geological adviser to the Palestine Government.

At the regular meeting on July 10 of the California Academy of Sciences the program of the meeting was devoted to a commemoration of the life and work of Edward Payson Van Duzee, late curator of the department of entomology of the academy. Short addresses were made by Dr. Frank E. Blaisdell, research associate; Professor E. O. Essig, University of California; Dr. Edwin C. Van Dyke, professor emeritus of the University of California and curator emeritus of the California Academy of Sciences; Professor Charles W. Woodworth, professor emeritus, University of California, and by Director Robert C. Miller and President Frank M. MacFarland, of the California Academy of Sciences.

SCIENTIFIC NOTES AND NEWS

DR. EUGENE VAN CLEEF, professor of geography at the Ohio State University, has received a special award from Delta Phi Epsilon, the professional foreign service fraternity, in recognition of his "distinguished service in education and international relations."

C. A. ZAPFFE and Dr. C. L. Faust, of the Battelle Memorial Institute at Columbus, Ohio, have been awarded the 1940 Proctor Memorial Award of the American Electroplaters' Society for their paper on the "Metallurgical Aspects of Hydrogen in Electroplating."

JAMES W. HOOK, of New Haven, Conn., president and director of the Geometrie Tool Company and of the United Illuminating Company, has been awarded the Marston Medal of the Engineering Division of the Iowa State College in recognition of "his ability as a manufacturer, his leadership in movements for sane industrial relationships, the faithful discharge of his civic responsibilities and his keen interest in community affairs."

DR. A. M. H. GRAY, physician in charge of the skin department of University College Hospital, London, and lecturer in dermatology in the Medical School, was elected on July 2 president of the Royal Society of Medicine.

DR. E. R. MARTELL, assistant dean of the School of Forestry of the University of Idaho, has been appointed head of the department of forestry and conservation of the Agricultural Experiment Station at Purdue University. He succeeds Professor B. N. Prentice, who will spend a larger part of his time in teaching.

DR. CARL NEUBERG, formerly professor at the University of Berlin, until his retirement with the title emeritus in 1937 for twelve years director of the Kaiser Wilhelm Institute for Biochemistry, has been appointed research professor of chemistry at the Washington Square College of Arts and Sciences of New York University. He will take up the work in September, following his arrival in the United States from Palestine, where he has been teaching at the University of Jerusalem.

ACCORDING to *Nature* Dr. Richard Kroner, the German Jewish philosopher, formerly professor at Dresden, Kiel and Berlin, who left Germany two years ago, has been appointed professor of logic and metaphysics at McGill University.

DR. A. RAYMOND DOCHEZ, John E. Borne professor of medical and surgical research at the College of Physicians and Surgeons, Columbia University, has been appointed chairman of the department of bacteriology.

DR. C. A. BUEHLER, professor of chemistry at the University of Tennessee, became head of the department of chemistry on July 1.

DR. JOHN R. PAUL, of the School of Medicine of Yale University, has been promoted to a professorship of preventive medicine. Dr. Leon S. Stone has been promoted to a professorship of comparative anatomy.

DR. EDWARD DAWSON DAVY, professor of pharmaceutical chemistry, has been appointed acting dean of the School of Pharmacy of Western Reserve University, filling the vacancy left by the resignation of Dean Edward Spease, who will direct the newly formed pharmaceutical department of the National Association of Retail Druggists.

DR. H. R. JOSEPHSON, for the past six years expert in forest economics at the California Forest and Range Experiment Station, has been appointed a member of the faculty of the department of forestry of the College of Agriculture of the University of California.

DR. J. MERRIAM PETERSON, head of the testing department of the Hercules Powder Company, Wilmington, Del., has been appointed assistant professor of chemical engineering at Cooper Union, New York City. He will give courses in physical chemistry and chemical engineering thermodynamics.

DR. EDWARD J. STIEGLITZ, associate professor of clinical medicine at the Rush Medical College of the University of Chicago, will join the staff of the National Institute of Health, Washington, D. C., where he will conduct clinical and experimental research on the problems of aging.

DR. CHARLES HUBBARD JUDD, consultant of the National Youth Administration for the past two years, formerly professor of education and chairman of the department of psychology at the University of Chicago, has been appointed director of student work. He is succeeded as consultant by John H. Lasher, Wisconsin state youth administrator.

ACCORDING to the *Journal* of the American Medical Association, Dr. Hiram J. Bush, of the U. S. Public Health Service, has been appointed director of the Henry R. Carter Memorial Laboratory for Malarial

Research at Savannah. He succeeds Dr. Thomas H. D. Griffiths, who was transferred to Puerto Rico several months ago, as chief quarantine officer. Dr. Charles M. McGill has been acting director of the laboratory since Dr. Griffiths left.

DR. WALLACE E. RICHMOND, formerly in charge of the x-ray laboratory of the department of mineralogy of Harvard University, has been appointed x-ray crystallographer in the U. S. Geological Survey.

DR. KARL F. KREBS, who recently received the doctorate in organic chemistry at the University of Illinois, has been appointed a member of the staff of the department of research and development at Bloomfield, N. J. of the Bakelite Corporation, unit of the Union Carbide and Carbon Corporation.

THE Rockefeller Foundation has made a grant of \$22,500 over a five-year period for researches in agricultural bacteriology under the direction of Dr. Perry W. Wilson, of the University of Wisconsin.

DR. BRUNO ROSSI, research associate at the University of Chicago, who was recently called to Cornell University, left Chicago for Mt. Evans, Colo., on August 5, with a party of physicists from the university. It is planned to make a study of cosmic rays at Mt. Evans, where stations will be established at widely separated heights on the mountain side. The number and velocity of the rays will be measured and photographs will be made of the showers. The headquarters of the expedition will be at the high altitude research laboratory on Mt. Evans, which was built cooperatively by the University of Denver, the Massachusetts Institute of Technology and the University of Chicago.

THE Research Laboratory of the General Electric Company at Schenectady has two visiting lecturers this summer. Professor J. G. Kirkwood, of Cornell University, winner of the American Chemical Society Award in Pure Chemistry for 1936, is giving a series of lectures on the theory of dielectric polarization. Professor H. Mark, until recently professor of chemistry at the University of Vienna and at present a member of the staff of the Polytechnic Institute of Brooklyn, will present a course on high polymers. In addition to giving the graduate courses, the visitors will discuss work in their fields with members of the laboratory staff.

DR. JAMES H. KIMBALL, director of the U. S. Weather Bureau in New York City, was the guest lecturer at the opening of "Weather or Not" on August 1 at the Hayden Planetarium of the American Museum of Natural History.

THE annual meeting of the Corporation of the Marine Biological Laboratory will be held in the auditorium of the Laboratory at Woods Hole, Mass., on

Tuesday, August 13, at 11:30 A.M., for the election of officers and trustees and the transaction of such business as may come before the meeting.

A SUMMER Intensive Training Course in General Semantics will be held from August 23 to 30 at the Institute of General Semantics, Chicago. The work will conclude the summer schedule and will be under the direction of Dr. Alfred Korzybski. Information and an outline of the program can be obtained from M. Kendig, educational director, Chicago.

At a special meeting of the Research Council on Problems of Alcohol of New York City on July 9, six types of membership, each requiring annual dues, with the exception of life membership, were inaugurated. These types of membership are as follows: regular membership, \$5 per year; contributing membership, \$10 per year; supporting membership, \$25 per year; sustaining membership, \$50 per year; patron, \$100 or more per year, and life membership, \$1,000 or more. Each membership includes a subscription to the *Quarterly Journal of Studies on Alcohol*, which has become the official organ of the council.

THE librarian of St. Bonaventure College, New York, the Rev. Irenaeus Herscher, reports that the college has arranged to acquire a microfilm library of 26,143 volumes, products of the printing press from the time that the first book was printed in English, in 1474, to 1640, covering almost two hundred years. The completion of this microfilm library was to have taken three years, but it is now estimated that it will take another year. Already 200,000 pages of the books have been photographed, and these will be available before the college reopens on September 17. The volumes being microfilmed represent many millions of dollars where value can be estimated. Many of them are considered priceless. The pages of the books are reproduced on the reels of film and they are shown full size and clearly readable on the screen of a reading machine.

Two grants have been made to the Louisiana State University by the General Education Board. One, of \$5,000 a year over a five-year period beginning on July 1, is to provide visiting teachers in the department of sociology. The other is a \$9,500 grant for 1940-41 to defray expenses of courses in techniques of population research in the department. The courses are to be taught by Dr. Warren S. Thompson, director of the Scripps Foundation for Research in Population Problems at Miami University, during the second semester of the session. The grant makes provision for six fellowships to be used at Louisiana State University during Dr. Thompson's period of service. Under the terms of these grants and in accordance

with plans developed by Dr. T. Lynn Smith, head of the department of sociology, the university will be enabled in each year to obtain as a visiting professor a young sociologist of decided promise from one of the other universities. Also additional time will be afforded the members of the faculty for research.

ACCORDING to the *Geographical Journal*, London, the Montreal Society of Geography, of which M. François Vézina is president and Dr. Benoît Brouillette is secretary-general, is housed at the École des Hautes Études Commerciales of the University of Montreal, and will work in cooperation with that body. In addition to stimulating public interest in geography by lectures and excursions, it aims particularly at encouraging geographical research, the teaching of geography from the primary school to the university on modern lines and the study of the regional geography of Quebec and the national geography of Canada. The geographical nomenclature of the Province of Quebec will also form another sphere of work. The society proposes to establish a specialized library, and, when funds permit, to publish a bulletin. Considerable support has already been received, and several meetings have been held.

ARRANGEMENTS have been made between the various Imperial Agricultural Bureaus whereby any publication upon the preparation of which two or more bureaus collaborate shall be included in a new series entitled "Joint Publications." It has been decided to regard the earlier Joint Publications on "Vernalization and Phasic Development of Plants" and "Erosion and Soil Conservation," as Nos. 1 and 2 in this series. Other joint publications produced in recent years but already out of print have not been given numbers in the series. The Imperial Bureau of Plant Breeding and Genetics and the Imperial Bureau of Pastures and Forage Crops have now produced Joint Publication No. 3, entitled "The Breeding of Herbage Plants in Scandinavia and Finland." It is a symposium consisting of a series of articles by specialists in the respective countries. G. Nilsson-Leissner, F. Nilsson, E. Åkerberg and R. Torssell contribute articles on work in Sweden, H. N. Frandsen, H. Wexelsen and O. Pohjakallio on Denmark, Norway and Finland, respectively.

Nature states that sixty-six Canadian university students will take training in research in Canadian institutions under National Research Council Scholarships during 1940-41. While the majority of these students will be engaged in chemical and physical investigations, such biological studies as genetics, plant pathology, physiology and zoology will each have a quota of students. Two Special Scholarships of 1,000 dollars each will be held in the Division of Chemistry at the Na-

tional Research Council laboratories, by R. L. Cunningham and R. B. Harvey of McGill University. Four fellowships of the value of 750 dollars each, and thirty-seven studentships of the value of 650 dollars each, will be held at Canadian universities directly under the auspices of the National Research Council. With the cooperation of Canadian universities, the National Research Council is also awarding twenty-three bursaries of 250 dollars each. These bursaries are available to students of high attainments who have just graduated and are ready to take their preliminary training in research.

At the Toronto meeting of the American Society of Biological Chemists a committee was appointed to consider the relationship of chemists to the work in clinical laboratories. The committee, consisting of Dr. William C. Rose, president elect; Dr. D. D. Van Slyke

and Dr. Vincent du Vigneaud, chairman, was authorized to act for the society and has submitted the following report: The American Society of Biological Chemists wishes to express its full agreement with the policy set forth in the resolution adopted by the American Chemical Society with regard to clinical laboratories: "In order that the public may be protected the states should license individuals engaged in determining data of a chemical nature bearing upon the public health or upon which the diagnosis and treatment of disease may be based, and that the states also should approve laboratories engaged in such work and their directors, solely on the basis of adequacy and competence and without assuming that any particular degree such as doctor of medicine, doctor of philosophy or doctor of science, is in itself a guarantee of the qualifications requisite to ensure the accuracy and experience necessary to the public welfare."

DISCUSSION

BACTERICIDAL FILTRATES FROM A MOLD CULTURE*

ALTHOUGH there is a large literature on bacterial antagonism, going back to the work of Metchnikoff and culminating in the striking results of Dubos at the Rockefeller Institute, there is, to my knowledge, only one recorded case of a bactericidal product formed from a mold. In 1929 Fleming¹—confirmed later by Reid²—found that filtrates from a particular *Penicillium* displayed marked inhibitory effect on the growth of many gram-positive and some gram-negative organisms, but without bactericidal effect. Gratia and Dath³ reported a *Streptothrix* whose filtrates were highly bactericidal to a variety of bacteria.

In this laboratory a mold—tentatively identified by Dr. Charles Thom of Washington as *Aspergillus flavus*—has been found which grows readily in liquid media yielding filtrates that are definitely bactericidal for some gram-negative as well as gram-positive bacteria. A series of other *Aspergilli*—all kindly supplied by Dr. Thom—has been examined in this way, with widely varying results. Another strain of *Aspergillus flavus* was found totally inactive, while several representatives of the *oryzae-flavus* group, as well as a strain of *Aspergillus parasiticus*, have shown activity in one degree or another; but none has been as active as the original organism. The results with any mold are fundamentally dependent upon the medium. Various media and conditions of growth are being studied, and at the time of writing a method has been found to

concentrate the active material, although nothing is yet known as to its nature. The results so far noted stem from an inherent property of the mold as against properties developed by adaptation in the sense of Dubos and of Waksman and collaborators.⁴ However, attempts are being made to grow the mold on bacterial cultures as sources of nutriment with the hope of accentuating the activity already existing.

A detailed report of this work will be published as results warrant. In view of the growing interest and more numerous investigations in this field of microbial antagonism it has seemed appropriate to publish this brief record at this time.

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ANTLER-EATING BY RODENTS

CARLSON'S query¹ as to the presence of an "urge" or appetite in the gray squirrel for calcium and phosphorus during pregnancy and lactation as evidenced by the eating of bone brings up a related question which may have some bearing on the case. This is a question of what becomes of deer antlers after they are shed.

It might be supposed that if the antlers persisted on the ground for several years after shedding they would become quite common on certain portions of our western range where it is heavily stocked with deer. It has been my observation through many years afield on such ranges that the antlers are exceedingly scarce. I believe this has been corroborated by many other observers. If it is actually a fact, the obvious

⁴ National Academy of Sciences, Washington, April, 1940. A report of this work was seen in the *New York Times* of April 24, 1940.

¹ A. J. Carlson, *SCIENCE*, 91: 573, June 14, 1940.

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¹ *British Jour. Exp. Path.*, 10: 226, 1929.

² *Jour. Bacteriology*, 29: 215, 1935.

³ *Compt. Rend. Soc. Biol.*, 92: 461, 1925.