

groups of the father and mother indicates that the effect is a function of mother's exposure, with a significance at the 0.02–0.05 level. The above mentioned stricture regarding maternal somatic effects is especially pertinent in this respect.

4. *Birth weight* (Table 2). Induced mutations might be expected to impair the metabolic processes of the fetus, and so decrease birth weight, i.e., the children of the more heavily irradiated parents might be expected to weigh less at birth. In both cities the interaction terms are significant at the 0.01–0.05 level. Constants are being refitted to these data taking cognizance of this fact. If these interactions are accepted as real, the tests of main effects are only approximate. The latter reveal no differences in Hiroshima but in Nagasaki the effect of both maternal and paternal exposure is at the level of significance. The differences are, however, in a direction contrary to hypothesis. The explanation of this finding is not readily apparent. It is not borne out by a comparison utilizing only radiation categories 2, 3, 4, and 5, nor are there height-weight differences in relation to parental radiation history among the children re-examined at age 9 months. As noted earlier, there are differences in mean parity between the mothers falling into the various radiation exposure groups, such that where both the mother and father had been relatively heavily irradiated there is a tendency for the mother to have borne more children at the time of this study. Inasmuch as parity is significantly related to birth weight (4), and since the parity differences have not been entirely eliminated by the truncation of the data which has been described, this may account for at least a portion of the findings with respect to birth weight.

The interpretation of the combined results of independent tests of significance, such as are presented in Tables 1 and 2, poses a number of problems, the solutions of which are not entirely clear at present. Furthermore, although truncation of the data at a maternal age of 35 has reduced the age and parity differential between the various radiation groups, there still remain significant differences. Since certain additional data are yet to become available and certain analytic possibilities remain to be explored, it would

appear that an attempt at this time at a definitive interpretation would be premature.

Even in this preliminary note, however, it should be pointed out that these findings, if taken at face value, are entirely consistent with what is known of the radiation genetics of a wide variety of plant and animal material, including *Drosophila* and mice. It is important to emphasize that the conditions of these observations, as well as the fact that they are confined to the first post-bomb generation, permit the detection of only a small fraction of the total genetic effect of exposure to an atomic bomb. Given our estimates of the radiation dosages involved, it has, by analogy with what is now known of radiation genetics, always been doubtful whether significant findings attributable to the genetic effects of irradiation would be apparent in the first post-bomb generation. It is of interest that of the four indicators herein discussed, the one with respect to which the evidence of a significant effect is strongest—sex ratio—is the one that most biologists would probably feel has the largest genetic component in its etiology. This apparent effect on sex ratio may be related to the relatively high proportion of all known inherited traits which is sex-linked in man in contrast, e.g., to the mouse, cat, or dog. An attempt to extend the sex ratio findings is in progress. There is no indication from this study of any "unusual" sensitivity of human genes to irradiation.

It is apparent from the table that the actual amount of critical material is small. It must be emphasized that this is the total material available during the period covered by this study in the cities of Hiroshima and Nagasaki. The only way that sample size could be increased would be through an attempt to trace the relatively few "heavily" irradiated survivors who have established residence elsewhere, an undertaking that has not appeared feasible nor sufficiently profitable in view of the additional effort and expense such an undertaking would require.

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News and Notes

National Meeting of American Chemical Society

THE chemical synthesis of sucrose was among the major advances reported at the American Chemical Society's 124th national meeting, held in Chicago September 6 through 11. A total registration of exactly 10,000 made it the largest ACS meeting ever held outside New York, and the Society set another record when its membership reached 70,000 during the week.

A 33-year-old Canadian chemist, Raymond U. Lemieux, announced the sugar synthesis, which solved a problem that had baffled Emil Fischer and virtually every other carbohydrate chemist for the past half century. Working with George Huber, a 25-year-old Swiss postdoctoral research fellow, in the Prairie Regional Laboratory of the Canadian National Research Council at Saskatoon, Lemieux tackled the project last April despite overwhelming evidence that it could not be done. By June they succeeded in making sucrose

out of derivatives of glucose and fructose, which had been made synthetically by previous investigators. Lemieux and Huber also synthesized maltose and a less common sugar, trehalose, in the course of their experiments.

Since natural sucrose is both abundant and cheap, the synthetic product is unlikely to find commercial application, but the Lemieux-Huber feat represents a significant contribution to carbohydrate chemistry which promises to make the synthesis of many complicated substances a matter of easy routine.

America's chemists and chemical engineers were challenged by ACS President Farrington Daniels of the University of Wisconsin to turn their attention to the food and fuel needs of future generations and to embark at once upon a long-range research program designed to meet those needs. In his presidential address at a general session of the meeting, he warned his audience that present resources of many types are dwindling and that imaginative and far-reaching investigations must be started to "insure that our children's children may have a continuation of the fuel, food, metals, and materials which we are so freely enjoying and so rapidly consuming."

An authority on both atomic and solar energy, Farrington Daniels emphasized the necessity of learning how to use them economically as sources of industrial power before existing gas, oil, and coal reserves are too far depleted. Dr. Daniels made it clear that he was not talking about any imminent shortage of these fuels, but said that "according to optimistic guesses, in a few hundred years, or at best a couple of thousand, the world's supply will be nearly gone."

Coupled with Dr. Daniels' appeal for early attention to the needs of the future was a call for a bolder approach to the whole field of research and development. He advocated more "risk research" which, like risk capital investments, may be lost but which on the other hand may bring in large returns, and he also urged a less timid attitude toward getting promising laboratory achievements into the pilot plant stage—even though this may prove costly if a project does not succeed.

To Sir Robert Robinson of Oxford University was presented the Society's Priestley Medal, highest honor in American chemistry. Sir Robert, Nobel Prize winner and internationally known authority on hormones and other natural chemicals, spoke on "Organic Chemistry at the Crossroads."

Professor Daniels also named the 1954 winners of ten other awards sponsored or administered by ACS. These awards will be presented at the Society's 125th national meeting to be held in Kansas City, Mo., March 24 through April 1. The recipients will be: *Garvan Medal*, Betty Sullivan, Vice-President and Director, Russell Miller Milling Company, Minneapolis; *American Chemical Society Award in Pure Chemistry*, John D. Roberts, California Institute of Technology; *Kendall Company Award in Colloid Chemistry*, Harry N. Holmes, Oberlin College; *Scientific Apparatus Makers Award in Chemical Education*, Raymond E. Kirk, Polytechnic Institute of Brooklyn; *Eli Lilly and Company Award in Biological Chemistry*, Harvey A. Itano, California Institute of Technology; *Fritzsche Award* (essential oils), A. R. Penfold, Museum of Applied Arts and Sciences, Sydney, Australia; *Paul-Lewis Laboratories Award in Enzyme Chemistry*, Alton Meister, National Cancer Institute; *Fisher Award in Analytical Chemistry*, G. Frederick Smith, University of Illinois; *Borden Award in the Chemistry of Milk*, Donald V. Josephson, Pennsylvania State College; and *Precision Scientific Company Award in Petroleum Chemistry*, Arthur P. Lien, Standard Oil Company of Indiana.

An appeal for an early end to the government's atomic power monopoly was made by Harold C. Urey of the University of Chicago Institute for Nuclear Studies in a luncheon address during the meeting. He called for changes in the Atomic Energy Act to permit private companies to control the patents on their developments and to own fissionable materials and accessory substances. Warning that other nations may take the lead in industrial application of nuclear power unless the United States pays more attention to the problem, Professor Urey asserted that private enterprise offered the best hope of making the peacetime benefits of atomic energy available to the public. He predicted that real progress along this line would come through the efforts of new, small companies comparable to the Ford company of the automobile industry's early days, rather than through the activities of large concerns already in existence, which, he said, tend to regard atomic energy "as a nuisance of a competitor."

Discovery of a wide variety of nontherapeutic uses for antibiotics was reported. The conquest of halo blight, a disease causing vast losses in the nation's string-bean crop, has been achieved through the use of a streptomycin compound. Aureomycin ice has lengthened the storage life of freshly caught fish. Injection of cattle with antibiotics and other meat-curing substances has made meat more tender and flavorful and has improved its keeping quality. Antibiotics have been used to protect beer from contamination and to increase the alcohol yield from grain fermentation by curbing harmful bacteria. Evidence that antibiotics in feed accelerate animal growth by stimulating bone development also was presented.

Significant progress in attempts to develop chemical weapons against virus diseases was revealed by a panel of outstanding virologists at the first symposium ever held on viral chemotherapy. Although emphasizing that no compounds were as yet available for treating human patients, the participants told of several classes of chemical which have been found to halt or slow down the action of specific viruses in test tubes, in chick embryos, and in animals. The researchers expressed cautious optimism concerning the prospects of ultimately finding chemicals to control such diseases as polio, mumps, measles, and the common cold.

Advances in many other fields, including petroleum, paints, plastics, rubber, and nutrition also were reported in 1193 papers presented before the Society's 21 scientific and technical divisions.

WALTER J. MURPHY

*American Chemical Society
Washington, D. C.*

Science News

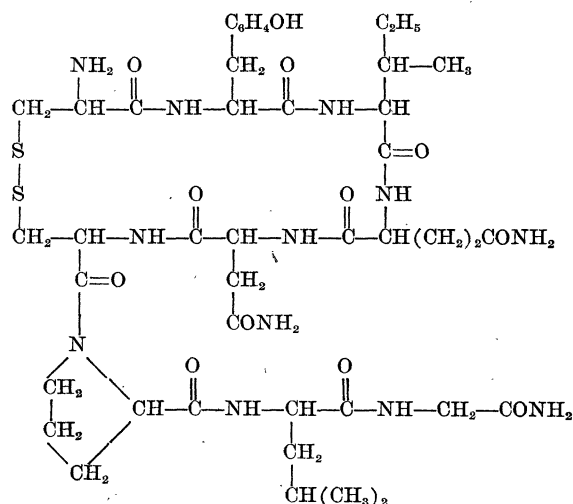
Stimulated by recorded observations that ancient Mediterranean armies were not as susceptible as modern armies to intestinal infections and that, further, the soldiers of the ancient armies drank wine heavily and usually under military orders, John Gardner, a student at the University of California, has conducted investigations to discover whether or not wine contains any **antibacterial substances**. He succeeded in isolating a substance which inhibits four representative bacteria. Although the inhibition is weak, the activity may be strengthened as the substance is further purified. For providing science with a new lead in its search for antibiotics, Mr. Gardner received the Kilmer Prize. This is awarded annually by the American Pharmaceutical Association to an undergraduate who has done outstanding independent research in pharmacy.

A compound which temporarily lowers blood pressure in animals has been isolated from rhododendron leaves by scientists of the National Heart Institute, U.S. Public Health Service. Although the compound, called andromedotoxin, has been obtained chemically pure, its structure is still unknown. It contains no nitrogen, yet resembles the veratrum alkaloids in physiological action. Small doses have a strong, brief hypotensive effect.

The work leading to this find has been carried out by two teams of scientists from the National Heart Institute. Over 1000 pounds of rhododendron leaves were required to make about 1 ounce of the chalk-white substance. The leaves came from West Virginia and North Carolina and were collected by the Department of Agriculture. Isolation procedures for obtaining the material from the source were conducted in Bethesda, Md., by Evan O. Horning, H. B. Wood, V. L. Stromberg, and J. C. Keresztesy. Pharmacological research with animals was done at Emory University School of Medicine by Neil C. Moran and A. P. Richardson. Dr. Moran recently reported on the work before the American Society for Pharmacology and Experimental Therapeutics. The drug has not been tested clinically.

It is announced in the *Journal of the American Chemical Society* (Oct. 5) that a group of scientists headed by Vincent du Vigneaud, Professor of Biochemistry at the Cornell University Medical College, has succeeded in synthesizing the pituitary hormone **oxytocin**, an important factor in childbirth and lacta-

tion. Working with Dr. du Vigneaud were Charlotte Ressler, John M. Swan, Carleton W. Roberts, Panayotis G. Katsoyannis, and Samuel Gordon. This is the first pituitary hormone, in fact the first polypeptide hormone, to be produced synthetically. It contains one equivalent each of 8 amino acids: leucine, isoleucine, proline, tyrosine, glutamic acid, aspartic acid, glycine, and cystine; and 3 equivalents of ammonia. It is a polypeptide with an approximate molecular weight of 1000, and as the following structural formula shows, is a cyclic disulfide.



The activity of the synthetic hormone has been assayed by the chicken depressor test. Its action on uterine muscle (isolated rat uterus and human uterus in labor) is as high as that of the natural hormone. It also has as high a milk-producing effect as natural oxytocin. One microgram injected intravenously will produce ejection of milk in 20 to 30 seconds.

The purified oxytocin has no effect on either blood pressure or the excretion of water by the kidney. There is a distinct hormone, vasopressin, with pressor and antidiuretic effects. Du Vigneaud and his co-workers, H. Claire Lawler and E. A. Popenoe, propose for vasopressin a structure similar to that of oxytocin, but with the leucine and isoleucine replaced by phenylalanine and arginine in beef vasopressin, and by phenylalanine and lysine in hog vasopressin. This indication that the same hormone obtained from different animals may have a different chemical structure is highly interesting.

The achievement of the synthesis of oxytocin, a name derived from the Greek word for rapid birth, establishes its chemical structure and thereby opens the door to many new investigations in biochemistry, pharmacology, and physiology. The synthesis may also provide an unlimited source of the oxytocic hormone for possible expansion of its use in clinical medicine, particularly in obstetrics and veterinary medicine.

Scientists in the News

Roger Adams, organic chemist and Head of the Department of Chemistry at the University of Illinois, has won the 1953 Midwest Award of the American Chemical Society's St. Louis Section. The award, an inscribed gold medallion, is presented annually in recognition of "meritorious contributions to the advancement of pure or applied chemistry or chemical research."

Joseph E. Alicata, Head of the Department of Parasitology, University of Hawaii Agricultural Experiment Station, has been given a leave of absence so that he might accept an assignment with the Division of International Health, U.S. Public Health Service, as Laboratory Director of Parasitology for the newly established Central Government Laboratory at Amman, Jordan.

Kurt Peter Anderko, formerly of the Max Planck Institut für Metallforschung of the Technische Hochschule, Stuttgart, has been appointed full research metallurgist at the Armour Research Foundation of the Illinois Institute of Technology.

Konrad Buettner has accepted the appointment of Acting Associate Professor of Meteorology at the University of Washington, Seattle.

Marion T. Clark, Assistant and Acting Chairman of the University Relations Division of the Oak Ridge Institute of Nuclear Studies for the past 2½ years, has returned to Emory University to resume his post as Associate Professor of Chemistry.

Vining C. Dunlap, Director of Tropical Research for the United Fruit Company, has retired after 31 years of service. In August the company's new Vining C. Dunlap Laboratory for Tropical Research in La Lima, Honduras, was dedicated in Dr. Dunlap's honor.

W. E. Edington, formerly Head of the Department of Mathematics at DePauw University, has been made Professor Emeritus.

John D. Ferry of the University of Wisconsin has been presented the 1953 Bingham Medal in recognition of his outstanding contributions to rheology.

On September 16 the President announced the recess appointment of **Laurence McKinley Gould**, President of Carleton College, Northfield, Minnesota, and leading geologist and geographer, to the National Science Board of the National Science Foundation. Dr. Gould will fill out the term of **James B. Conant** which expires May 10, 1956. Dr. Conant resigned when he became U.S. High Commissioner for Germany. The National Science Board is the primary policy-making body of the National Science Foundation.

David B. Hand, head of the Division of Food Science and Technology, New York State Agricultural Experiment Station, Geneva, has been granted six months' leave of absence by Cornell University to make a

survey of food processing on Formosa. He will be a member of the technical staff of The J. G. White Engineering Corporation of New York City, consultants to the National Government of the Republic of China. The project is being financed by the U.S. Foreign Operations Administration.

Thomas Little, assistant professor of biology who resigned from the University of Nevada in protest over the dismissal of Frank Richardson (News and Notes, Aug. 7), has been appointed an associate agriculturist for the University of California. His headquarters are at Riverside, where he will act as farm advisor to the agricultural extension work for ten Southern California counties.

Alfred O. C. Nier, physicist at the University of Minnesota, has succeeded **J. W. Buchta** as Head of the Physics Department. Dr. Buchta, department chairman for 15 years, has been appointed Associate Dean of the College of Science, Literature and the Arts. The first scientist to isolate Uranium-235, Dr. Nier has played a vital role in the development of fundamental knowledge about atomic energy.

Frank Press, Associate Professor of Geology at Columbia University, has accepted a 3-month appointment to the UNESCO program of technical assistance to Israel. Dr. Press will return in December, when he will have completed supervising the installation of two seismograph stations and training personnel in their operation.

Frederick G. Sawyer, former Assistant to the Director of Research at Stanford Research Institute, has recently joined The Ralph M. Parsons Company, Los Angeles, where he is engaged in special projects in the fields of chemical and petroleum engineering.

Marshall R. Warren, Associate Professor of Pharmacology at the University of Tennessee Medical Units, has resigned to accept a position as Chief of the Division of Pharmacology in the research laboratory of Mead Johnson, Evansville, Ind.

On the anniversary of his 70th birthday last spring, **Carl J. Wiggers** was the recipient of the honorary degree of Doctor of Medicine honoris causa, from the Medical Faculty of the Ludwig-Maximilian University, Munich, Germany. Dr. Wiggers was a pupil of Otto Frank in the Physiological Institute of that university in 1912.

Dr. Wiggers became an Emeritus Professor of Physiology from Western Reserve University after 35 years of service. He is now Honorary Professor of Physiology in the Frank E. Bunts Educational Institute associated with the Cleveland Clinic.

Jerome J. Wolken has recently been appointed Director of Research for the Eye Bank of Pittsburgh and also head of a new biophysics research laboratory at the Eye and Ear Hospital, University of Pittsburgh Medical Center. He will study photosynthesis, photoreceptors, and photobiology.

Education

Establishment of a new research unit at **Columbia University** has been announced jointly by the university and the Daniel and Florence Guggenheim Foundation, which has provided a grant of \$329,000. The new unit will be known as the **Daniel and Florence Guggenheim Institute of Air Flight Structures**. Preliminary organizational steps are proceeding, and the new Institute will begin operation on Jan. 1, 1954. Its activities will be carried out by the Department of Civil Engineering, and by other appropriate segments of the university working closely with Civil Engineering.

An advisory board consisting of aviation and engineering experts will be appointed to assist in guiding the Institute's activities. The purposes of the new unit are: to train exceptionally qualified graduate students in the comparatively new field of air flight structures; to conduct research in aircraft structure and design, especially for supersonic flight; to act as a national clearinghouse for technical information in this field; and to disseminate technical knowledge regarding air flight structures.

The Division of Geological Sciences at **Harvard University** has a new building, a modern two-story masonry addition to Dunbar Laboratory in which experimental programs under the direction of Francis Birch, Sturgis Hooper Professor of Geology, will be housed, together with shop facilities formerly located in another building.

A series of eight monthly lectures is being offered at the **Illinois Institute of Technology** for high school science teachers to keep them informed of the latest developments in their fields. The schedule calls for two lectures each in the fields of chemistry, physics, biology, and mathematics. Teachers are encouraged to bring guests; there is no charge for admission.

A revised curriculum is now in effect for entering students at the **Massachusetts Institute of Technology**. For the first time in the Institute's history most freshmen registering this fall were able to choose one elective course, in addition to four subjects and the basic military science course required of all entering students. These electives range through many areas, from spoken languages to the theory of numbers. Several "survey courses," intended to introduce students to basic principles in broad areas of scientific interest, are being given for the first time. Among these are Elementary Meteorology, Perspectives in Life Science, Conservation of Natural Resources, and Earth Science.

Recent statistics about MIT are of general interest. The combined academic and research budgets during 1952-53 came to nearly \$43,000,000—a sum almost equalling the peak reached during World War II. The students, staff, and other personnel which make up the MIT community exceeded 11,000, the largest number to date. There were 5074 students,

3154 of them undergraduate. The enrollment of graduate students, 1921, was a new high. Further, in 1953-54 MIT will have 63 National Science Foundation fellows, or 11% of all those selected for the entire country.

Grants and Fellowships

Yale University and the Bernice P. Bishop Museum of Honolulu are offering a series of **Bishop Museum Fellowships** for scientific research in the Pacific, two of which are awarded annually. Similar fellowships were awarded prior to World War II.

The first fellowship in the new program has been awarded to Frank Richardson of Reno, Nevada, former Chairman of the Department of Biology of the University of Nevada (News and Notes, Aug. 7). Dr. Richardson will conduct a program of research on the breeding cycles of sea birds in the Hawaiian Islands. He has arrived in Hawaii and has commenced his field observations. Dr. Richardson's headquarters are established at the Bishop Museum.

Nominations are now being received by the American Pharmaceutical Association for the 1954 **Chilean Iodine Education Bureau Award** recognizing outstanding research in the chemistry and pharmacy of iodine and its compounds as applied in pharmacy or medicine. The award consists of \$1,000 and a diploma setting forth the reasons for selection of the recipient. It may be presented each year at the annual meeting of the Association.

Any member of the Association may propose a nominee by submitting eight copies of each of the publications to be considered in the competition, a biographical sketch of the nominee including date of birth, and a list of his publications. Eight copies of the nomination must be submitted to Robert P. Fischelis, Sec., American Pharmaceutical Association, 2215 Constitution Ave., N.W., Washington 7, D.C. *Nominations must be received on or before Jan. 1, 1954.*

A nominee must be a resident of the United States or Canada. He must have accomplished outstanding research in the chemistry or pharmacy of iodine and its compounds as applied in pharmacy or medicine.

The Department of Meteorology at **Florida State University**, Tallahassee, announces the availability of graduate assistantships for qualified students. The assistantships are in connection with the department's research activities, supported in part by contracts with the Geophysics Research Directorate, Air Force Cambridge Research Center, and the Geophysics Branch, Office of Naval Research.

The minimum stipend is \$1,620 per year plus waiver of out-of-state tuition for students who hold a bachelor's degree from an accredited institution and have completed at least one year of university physics and one year of calculus. The minimum stipend is \$1,920 per year plus waiver of out-of-state tuition for students who hold an M.S. degree in meteorology. Gradu-

ate assistants are permitted to carry as many as ten semester hours of course work.

Application blanks and additional information may be obtained by writing Dr. Werner A. Baum, Head, Department of Meteorology, Florida State University, Tallahassee, Florida. *Applications for 1954-55 should reach the Department of Meteorology before March 31, 1954*; however, all possible consideration will be given to applications that arrive at a later date.

The National Heart Institute of the U.S. Public Health Service is conducting a research training program in enzyme chemistry at the Institute for Enzyme Research of the University of Wisconsin. Candidates must possess a Ph.D. or M.D. degree. Stipends conform to those in effect for postdoctorate research fellows of the Public Health Service. The period of training is 12 months.

Application forms and further information may be obtained from Dr. D. E. Green, Institute for Enzyme Research, Madison, Wis. *Applications should be submitted preferably before Jan. 15, 1954.*

Northwestern University has announced receipt of a \$6000 grant from the United Cerebral Palsy Association of Chicago. The gift is for support of research on the speech development of children with cerebral palsy under the direction of Harold Westlake of the speech clinic.

The School of Graduate Studies, Michigan State College, offers the following appointments to qualified students, predoctoral and postdoctoral. Inquiry should be directed to the Dean, School of Graduate Studies, Michigan State College, East Lansing, unless other directions are given.

Graduate Assistantships. Stipends range from \$1,000 to \$1,400, with a few at higher values, depending upon the nature and extent of service required. Direct inquiries to the appropriate department heads.

Tuition Scholarships. These appointments carry remission of fees and, in the cases of some foreign students, an additional award of \$75.00 per quarter.

Predoctoral Fellowships. About twenty such appointments are made each year. Stipends range from \$500 to \$1,200, and in most but not all cases fees are waived. No service to the College is required.

Postdoctoral Fellowships. One of these, carrying a stipend of \$3,000, is awarded each year for research in a field for which the college has appropriate facilities.

The Social Science Research Council has announced that the following fellowships and grants are being offered in 1954. The awards are of two distinct types:

(1) Those designed exclusively to afford training in research in social science. These include the Research Training Fellowships and Undergraduate Research Stipends.

(2) Those designed to aid scholars of established competence in the execution of their research, namely, the Faculty Research Fellowships and Grants-in-Aid of Research. The latter do not provide full maintenance,

and are not available to students working for degrees.

No funds are available for subsidizing the publication of books or articles. All awards are restricted to permanent residents of the United States or Canada. Faculty Research Fellowships are offered only in the United States. *Applications, on forms provided by the Council, must be filed not later than Jan. 4, 1954.* Inquiries, which should indicate age, academic status, vocational aims, the nature of the proposed training or research, and the type of assistance desired, should be addressed to the Washington office of the Council at 726 Jackson Place, N.W., Washington 6, D.C.

Meetings and Elections

The 2nd Conference of Industrial Hygiene in Yugoslavia, organized by the Institute of Industrial Hygiene, Yugoslav Academy of Sciences and Arts, was held in Zagreb, Sept. 6-9. The conference gained a more than purely regional importance by the participation of research workers from 9 other countries. In the section on toxicology the emphasis was placed on poisoning with heavy metals, especially lead, which remains one of the pressing problems of occupational medicine in Yugoslavia. Numerous reports were concerned with the psychology and physiology of human work. As an experiment in international scientific cooperation, the abstracts of all the papers, irrespective of the language in which the report was actually presented, were made available in printed form both in Croatian and in English.

An international Cosmic Ray Conference sponsored by the National Science Foundation and Duke University will be held on the Duke Campus Nov. 30-Dec. 2. Some 60 to 70 leading physicists will take part in the meeting, designed to evaluate the current status of cosmic ray research. Among the group will be scientists from France, England, Sweden, Mexico, Canada, Puerto Rico, Bolivia, and Brazil, as well as from the United States.

The main emphasis of the conference will be on high-energy phenomena which are beyond the range of present-day accelerators. During 6 sessions in the 3-day meeting, the scientists will present 40 or more invited papers on such topics as the origin, time, fluctuations, and propagation of cosmic rays, new unstable particles, and nuclear interactions.

The conference committee will consist of Prof. B. Rossi, Massachusetts Institute of Technology, chairman; Prof. C. Anderson, California Institute of Technology; Prof. M. Schein, University of Chicago; Dr. R. J. Seeger, National Science Foundation; and Dr. L. W. Nordheim, Duke University.

A meeting of importance to industrial health activities will be held by the Industrial Hygiene Foundation on Nov. 18 and 19 at its headquarters at the Mellon Institute, Pittsburgh. Some 600 management executives, physicians, engineers, toxicologists, chemists, attorneys, and industrial hygienists will attend this

18th annual meeting. More than 40 authorities will address the representatives of the 360 member companies of the Foundation. They will present new material in the field of industrial health, and will lead discussions that afford a valuable exchange of information on specific problems encountered in a wide variety of industries.

The **Interamerican Society of Psychology (sIp)** has been invited by the Dominican Republic to celebrate its first meeting from Dec. 10 to 20 at the University of Santo Domingo, the oldest University of the Americas. Sixty delegates from all of the American countries, among them 15 representatives of the United States and Canada, will be guests at the Hotel Jaragua in Ciudad Trujillo.

There will be 5 general inter-American round-table discussions: (1) tasks and limits of psychological disciplines; (2) the professional and legal situation of the psychologist; (3) the present state of psychology in the various countries of the Americas; (4) psychology of culture and of values; and (5) controversial problems of psychology, education, and psychiatry. Delegates will be asked to present papers which will be published. Applications of citizens of the United States and Canada for membership in the sIp should be sent, accompanied by a curriculum vitae in triplicate, to Werner Wolff, vice president of the sIp, Dept. of Psychology, Bard College, Annandale-on-Hudson, N.Y.

During the 19th International Physiological Congress at Montreal a meeting open to all pharmacologists attending the Congress was held at McGill University. At this meeting, it was decided to set up a council of seven members from seven different nations, to look after the interests of pharmacologists in future international congresses, to explore the possibility and desirability of affiliating with the newly formed International Union of Physiological Sciences, to collect and distribute information about the activities of pharmacological organizations, and to perform such other functions as might seem necessary and advisable. The following council members were elected: Daniel Bovet, Italy; J. H. Burn, England; C. Heymans, Belgium; K. O. Möller, Denmark; E. Rothlin, Switzerland; C. F. Schmidt, USA; and H. Weese, Germany. This council subsequently selected Dr. Heymans as president, Dr. Schmidt as secretary, and adopted the name **International Council of Pharmacologists**.

The **Mycological Society of America** has elected the following officers for 1953-54: pres., Leland Shanor, University of Illinois; v. pres., Donald P. Rogers, New York Botanical Garden; sec.-treas., C. J. Alexopoulos, Michigan State College (for 3-year term). Representatives to the AAAS Council are Wesley G. Hutchinson, Laboratory of Microbiology, University of Pennsylvania and Grant D. Darker, Ben Venue Laboratories, Bedford, Ohio. William W. Diehl, Division of Mycology, Plant Industry Station, Beltsville,

Md., has been appointed to replace Dr. Hutchinson on the Council beginning Jan. 1, 1954.

The **National Shellfisheries Association** has elected the following officers for 1953-54: pres., A. F. Chestnut, Institute of Fisheries Research, Moorhead City, N.C.; v. pres., G. Francis Beaven, Chesapeake Biological Laboratory, Solomons, Md.; sec.-treas., M. R. Carriker, Dept. of Zoology, Rutgers University.

The **Texas Academy of Science** will hold its annual meeting, as guests of the Medical Branch of the University of Texas at Galveston on Dec. 3-5. The Collegiate Division and the Junior Academy will meet with the Senior Section.

Miscellaneous

Recent visitors from abroad at the National Bureau of Standards:

Severino Parientes, Sales Manager, Clay Products Company, Panama.

Frederic G. Foster, Statistician, University of London, London, England.

Masashi Hom-ma, Professor, Department of Civil Engineering, Tokyo University, Tokyo, Japan.

Fojiro Ishihara, Professor, Civil Engineering Department, Kyoto University, Kyoto, Japan.

H. J. Schoemaker, Associate Director, Hydraulic Laboratory, Delft, The Netherlands.

Umberto Colombo, Research Chemist, Montecatini Chemical Company, Nouara, Italy.

Wilfred Abson, Harwell Laboratory, Harwell, England.

Denis Taylor, Director of Electronic Division, Harwell Laboratory, Harwell, England.

Toshimitsu Murasaki, Instructor in Aeronautics, Tokyo University, Tokyo, Japan.

Evert Aulin, Aktiebolaget Gas Accumulator, Lidingo, Sweden.

Maurice V. Wilkes, Director, The University Mathematical Laboratory, University of Cambridge, Cambridge, England.

D. I. Lawson, Assistant Director, Fire Research Station, Department of Scientific and Industrial Research, Hertz, England.

Rolando Salvadorini, Research Laboratory, Radio Italiana, Torino, Italy.

Ikhtiar-ul-Mulk, Chief Research Officer, Government of Pakistan, Karachi.

Saburo Muroga, Research Engineer, Nippon Telephone and Telegraph Corporation, Tokyo, Japan.

Chujoe Yamanaka, Osaka University, Osaka, Japan.

Jamished Maneshka, Deputy Director of the India Supply Mission, Lahore, Pakistan.

Erratum: In News and Notes, Sept. 25, there was an error in the listing of the officers of The Kansas Academy of Science. D. J. Ameel, Head of the Department of Zoology, Kansas State College, is vice president, and C. A. Rogerson, Assistant Professor of Botany, Kansas State College, is secretary.