News and Notes

XIth General Assembly of the International Union of Biological Sciences Nice, France, August 17-21, 1953

THIS meeting marked, it is believed, a turning point in the history of the IUBS. The rapid growth of the biological sciences in recent years and the need for more cooperation and coordination on the international level has made the need for such an organization more imperative, while at the same time the existing administrative set-up, low budget, and lack of support have made the IUBS quite ineffective. The meeting of the 11th General Assembly was attended by delegates from Australia, Austria, Belgium, Denmark, France, Great Britain, Israel, Italy, Japan, Netherlands, Sweden, Switzerland, the United States, and Yugoslavia, and representing as individuals the several sections of biometry, botany, cell biology, embryology, entomology, genetics, limnology, microbiology, and zoology. The principal discussion revolved about the need for reorganizing the IUBS and for developing a strong and forward-looking program, one that would be less preoccupied with its own administrative affairs and more broadly dedicated to the international problems of biological science. This goal cannot be achieved without a considerable increase in the sums of money available to the organization, which in 1952 received as total dues from the member nations only $1955. Figures compiled by R. E. Cleland, U.S. delegate, show that very few other international scientific unions have so small a budget. The union for geodesy and geophysics has $26,700; that of astronomy $23,500; and that of chemistry $13,800. If the biological sciences are to accomplish much, they will require some similar amount.

In the past the program of the IUBS has included (a) support of three colloquia per year, (b) small appropriations for four abstracting services (*L'Année Biologique, Biological Abstracts, Resumptio Genetica,* and *Zoological Record*) and for three international committees on nomenclature (zoology, botany, bacteriology), and (c) some support for four international biological centers: (1) a live collection of *Drosophila* species, at the University of Pavia; (2) a depository of microscopic slides and preparations, at Louvain (see p. 3A, advertising section, of this issue); (3) a serological museum, at Rutgers University; and (4) an institute of human heredity, at Copenhagen. For 1954, symposia are planned on the culture of vegetative tissues, in connection with the 8th International Botanical Congress to be held in Paris; a second, on the evolution of the benthic life of great lakes (Pallanza); and a third on some aspect of cytology, in connection with the International Congress of Cell Biology to be held at Leiden. For 1955 it is contemplated that the subjects will be in the fields of embryology, biometry, and entomology, and in the U.S.A., Brazil, and Brazil, respectively. For 1956, the tentative subjects selected are the comparative biology of aquatic animals from the biogeographic point of view (Italy); the biosynthesis of antibiotics (Belgium); and some aspects of applied genetics (Japan).

A plea for more attention on the international level to the critical need for methodically organizing the task of comprehensively and effectively abstracting and indexing the world biological literature was met with a unanimous agreement that steps should be taken to that end. The undersigned was made chairman of a new international committee with power to investigate present practices and needs and to make recommendations for improved procedures.

The two following resolutions dealing with the international exchange of biological materials and with crop protection, respectively, were adopted after having been proposed by the U.S. delegation:

"In view of the urgent need for facilitating international information and exchange of biological materials (animals, plants, cultures, preparations, etc.) for purposes of research, testing, assaying and teaching, the Bureau is directed to recommend measures by which the various national services already concerned with the problems of biological supplies could be brought into closer cooperation and their transnational activities facilitated (e.g., shipping and quarantine regulations, certification, international registry, etc.) and such services be inaugurated in countries where they are not yet in existence."

"In view of the rapidly increasing danger to crop plants from foreign pathogens inadvertently introduced by the growing volume of air traffic, it is imperative that large-scale studies on an international level be undertaken to encompass the whole field of plant pests caused by microbial, plant, and animal vectors. The Bureau is therefore directed to explore the problem and to initiate appropriate machinery for the correlation and coordination of the various national attacks on this problem."

The pending reorganization of ICSU (International Council of Scientific Unions) was considered in its relation to the IUBS, which is a member organization of ICSU. It was the consensus that in any such rearrangement the life sciences ought to remain combined within a single organization. The proposal of the physiologists at the 19th International Physiological Congress in Montreal that a separate international union of physiological sciences be organized was regarded as an unfortunate development, tending to split apart the morphological and physiological aspects of biology in a futile and completely unwarrantable way.

The Bureau of IUBS was reorganized concomitantly with the election of new officers, as follows: president, Sven Hörstadius (Sweden); vice president, Ralph E. Cleland (U.S.A.); general secretary, G. Montalenti (Italy); secretary, R. Ulrich (France); and treasurer, A. Linder (Switzerland). The main

offices of the Bureau, in accordance with the residence of the new secretary general, will move to Naples. As a major step in the reorganization and reinvigoration of IUBS, a policy board is to be set up, to act as advisory council to the Bureau in all matters of basic policy and planning. The policy board is to be composed of eminent scientists selected irrespective of country or biological specialty. Its first task will be to draft a new constitution more in keeping with the problems and needs of international biology at the present time.

It is truly gratifying to be able to report that the meeting ended, in the words of Paul Weiss, chief U.S. delegate, in a crucially needed reorganization and in a new spirit. "Policies were broadened; new programs outlined; the administrative machinery simplified; new personnel elected in the interest of rotation; a 'bicameral' system instituted by the creation of a scientific policy board to supplement the administrative bureau; a campaign to increase membership and to raise dues and contributions inaugurated; and a number of new projects of practical significance undertaken. Above all, an improved community spirit was affirmed among the various nations and disciplines, which if given the needed encouragement and practical means of support promises to make the IUBS into a truly vigorous and effective international instrument."

BENTLEY GLASS

U.S. Delegate

Science News

The National Committee of Genetics and the National Committee of Plant and Animal Breeding of the Science Council of Japan has issued ***A List of Geneticists in Japan, 1952***. The booklet contains the names and addresses of 381 geneticists now conducting research in genetics "proper and applied." Also listed for each person is the year of birth, degree, present position, and chief interest. An Appendix contains the representative institutions of genetics and breeding in Japan.

What is most noteworthy about this directory is the rapidly increasing number of scientists in Japan who are working in this field. The number is already nearly half that of the geneticists in the United States, which leads the world in the number of persons engaged in this branch of experimental biology. The comparative recovery of Japanese science since the end of the war thus appears to be far greater than that of Western Germany. If Japan is now virtually the second nation in scientific productivity (a matter that should be checked by a careful study), then the need for adequate guides to the Japanese scientific literature, most of which is published in the Japanese language, is of growing concern.

To facilitate the work of mechanical pickers, almost half of the 1,600,000 acres of cotton grown in California last year were treated with chemicals that remove the leaves. Frederick T. Addicott, associate professor of botany at the University of California at Los Angeles, has reported that, although several good types of **chemical defoliants** are now in use, there is room for improvement. More than 1000 new chemicals are being tested for their defoliating properties. Dr. Addicott is seeking to identify the anti-enzymes which are involved in defoliation. The research is being supported by the California Planting Cotton Seed Distributors.

Derivatives of uridine-5′-phosphate (uridylic acid). For some years adenosine triphosphate and other derivatives of adenylic acid, such as the various nicotinamide and flavine dinucleotides, have played central roles in the development of intermediary metabolism.

Recently, increasing interest has developed in the metabolic activities of derivatives of uridylic acid, the uracil analogue of adenylic acid. It is recognized, for instance, that orotic acid enters into nucleic acid synthesis by way of conversion to uridylic acid. It was shown by Park in 1952 that in penicillin inhibited bacterial cultures there was an accumulation of nucleotides in which uridine diphosphate was coupled to an acetyl hexosamine. Quantitative studies by Strominger with labeled uracil indicated that inhibition of nucleic acid synthesis by penicillin is quantitatively related to the accumulation of uracil and cytosine nucleotides. Also in 1952 Paladini and Leloir showed that a new coenzyme, uridine diphosphate glucose, was involved in the conversion of galactose-1-PO_4 into glucose-1-PO_4 by yeast.

More recently Dutton and Storey have shown that uridine diphosphate glucuronic acid is active in the synthesis of menthol glucuronide by a liver enzyme. Leloir and Cabib have found that uridine diphosphate glucose in the presence of a yeast enzyme will react with glucose-6-PO_4 to form uridine diphosphate and trehalose phosphate. It seems evident that some derivatives of uridylic acid are active in certain transglycosidation reactions. Kornberg succeeded in showing that phosphopyruvate would react with uridine diphosphate in an enzyme catalyzed reaction to yield pyruvate and uridine triphosphate, an analogue of adenosine triphosphate. More recently the isolation of uridine triphosphate from yeast by ion-exchange chromatography was announced by Lipton, Morell, Frieden, and Bock. Although it is evident that uridine triphosphate is present in yeast, its functions are as yet unknown.

In view of these evidences of the metabolic activity of uridine-5′-phosphate derivatives, the recent announcement by the Pabst Laboratories of Milwaukee that purified uridine triphosphate is now commercially available will be received with great interest by biochemists. For references see *J. Am. Chem. Soc.* **75**, 5449 (1953).—M.H.A.

The University of California has the first fossil **Diprotodon,** an ancient marsupial resembling a rhinoc-

eros, ever to be sent out of Australia. Last summer R. A. Stirton, chairman of the Berkeley Department of Paleontology, led an expedition which found a burial ground of the ancient beasts near Lake Callabonna, in South Australia about 1000 miles from Adelaide. The burial ground may contain up to 1000 fossil specimens of the diprotodon. The specimens taken out by Dr. Stirton's party were the first complete ones ever recovered.

The establishment of a National Science Foundation Advisory Committee to consider the effects of **government support to colleges and universities** on their research and teaching functions has been announced. The Committee was authorized by the National Science Board, which also selected its own chairman, Chester I. Barnard, to be the chairman of the Committee. The other members are:

Arthur S. Adams, American Council on Education
Vannevar Bush, Carnegie Institution of Washington
James S. Coles, Bowdoin College
Harold W. Dodds, Princeton University
Conrad A. Elvehjem, Graduate School, University of Wisconsin
T. Keith Glennan, Case Institute of Technology
Virgil M. Hancher, State University of Iowa
William V. Houston, Rice Institute
Clark Kerr, University of California, Berkeley
C. N. H. Long, Yale University
Don Price, The Ford Foundation
Julius A. Stratton, Massachusetts Institute of Technology

Those concerned with higher education have long recognized that the extent and scope of financing by government of development projects and research in universities and colleges raises some important questions about the effects of such funds upon the customary teaching and research activities of the institutions. During World War II and the postwar emergency period many millions of dollars have been spent by government agencies for procurement of services in technological developments in universities and colleges. Relatively few millions of dollars have been provided for research and education in the sciences, although in many instances these institutions are uniquely fitted to carry on such activities.

A closely related question to which the Committee may also give attention is how the federal government, in cooperation with the colleges and universities, may best develop and encourage research and education in the sciences. These matters will receive objective study and appraisal by the Foundation with the advice of the Committee. The results of the study may be expected to have substantial value both to government agencies and the institutions of higher education.

Statistics compiled by the Foundation indicate that during the year ending June 30, 1952, educational institutions received almost $300 million from federal agencies for development and research. Approximately $136 million (46 percent) was spent by instructional departments. Of the rest, about $3 million was spent by affiliated research organizations, $12.5 million by agricultural experiment stations, and $143.5 million by research centers, which were administered by educational institutions for specific federal agencies but organizationally segregated from the normal activities of the institutions. According to the Foundation a total of 225 educational institutions received some federal support for development and research in 1951–52; these included 86 universities, 95 liberal arts colleges, 41 professional-technical schools, and three other educational institutions.

Gypsy moth caterpillars ate the leaves off 1,500,000 acres of trees in New England last year. This resulted in more than double the defoliation caused by the record outbreaks of 1945 and 1937 when approximately 600,000 acres of trees were damaged. E. D. Burgess of the Bureau of Entomology and Plant Quarantine, U.S. Department of Agriculture, has reported that gypsy moth outbreaks seem to run in 8-year cycles. Scientists are unable to explain why the recent attack was so acute.

Defoliation must normally continue for several seasons before trees are killed, although partial defoliation will retard growth. Hardwood trees suffer the most, because routine spraying now protects fruit orchards. DDT is an effective aid, and this year 186,000 acres were treated.

The gypsy moth (*Porthetria dispar*) was imported into the country in 1886 and the federal government's control efforts are primarily directed toward confining it to the New England area. Parts of all the New England states and the eastern edge of New York are troubled by the pest. Last season Massachusetts received the heaviest damage. Preliminary surveys indicate that there may be another serious outbreak this year.

The National Bureau of Standards *Technical News Bulletin* for Nov., 1953, devotes nine pages to **Project Tinkertoy,** an automatic production line for the manufacture of electronic products, and a novel system making this possible, that was developed by NBS under a program sponsored by the Navy Bureau of Aeronautics.

Starting from raw or semiprocessed materials, machines automatically manufacture ceramic materials and adhesive carbon resistors, print conducting circuits, mount resistors, capacitors, and other miniature component parts on standard, uniform steatite wafers. The wafers are stacked very much like building blocks to form a module that performs all of the functions of one or more electronic stages. Automatic inspection machines check physical and electrical characteristics of the parts-mounted wafers at numerous stations along the production line. The completed module is a standardized, interchangeable subassembly combining all of the requirements of an electronic circuit with ruggedness, reliability, and extreme compactness.

The key to this automatic, mechanized production of electronic equipment in Project Tinkertoy is the design system. Called MDE, for Modular Design of

Electronics, the system establishes a series of mechanically standardized and uniform modules, or building blocks, producible with a wide range of electrical characteristics. Each module, in general, consists of some four to six thin ceramic wafers, bearing various circuits associated with an electronic stage. A number of individual modules are combined to form a major subassembly. The composition of modules into major subassemblies is possible because there is great similarity between circuits and parts of circuits in modern electronic equipment.

The production system that has been developed is called MPE, Mechanized Production of Electronics. MPE largely utilizes noncritical raw materials. Ceramic wafers, 7/8 in. square by 1/16 in. thick, are produced directly and in quantity from the raw ingredients. Ceramic capacitors are made in a similar fashion, and another part of the line produces adhesive tape resistors.

These and other basic parts are fed into the production line. The appropriate circuits are printed by automatic machines, and the circuit configuration is achieved through photographic processing. Quality control is established by automatic inspection, directed by information prepared in punched card form. Special components, not suitable for "printing" techniques, can be incorporated into the modules. Automatic physical and electrical inspection is provided for in the production line.—K. L.-H.

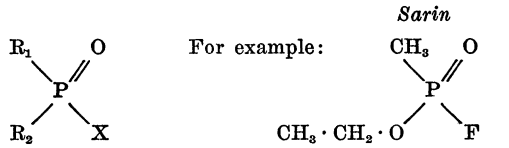
An overall picture of **tropical weather in the Pacific** is beginning to emerge. Louis B. Slichter of the Institute of Geophysics, University of California at Los Angeles, attributes this development to three things: (1) World War II, (2) atom bomb tests, and (3) the efforts of the U.C.L.A. meteorological research team sponsored by the U.S. Air Force.

"Pacific operations in World War II demonstrated that meteorological data about the tropical Pacific were inadequate and provided the impetus for obtaining a better weather picture of the region," he said. "The several atom bomb tests in the Pacific have furnished a large collection of tropical weather data. An analysis of these data by a U.C.L.A. group under the direction of Dr. C. E. Palmer and additional observations in the Pacific have revealed that conventional ideas on atmospheric circulation in the region are unrealistic."

The current estimate of tropical Pacific weather is as follows: In general, equatorial circulation is dominated by a broad easterly current, the vehicle of a long train of atmospheric waves moving westward and extending over the breadth of the Pacific. These atmospheric waves grow in amplitude until they finally break into vortices that stagnate seasonally over Australia or southeastern Asia to cause the monsoon season. A certain small proportion of these vortices intensify rapidly and become the typhoons that annually sweep through the Philippines and Japan.

How many scientists know about **UNESCO coupons** for books, films, and scientific instruments and material, purchasable in most countries except those behind the Iron Curtain, and usable for buying such articles in the other participating countries? The distributor for the U.S.A. is the UNESCO Office, UN Building, Room 2201, New York 17, N.Y. In most of the participating countries, the coupons can be sent direct to bookseller, publisher, or supplier.

In a lecture given at the Baltimore Section of the American Chemical Society, Bo Holmsted of the University of Uppsala dispelled much of the mystery surrounding the so-called "**nerve gases**" that were prepared by the Germans in the last war but never used. These substances are relatively simple organic phosphates with the general formula:



By inhibiting the enzyme cholinesterase, which is necessary to eliminate the acetylcholine formed by nerve endings, and so is necessary to permit renewed activity upon the release of acetylcholine, the nerve gases destroy nervous reactivity by, so to speak, permanently closing the switch. The action is like that of the organic phosphates used as insecticides. Low doses may be counteracted by prompt injections of atropine; but artificial respiration is required in most cases. Having captured several hundred tons of nerve gas from the Germans during the invasion, Russia, according to Holmsted, is very active in nerve gas research at the present time.

Scientists in the News

Roger Adams, professor of chemistry and head of the department at the University of Illinois, will receive the 1954 Perkin Medal in January from the American Section of the Societé de Chimie Industrielle in cooperation with the American Chemical Society, the American Institute of Chemical Engineers, and the Electrochemical Society. The medal is awarded annually for outstanding achievement in applied chemistry.

Rango Krishna Asundi, professor of physics and spectroscopy, Banaras University, India, is serving this year as a visiting professor in the Division of Physics, National Research Council of Canada.

The following scientists have recently joined the faculty of the Yale University School of Medicine: **Charles E. Carter,** formerly assistant professor of medicine at Western Reserve University, has been appointed associate professor of pharmacology; and **Stephen Fleck,** since 1949 assistant professor of psychiatry at the University of Washington, has been made associate professor of medicine.

Louis F. Fieser, Sheldon Emory professor of organic chemistry at Harvard University, recently received an honorary degree from the University of Paris. While in France, he gave a lecture before the French Chemical Society on the "Role of Cholesterol in Health and Disease." Prof. Fieser is known for his research in the chemistry of certain types of cancer. He synthesized vitamin K_1 and contributed a vital link in one of the methods of synthesizing cortisone. His recent work has led to new understanding of the nature and function of cholesterol.

Richard H. Follis, formerly associate professor of pathology at The Johns Hopkins University School of Medicine, has been appointed professor and head of the Department of Pathology at the University of Utah College of Medicine. Dr. Follis has carried on extensive research on the pathological aspects of nutrition and has made significant contributions to knowledge of diseases of the bone. In addition to his responsibilities at the Medical College, Dr. Follis will serve as pathologist to the Salt Lake General Hospital and consultant in pathology to the two Veterans Administration Hospitals located in Salt Lake City.

C. J. Mackenzie has resigned as president of Atomic Energy of Canada Limited. **W. J. Bennett,** president of Eldorado Mining and Refining Company Limited, has been elected as his successor. Dr. Mackenzie is continuing with the company in a consulting capacity. He has also joined Canadian Chemical and Cellulose Company Limited where he will serve on the board of directors as scientific advisor.

Carl V. Moore, professor of medicine at Washington University, St. Louis, has been named dean of the Washington University School of Medicine. Dr. Moore, who succeeds **Robert A. Moore,** will assume his new post March 15. The former dean will continue in his capacity of professor and chairman of the Department of Pathology until June, when he will go to the University of Pittsburgh to become vice-chancellor in charge of the five schools of the health professions there.

Edith Potter, well-known pathologist of the University of Chicago Lying-in Hospital, has recently been awarded an honorary degree, doctora honoris causa, by the University of Brazil at Rio de Janeiro as a tribute to her outstanding work in the field of pediatric pathology. The degree was presented at the dedication of the university's new hospital for children under two years of age.

The appointment of **Courtney Craig Smith,** president of Swarthmore College, as a director of the John and Mary R. Markle Foundation of New York has been announced.

Leo Szilard has been appointed professor of biophysics at Brandeis University. Dr. Szilard has contributed importantly to nuclear research. He and Enrico Fermi were in direct charge of the first project at Columbia University that led eventually to the development of the atomic bomb.

The 1953 Pan-American conservation award has been presented to **Francisco Tamayo,** Venezuelan biologist, for his reclamation of the Valley of Tacagua. The $2000 award is given annually by the Pan-American Union for outstanding achievements in conservation performed by Latin Americans. Dr. Tamayo was honored for his restoration of 30 miles of mountain ridges between La Guiara and Caracas that had been eroded to bare soil by ruthless forestry and bad agricultural practices, especially the uncontrolled grazing of sheep and goats. Dr. Tamayo convinced the Venezuelan government that the goats should be purchased, and that part of the human population be resettled elsewhere so that the remaining farmers could have a reasonable income. In the five years since Dr. Tamayo started his project, 30,000 grazing animals have been removed from the valley and scientific replanting has brought spectacular results. The experiment was so successful that the Venezuelan government has begun similar work in other parts of the country.

Arnold Tustin, distinguished British engineer and head of the Department of Electrical Engineering at the University of Birmingham, England, is occupying the Webster Chair of Electrical Engineering as a visiting professor at the Massachusetts Institute of Technology for the academic year 1953–54.

Charles B. Vail, who has been a research chemist for the Southern Research Institute, Birmingham, Ala., has been made professor of chemistry at Coker College, Hartsville, S.C.

Lincoln Washburn has been appointed professor of northern geology at Dartmouth College, effective in January.

Robert Burns Woodward has been appointed the first Morris Loeb professor of chemistry at Harvard University. The new professorship was established last spring to honor the memory of Morris Loeb, pioneer in physical chemistry and philanthropist who bequeathed funds for the support of physics and chemistry at Harvard. Prof. Woodward, a major contributor to research on quinine, cortisone, terramycin, and other natural products, accomplished the total synthesis of quinine, with the assistance of William von E. Doering, in 1944. In 1951 work by Prof. Woodward and Prof. Louis F. Fieser made possible a total synthesis of cortisone.

The 50th John Fritz Medal, highest honor of the engineering profession, has been awarded to **William Embry Wrather,** director of the U.S. Geological Survey. The award recognizes Dr. Wrather as "a geologist of worldwide experience and fame; an outstanding scientist and historian; a wise leader distinguished for his service to the Nation." This is a joint award by the American Society of Civil Engineers, American

Institute of Mining Engineers, American Society of Mechanical Engineers, and the American Institute of Electrical Engineers.

At the University of Arkansas, **V. H. Young,** who has served as head of the Department of Plant Pathology for the past 30 years, has become emeritus professor of plant pathology. He is succeeded by **E. M. Cralley,** a member of the Department for 22 years. Prof. Young will continue his research on cotton diseases on a part-time basis.

S. Husain Zaheer, director of the Central Laboratories for Scientific and Industrial Research, and professor and head of the Department of Chemical Technology, Osmania University, Hyderabad-Dn, India, has been named by the Institution of Chemists (India) as the 1953 H. K. Sen Memorial lecturer.

Education

The departments of agricultural chemistry and chemurgy in the **College of Agriculture, University of Nebraska,** have recently been combined into a single department of biochemistry and nutrition. The new department, headed by Robert Earl Feeney, formerly with the Western Regional Laboratory of the U.S. Department of Agriculture, will expand the programs of the old departments in basic biochemistry and animal nutrition.

The last four lectures of the **Harvey Society,** given under the patronage of the New York Academy of Medicine at its headquarters, are as follows:

Feb. 18, "Enzymes in Action in Living Cells." Britton Chance, professor of medical physics, The Eldridge Reeve Johnson Foundation for Medical Physics, University of Pennsylvania.

Mar. 18, "Oxidative Phosphorylation." Albert L. Lehninger, DeLamar professor of physiological chemistry and director of the Department of Physiological Chemistry, School of Medicine, The Johns Hopkins University.

Apr. 15, "Abnormality of Hemoglobin Molecules in Hereditary Hemolytic Anemias." Linus Pauling, professor of chemistry, chairman of the Division of Chemistry and Chemical Engineering, and director of the Gates and Crellin Laboratories of Chemistry, California Institute of Technology.

May 20, "The Control of Heat Loss and Heat Production in Physiological Temperature Regulation." James D. Hardy, professor of physiology, School of Medicine, University of Pennsylvania, and director of research, Aviation Medicine Acceleration Laboratory, Naval Air Development Center, Johnsville, Pa.

One of the most imposing buildings on Negro campuses in this country is the new million-dollar science building at **West Virginia State College** which was opened for use last spring. The structure houses the chemistry, physics, and biology departments. Chemistry has four basic laboratories and one research laboratory. There is a general chemistry laboratory capable of accommodating 56 students per section, an organic chemistry laboratory with a capacity of 30 students per section, and a physical chemistry laboratory of capacity of 8 students per section. Space and equipment are sufficient for as many as four sections in a laboratory.

The new physics laboratories have made it possible to increase greatly the offerings in electronics, experimental optics, photography, spectroscopy, and modern physics. The entire third floor of the building is occupied by the department of biology. To achieve maximum space efficiency, all laboratories are designed so that they can be used for laboratory, lecture, demonstration, and recitation purposes.

In the Laboratories

In November the corporate name of the Ethicon Suture Laboratories Incorporated, New Brunswick, N.J., was changed to **Ethicon, Inc.**

At Argo, Ill., **Shell Chemical Corporation** has just started to operate an alcohol-denaturing plant that is equipped to furnish the most generally used grades of specially denatured alcohols and proprietary solvents. The company's denaturing plant at Sewaren, N.J., will also be expanded.

Meetings and Elections

Officers for the **Association of Geology Teachers** for 1954 are: pres., Leland Horberg; v. pres., John B. Lucke; sec., Milton T. Heald; treas., Gerald M. Friedman.

A **Symposium on Monte Carlo Methods** sponsored by the Aeronautical Research Laboratory, Wright Air Development Center, will be conducted by the Statistical Laboratory, University of Florida, at Gainesville on March 16–17. An invitation to attend is issued to all persons interested in the field.

Following the Symposium, an Eastern Regional meeting of the **Institute of Mathematical Statistics** is being planned for March 18, together with meetings of the **Biometric Society,** Eastern North American Region, on March 18–20, also at the University of Florida. Further information may be obtained from Professor H. A. Meyer, University of Florida, Gainesville.

The regular meeting of the **Division of Fluid Dynamics** will be held during the Annual Meeting of the American Physical Society in New York, Jan. 28–30. The tentative schedule of sessions includes a session on shock waves in liquids and solids, two sessions of contributed papers, and a joint session with the Institute of the Aeronautical Sciences. The annual business session of the Division will be held on Jan. 30. The final program for the meeting will appear in a forthcoming bulletin of the American Physical Society.

Nearing the completion of its tenth year, the **Division of High-Polymer Physics of the American Physical Society** will hold its twelfth meeting at Detroit and Ann Arbor, Mich., March 18–20, marking the anniversary. A symposium on the Properties of Amorphous Polymers in Bulk is scheduled, along with other invited and contributed papers. The program has been arranged by a committee headed by T. G. Fox. For further information, write to W. James Lyons, Firestone Research Laboratories, Akron 17, Ohio.

Sigma Delta Epsilon officers for 1954 are: pres., Gladys J. Everson, University of Southern California, Davis; 1st v. pres., Emily T. Wolff, Wellesley College; 2nd v. pres., Elva Shipley Meyer, University of Wisconsin; sec., Mary Goidics, Barat College, Lake Forest, Ill.; treas., Teresa Cohen, Pennsylvania State College.

Miscellaneous

A new examination for **oceanographer** has been announced by the U.S. Civil Service Commission for filling positions paying from $3410 to $10,800 a year in the Hydrographic Office, Department of the Navy, and in the Coast and Geodetic Survey, Department of Commerce, in Washington, D.C., and throughout the country. The duties of these positions may involve extended periods at sea.

No written test is required. To qualify, applicants must show appropriate education or experience. Additional experience is required for the higher-paying positions. Applications must be filed with the Board of U.S. Civil Service Examiners for Scientific and Technical Personnel of the Potomac River Naval Command, Building 37, Naval Research Laboratory, Washington 25, D.C. Further information and application forms may be obtained from most post offices or from the U.S. Civil Service Commission, Washington 25, D.C.

Academic Press, Publishers, has announced the completion of plans for a new bimonthly journal, ***Radiation Research,*** the official organ of the Radiation Research Society. Titus C. Evans, College of Medicine, State University of Iowa, is the Managing Editor.

Associate editors are: A. O. Allen, Brookhaven National Laboratory; A. J. Cipriani, Atomic Energy of Canada Limited; K. P. DuBois, University of Chicago; N. Giles, Yale University; L. H. Gray, London; L. H. Hempelmann, University of Rochester; H. S. Kaplan, Stanford University; S. C. Lind, Carbide and Carbon Chemicals Company; E. Lorenz, National Institutes of Health; H. M. Patt, Argonne National Laboratory; E. C. Pollard, Yale University; R. M. Sievert, Radiofysika Institutionen, Stockholm; C. Stern, University of California; C. A. Tobias, University of California; R. E. Zirkle, University of Chicago. The Executive Committee of the Board of Editors consists of H. J. Curtis and A. Edelmann, both of Brookhaven National Laboratory, and G. Failla of Columbia University.

Radiation Research will publish original articles dealing with all phases of radiation research to promote the integration of the disciplines of physics, chemistry, biology, and medical research as they are concerned with the effects of radiation on matter. The term "radiation" is here used in its broadest sense and specifically includes ionizing, ultraviolet, infra-red, and visible radiations. Vol. 1, No. 1 is scheduled to appear in February. Information about subscriptions may be obtained from the Academic Press, Inc., 125 E. 23 St., New York 10, N.Y.

A limited supply of **radioactive corticosterone** (Compound B) is now available to qualified investigators gratis through funds supplied by the Public Health Service's National Institute of Arthritis and Metabolic Diseases. Also available, obtained as intermediates in the synthesis of cortisone acetate, are: Pregnane-3,11,20-trione; 3α,17α-dihydroxypregnane,11,20-dione; and 17α,hydroxy-21-acetoxypregnane,3,11,20-trione. In addition, microcurie samples are available of: 3α,17α-dihydroxy-21-acetoxypregnane,11,20-dione; and 3α,-acetoxypregnane,11,20-dione.

These compounds are all labeled at position 4 with C^{14}, and have a specific activity of 0.49 mc/m.mole, except the corticosterone, which has a specific activity of 1.47 mc/m.mole. Cortisone acetate, identically labeled, having a specific activity of approximately ⅓ that of the previously announced cortisone acetate may also be obtained.

A concise letter describing the proposed research may be sent to the Endocrinology Study Section, Division of Research Grants, National Institutes of Health, Bethesda 14, Md. Transfer and use of these materials are subject to current Atomic Energy Commission regulations.

The preparation of these steroids was guided by a committee composed of T. F. Gallagher of the Sloan-Kettering Institute for Cancer Research. Gregory Pincus of The Worcester Foundation for Experimental Biology, and Max Tishler of Merck & Co., Inc. The Endocrinology Study Section of the National Institutes of Health, Charles B. Huggins, chairman, and Sam R. Hall, executive secretary, has administered the program. The United States Atomic Energy Commission gave the radiocarbon. Charles E. Frosst and Company synthesized the radiocortisone with help donated by The Upjohn Company. Tracerlab, Inc., supplied the methyl iodide. The Worcester Foundation, utilizing progesterone prepared by Frosst, biosynthesized the corticosterone. Essential technical knowledge and chemical intermediates were provided by members of the committee and others, notably Arthur Odell, formerly of Frosst; Carl Djerassi of Wayne University; H. G. Kolloff, R. H. Levin, and D. H. Peterson of Upjohn; Harold Levy of The Worcester Foundation; and George Rosenkrantz of Syntex, S. A., Mexico.