

(1) Hydrogen bonding in the benzoic acid dimer (IX) apparently withstands competition with water. Its dimerization constant, $K_D = [(\text{HA})_2]/[\text{HA}]^2$, has been determined to be 0.75 l/mole in water (12).

(2) The ionization constants ($\times 10^5$) for the isomeric hydroxy- and methoxy-benzoic acids in water at 25° are (13):

	<i>ortho</i>	<i>meta</i>	<i>para</i>
HO—	105	8.3	2.9
CH ₃ O—	8.1	8.2	3.4

The enhanced ionization of the *ortho* hydroxy and its absence in the corresponding methoxy derivative is reasonably interpreted in terms of the hydrogen bonded intermediate (14) (X).

(3) One mole of acid effectively prevents the reaction of *o*-phenylenediamine with methyl iodide in methanol solution (15); two moles are required for the *meta* and *para* isomers (XI).

(4) α , α' -Bipyridyl reacts with but one mole of acid, whereas the β - and γ -isomers neutralize two moles (18) (XII).

Other data could be quoted. However, the evidence strongly supports the conclusion that hydrogen bond-

ing in such systems can persist in aqueous solution and that hydrogen bonding offers a simple, reasonable explanation for the high K_1/K_2 ratios observed in many dicarboxylic acids.

References

1. BJERRUM, N. *Z. physik. Chem.*, **106**, 219 (1923).
2. GANE, R., and INGOLD, C. K. *J. Chem. Soc.*, 2153 (1931).
3. KIRKWOOD, J. G., and WESTHEIMER, F. H. *J. Chem. Phys.*, **6**, 506 (1938); WESTHEIMER, F. H., and SHOOKHOFF, M. W. *J. Am. Chem. Soc.*, **61**, 555 (1939).
4. JONES, I., and SOPER, F. G. *J. Chem. Soc.*, 133 (1936).
5. BROWN, H. C., and TAYLOR, M. D. *J. Am. Chem. Soc.*, **69**, 1332 (1947).
6. SPITZER, R., and PITZER, K. S. *Ibid.*, **70**, 1261 (1948).
7. BROWN, H. C., *et al. Ibid.*, **75**, 1 (1953).
8. BARTLETT, P. D. *J. Chem. Education*, **30**, 22 (1953).
9. SHAHAT, M. *Acta Cryst.*, **5**, 763 (1952).
10. HUNTER, L. *Chemistry & Industry*, 155 (1953).
11. DAVISON, W. H. T. *Ibid.*, 408 (1953).
12. DATCHALSKY, A., EISENBERG, H., and LIFSON, S. *J. Am. Chem. Soc.*, **73**, 5889 (1951).
13. DIPPY, J. F. *J. Chem. Revs.*, **25**, 151 (1939).
14. BRANCH, G. E. K., and YABROFF, D. L. *J. Am. Chem. Soc.*, **56**, 2568 (1934).
15. BROWN, H. C., and NELSON, K. L. *Ibid.*, **75**, 24 (1953).
16. WASSERMANN, A. *Helv. Chim. Acta*, **13**, 207, 223 (1930).
17. GERMAN, W. L., VOGEL, A. I., and JEFFERY, G. H. *Phil. Mag.*, **22**, 790 (1936).
18. BAXENDALE, J. H., and GEORGE, P. *Nature*, **162**, 777 (1948).

News and Notes

International Hydraulics Convention

THE Minnesota International Hydraulics Convention, which combined the fifth plenary meeting of the International Association for Hydraulic Research and the second separate meeting of the Hydraulics Division of the American Society of Civil Engineers, introduced several innovations in meetings of this character. It was held at the University of Minnesota in Minneapolis September 1-4, 1953, and was attended by delegates from 35 states and the District of Columbia and other eminent scientists and engineers from eighteen countries. Preceding the Convention by one day, there was also in session a Hydrology Meeting of the North Central Regional Branch of the American Geophysical Union.

A unique feature of the Convention was the prepublication of all technical papers in a large illustrated volume, with 49 comprehensive hydraulics papers by 75 authors from some 20 countries. The preprinting of the *Technical Proceedings* proved to be exceptionally effective in scheduling the technical sessions and stimulating discussion.

The theme of the congress was directed toward four geophysical aspects of hydraulics: (a) Basic Relationships of Sediment Transportation by Flowing Water; (b) Density Currents; (c) Air Entrainment by Flowing Water; and (d) Waves, Beach Erosion, and the Hydromechanics of Shore Structures. Countries par-

ticipating for the first time since World War II included Yugoslavia and Japan. A half-day tour was made through the St. Anthony Falls Hydraulic Laboratory, displayed in full operation.

Dr. Theodore C. Blegen, Dean of the Graduate School of the University of Minnesota, made the welcoming address and stressed the importance of freedom of thinking and international cooperation in all research work, whether fundamental or applied. Dr. E. C. Stakman, world-renowned plant pathologist, addressed the opening session on a topic phrased, "Land and Water—May They Get Together Better." He discussed the unbalance in the international sphere of the world's increasing population and the distribution of land for agricultural needs. Emphasis was placed on further development of water resources for irrigation, recognizing the diverse needs of either increase or decrease in water on various lands to enhance their utility, and the development of plant types that will require less water than many types now in prevalent use. The speaker at the concluding luncheon meeting of the Convention was Major General S. D. Sturgis, Jr., Chief of Engineers of the U.S. Army, who discussed "Water Resource Development."

The International Association for Hydraulic Research selected Delft, Netherlands, for its next plenary meeting to be held in September, 1955. A new Constitution was also adopted by the IAHR. The officers elected at the concluding session were: President, Dr.

Lorenz G. Straub, Minneapolis; Vice Presidents: M. Pierre Danel, Grenoble, France; Shri A. N. Khosla, New Delhi, India; and Prof. G. de Marchi, Milan, Italy; Secretary, Prof. J. Th. Thijsse, Delft, Netherlands. Members elected to the Association's governing Council, along with the officers, are Sir Claude Inglis, Wallingford, England; Prof. Bo Hellstrom, Stockholm, Sweden; M. Bayer, Brno, Czechoslovakia; Prof. Arthur Ippen, Cambridge, Mass.; Prof. L. Tison, Gand, Belgium; Koichi Aki, Tokyo, Japan; and Ali Mohsin, Karachi, Pakistan.

The *Technical Proceedings*, which includes all papers in complete illustrated form, may be ordered from the Secretary, Minnesota International Hydraulics Convention, St. Anthony Falls Hydraulic Laboratory, Minneapolis 14, Minnesota. The volume can be purchased outside the United States by payment with UNESCO dollars.

LORENZ G. STRAUB

*St. Anthony Falls Hydraulic Laboratory
Minneapolis*

Scientists in the News

Marshall N. Arlin of the Wentworth Institute, Boston, has been granted a year's leave of absence to survey technical education needs in East Pakistan for the Ford Foundation. He will make his headquarters at Dacca.

Charles Beckett, who has been at the National Bureau of Standards since 1950, has been appointed Chief of the Thermodynamics Section. He will supervise experimental and theoretical programs which include investigations of the thermal properties of materials containing fluorine, boron, or deuterium in addition to the more common substances such as air, carbon dioxide, and hydrocarbons.

C. Paul Boner, Dean of the College of Arts and Sciences, Professor of Physics, and Director of the Defense Research Laboratory at the University of Texas, has received the additional appointment of Dean of the University.

Grace Bulman, Chief of the Dietetic Division, Department of Medicine and Surgery of the Veterans Administration, Washington, D.C., has been elected President of the American Dietetic Association.

Richard L. Day, Associate Professor of Pediatrics at Columbia University, has been named Professor and Chairman of the Department of Pediatrics, State University College of Medicine, New York City.

Rear Admiral Arthur H. Dearing, MC, USN (ret.), has been appointed Executive Secretary of the College of American Pathologists. He will assume his new duties at the College's Chicago office on Oct. 1.

B. L. Dodds, Director of the Division of Education and Applied Psychology, Purdue University, has been

appointed Dean, College of Education, University of Illinois, effective Nov. 1.

John E. Flynn has retired as Editor-in-Chief of *Biological Abstracts*, but as Editor-in-Chief Emeritus will continue to serve *Biological Abstracts* in an advisory capacity and as an auxiliary editor, in so far as his other activities will permit.

Charles N. Frey of Scarsdale, N.Y., a consultant and lecturer at the Massachusetts Institute of Technology, has received the Stephen M. Babcock Award for 1953. The award, "a symbol of scientific progress, ideals, and responsibilities in the food industry," was bestowed on Dr. Frey to honor his long and distinguished career in food science.

Calvin Columbic, formerly with the Bureau of Mines, has been appointed chemist, In Charge, Fundamental Research Section, Naval Stores Station Olustee, Fla. He will be responsible for basic investigations on the composition and properties of the constituents of pine gum, turpentine, and resin, and for the development of methods for their detection, isolation, and separation.

John M. Lessells, an associate professor in the Department of Mechanical Engineering at the Massachusetts Institute of Technology, has resigned. This fall he will serve the department as part-time lecturer with the title of Emeritus Associate Professor of Mechanical Engineering. Prof. Lessells became associated with M.I.T. in 1936, but he was on leave of absence from 1943-45 to act as a consultant on tank and engine parts to the British Ministry of Supply's mission to the United States.

Prof. Lessells is a native of Dunfermline, Scotland, and is a graduate of the University of Glasgow. He came to the United States after World War I to join the Westinghouse Electric and Manufacturing Company. Later, before joining M.I.T., he entered practice as a consulting engineer and was responsible for certain mechanical details of the 200-inch telescope now in service on Mount Palomar, Calif. In 1926 he was awarded the Bernard Hall prize of the Institution of Mechanical Engineers and in 1941 the Levy Medal of the Franklin Institute of Philadelphia. He is widely known as an author of various professional papers and books, and as Technical Editor of the *Journal of Applied Mechanics*.

F. L. Minnear, formerly of the Duradec Company, Inc., Youngstown, Ohio, has been appointed Associate Professor of Inorganic Chemistry at North Dakota Agricultural College.

Ilia George Poppoff, formerly of the U.S. Naval Radiological Defense Laboratory in San Francisco, has been made an associate physicist in the Air Research Section of the Stanford Research Institute.

Edward C. Reifenstein, Jr. has resigned as Director of the Oklahoma Medical Research Institute and Hospital, Oklahoma City.

Harold E. Woodward, an azo dye expert, has retired after more than 35 years as a research chemist at Du Pont's Jackson Laboratory, Deepwater Point, N.J. Dr. Woodward received his B.A. degree from Amherst in 1910 and his Ph.D. from Columbia University in 1912. After a brief period with the U.S. Department of Agriculture, he joined the Dyestuffs Division of the Du Pont Co. as a research chemist in 1918. Dr. Woodward has played an important part in the discovery and development of dyes for cotton, rayon, acetate, leather, and papers.

LeRoy L. Wyman, formerly of the Knolls Atomic Power Laboratory, has been appointed Chief of the Chemical Metallurgy Section of the National Bureau of Standards. Mr. Wyman is an authority in the fields of cemented carbides, copper-embrittlement, preferred orientation, and high temperature alloys.

Education

Marcus D. Kogel, Commissioner of Hospitals of the City of New York, and **Currier McEwen**, Dean of the College of Medicine of **New York University-Bellevue Medical Center**, have announced the consolidation of the departments of diagnostic radiology and radiation therapy into a unified Department of Radiology at Bellevue Hospital Center.

Maxwell H. Poppel has been appointed Director of this new service and **Sidney Rubinfeld** has been designated as Director of its Division of Radiation Therapy. Dr. Poppel, who is Professor and Chairman of the Department of Radiology of New York University College of Medicine, will thus direct all radiological activities at University, Bellevue, and Gouverneur Hospitals—all of which are affiliated with the NYU-Bellevue Medical Center. Dr. Rubinfeld is Director of the Isotope Service at Bellevue Hospital Center, Clinical Professor of Radiology (radiation therapy) of NYU College of Medicine, and Associate in Radiology at University Hospital.

The **North Carolina State College**, Raleigh, of the University of North Carolina, and the Atomic Energy Commission have signed an agreement which opens the way for immediate operation of the first university-owned nuclear reactor in the nation. Through the contract, the AEC will loan N.C. State College enough fissionable uranium 235 to fuel the College's Raleigh Research Reactor, recently constructed in a new building on the campus. The reactor was designed and built completely with University funds available to the College and consequently is owned by the institution. One of the major objectives will be to provide reactor experience to undergraduate and graduate students in nuclear engineering, a new curriculum initiated by the College in 1950. During the coming academic year, the College expects about 120 students to enroll in nuclear engineering.

A program of research on the reactor itself is scheduled for the first year of its operation, after

which the emphasis will shift to the use of radiations and radioactive isotopes produced by the reactor in numerous research activities of the College and neighboring institutions. The reactor project is under the technical direction of **Clifford K. Beck**, who is also Head of the College's Physics Department.

The **University of Montreal** this year plans to open a special training course for technicians to serve in hospitals and clinical laboratories. A Canadian government grant of more than \$34,000 will assist in organizing and carrying on the course.

Grants and Fellowships

The **American Cancer Society** is offering a limited number of Fellowships and Traineeships to graduates in medicine for postgraduate training, emphasizing the diagnosis and treatment of cancer. Fellowships and Traineeships available from July 1, 1954, will be awarded for one year and are renewable up to a total of three years.

Fellowships and Traineeships are awarded to institutions only upon application by deans, executive officers, or department heads. Individuals who desire to apply should consult the appropriate authority in the institution of their choice. Applications for Fellowships and Traineeships for the year 1954-55 *must be submitted prior to Oct. 5*. Further information may be obtained from the American Cancer Society, Professional Education Section, 47 Beaver St., New York 4, N.Y.

The **Arctic Institute of North America** is offering a number of research grants in 1954 for scientific investigations dealing with the arctic and subarctic regions. Research must include either field investigations in North America or studies at one of the Institute offices. Applications for research grants will be considered from those who have demonstrated their ability to conduct research work of superior quality in some field of science.

Application forms may be obtained upon request to: Arctic Institute of North America, 3485 University Street, Montreal, Canada or 1530 P Street, N.W., Washington, D.C. *Completed applications must be received by Nov. 1*. The research grants will be awarded on the recommendation of the Board of Governors of the Arctic Institute, and will be announced not later than March, 1954.

The establishment of two fellowships for clinical and experimental research has been announced by the trustees of the **Jewish Sanitarium and Hospital for Chronic Diseases**. The fellowships, named in honor of the President of the hospital, **Isaac Albert**, will be awarded during the fall of 1953. Applicants should write to the Hospital Superintendent, Rutland Rd. and E. 49th St., Brooklyn, N.Y.

Applications for awards available July 1, 1954, will be received by the **Life Insurance Medical Re-**

search Fund as follows: (1) Postdoctoral research fellowships, *until Oct. 31*. Preference is given to those who wish to work on cardiovascular function and disease or related fundamental problems. Stipends vary from \$3,300 to \$4,500. (2) Grants to institutions in aid of research on cardiovascular problems, *until Nov. 15*. Support is available for physiological, biochemical, and other basic work broadly related to cardiovascular problems, as well as for clinical research in this field. Further information and application forms may be obtained from the Scientific Director, Life Insurance Medical Research Fund, 345 E. 46th St., New York 17, N.Y.

The National Foundation for Infantile Paralysis announces the availability of a limited number of additional postdoctoral fellowships to candidates whose interests are research and teaching in medicine and the related biological and physical sciences. The purpose of these fellowships is to increase the number of professional workers qualified to give leadership in the solution of basic and clinical research problems, including those of poliomyelitis and other crippling diseases.

The fellowships cover periods of one to five years. Stipends to Fellows range from \$3,600 to \$7,000 a year, with marital and dependency status considered. Institutions which accept Fellows receive additional compensation for expenses incurred in relation to their training programs. Eligibility requirements include United States citizenship (or the declared intention of becoming a citizen), sound health, and an M.D., Ph.D., or an equivalent degree.

Selection of candidates is made by a Fellowship Committee composed of leaders in the fields of medical research and professional education. The designation "Fellow of The National Foundation for Infantile Paralysis" will be given to successful candidates. A total of 181 fellowship awards in these categories has been made by the National Foundation up to Aug. 1. Complete information concerning qualifications and applications may be obtained from: Division of Professional Education, The National Foundation for Infantile Paralysis, 120 Broadway, New York 5.

More than 700 students with special abilities in science will be selected for a year of graduate scientific study during the academic year 1954-55 in the National Science Foundation's Third Annual Graduate Fellowship Program. The closing dates for receipt of applications are *December 15, 1953*, for postdoctoral applicants and *January 4, 1954*, for graduate students working toward advanced degrees in science. The selections will be announced on or before April 1, 1954.

National Science Foundation fellowships are awarded to American citizens who will begin or continue their studies at the graduate level in the mathematical, physical, biological, medical, and engineering sciences during the 1954-55 academic year. Selections will be made solely on the basis of ability. The majority of the fellowships will go to graduate students

seeking masters or doctors degrees in science, although a limited number of awards will be made to postdoctoral applicants. Graduating college seniors in the sciences who desire to enter graduate school are encouraged to apply for the awards.

The rating system for selection of predoctoral Fellows will be based on: (1) test scores of scientific aptitude and achievement; (2) academic records; (3) written evaluations of each individual from his faculty advisors and other qualified observers. Postdoctoral applicants will not be required to take the examinations. Applicants will be rated by special Fellowship Boards, established by the National Academy of Sciences. Final selection will be made by the National Science Foundation.

Stipends for National Science Foundation graduate fellowships will vary with the academic status of the Fellows. First Year Fellows, students entering graduate school for the first time or those who have had less than one year of graduate study, will receive annual stipends of \$1,400. Fellows who need one final academic year of training for the doctors degree will receive annual stipends of \$1,800. Fellows between these groups will receive stipends at the rate of \$1,600 annually. The stipends for postdoctoral Fellows will be \$3,400 per year. Dependency allowances will be made to all married Fellows. Tuition and laboratory fees and limited travel allowances will also be provided.

National Science Foundation graduate Fellows may attend any accredited non-profit institution of higher education in the United States or similar institutions abroad. A total of 624 selections was made from slightly less than 3,000 applicants in 1952-53, the first year of the Foundation's fellowship program. Last year 557 selections were made out of 3,300 applicants. Also, 1,274 individuals were named on an Honorable Mention List, which was made available to deans of graduate schools. Applications for the 1954-55 National Science Foundation Fellowship Program may be obtained from the Fellowship Office, National Research Council, Washington 25, D.C.

The National Science Foundation will receive applications for a limited number of grants to assist in the payment of travel expenses to the following international scientific meetings:

International Congress of Crystallography, Paris, France, July 21-28, 1954. *Applications should be received before Dec. 1, 1953.*

Faraday Society, Birmingham, England, April 7-9, 1954. *Applications should be received before Dec. 1, 1953.*

In the Laboratories

The Los Alamos Scientific Laboratory of the University of California announced today the completion of its new Health Research Laboratory, plans for which were started in 1947. The new laboratory, with 50,000 square feet of floor space, was built with \$1,870,000 of Atomic Energy Commission funds. It is located

next to the Los Alamos Medical Center, and certain facilities in the laboratory will be shared with the hospital staff.

In the new building, in addition to laboratories, are offices, air conditioned animal quarters which will house rabbits, mice, rats and other animals, a small shop, a stock room, and special facilities which will permit exposure of animals to radiation. Housed in the new building will be two groups of the Laboratory's Health Division, which is directed by Thomas L. Shipman, M.D. These are the Industrial Hygiene Group, headed by Harry F. Schulte, and the Biological and Medical Research Group, headed by Wright H. Langham.

The primary responsibilities of the Industrial Hygiene Group are the investigation and control of hazards to health involving toxic materials of all sorts. The field section of this group carries out air-sampling surveys, both within the working areas of Los Alamos and in the surrounding territory, to determine the presence of dangerous or unhealthy materials in the air. It is concerned not only with common industrial poisons such as benzene, mercury, lead, etc., but also with a wide variety of substances about which little is known from a health point of view.

The laboratory section of the Industrial Hygiene Group is responsible for the analyses of much of the material collected by the field section, and also for the analyses of blood, urine, and other body fluids to check on the possible presence of toxic materials, including radioactive substances. In addition, the laboratory section conducts a wide variety of tasks such as sampling and analyzing air and drinking water to assure the safety of the residents of Los Alamos and the surrounding territory. Frequently the findings of the laboratory section will dictate the requirements for such things as proper ventilation in many of Los Alamos' shops and laboratories. When corrective measures are indicated, the field section will then aid in working out what should be done. Members of the test section of the Industrial Hygiene Group have also devoted a large amount of time to collecting data and studying the fall-out of radioactive particles resulting from tests in Nevada and at Eniwetok.

The Biological and Medical Research Group was established at Los Alamos in 1944, with the single objective of working out methods for diagnosing the degree of exposure of laboratory personnel to plutonium. During the course of this work, it became apparent that many other biological and medical problems existed at Los Alamos. The group's responsibility has therefore grown, so now its work involves research on problems of special interest to the Los Alamos Scientific Laboratory, of general interest to the AEC and the Department of Defense, and of wide interest in the fields of biology and medicine—in that order of importance. It now collects needed information about the toxicity created by many of the unusual materials utilized in the overall operation of the Laboratory. During the past few years the group, which

tends to operate as a unit rather than on the basis of individual effort, has explored the biological effects and effectiveness of alpha particles, beta rays, gamma rays, and neutrons, as well as the toxicology of plutonium, uranium, tritium, and many other substances peculiar to Los Alamos and the AEC. Considerable effort has been devoted to studying the military and civil aspects of atomic bomb radiation. This work is directed toward a better understanding of radiation injuries and the methods of treating them.

At the same time numerous studies have been made of the application of radiation and radioactive materials to many medical and biological problems not directly associated with the atomic energy program. A number of important drugs, vitamins, and more basic chemical compounds have been synthesized and labeled with radioactive atoms to facilitate the study of the action in the body of such substances. Such studies contribute materially to the fights against cancer, high blood pressure, and many other diseases.

The new Health Research Laboratory contains a seminar room to seat 80 people and a library with a capacity of 20,000 volumes, both for the joint use of Health Division personnel and the hospital staff. While the conference room and library are not unusual, the new building does contain a number of facilities which are somewhat unique. In the basement are two rooms shielded by thick concrete walls where both acute and chronic exposures to radiation may be studied. For the former, a 250-kilovolt x-ray machine will be used, and for the latter, cobalt and radium sources. At the other end of the building, also shielded by thick concrete walls, is a special room for radiation counting. This room contains many of the newest and most sensitive radiation detecting and measuring devices. The animal rooms, also located in the basement, are entirely air conditioned so that laboratory animals may be kept under standard conditions unaffected by changes in temperature and humidity. Throughout the building are laboratories for biochemistry, radiobiology, histopathology, and allied fields.

Meetings and Elections

The American Association of Cereal Chemists has elected the following officers for 1953-54: pres., R. A. Barackman, Victor Chemical Works, Chicago, Ill.; pres.-elect, Frank R. Schwain, Proctor & Gamble Co., Ivorydale, Cincinnati, Ohio; sec., Clinton L. Brooke, Merck & Co., Inc., Rahway, N.J.; treas., Derrill B. Pratt, B. A. Eckhart Milling Co., Chicago, Ill. Charles G. Ferrari of J. R. Short Millint Co. has been reappointed as representative to the AAAS Council.

The genesis of clays and related minerals will be the theme of the **Clay Minerals Conference** to be held at the University of Missouri on Oct. 15-17. The Conference is sponsored by the National Clay Minerals Committee, a branch of the National Research Council. Anyone interested in presenting a paper on this

theme or on clay mineralogy, technology, physical behavior of clays, techniques of mineral determination, origin of soils, clays in soils, origin and distribution of clays in soils, clays related to ore deposits, and allied topics, should write to A. F. Frederickson, Washington University, St. Louis, Mo.

A detailed program, including field-trip information, is available. All persons interested in clay mineralogy or technology are cordially invited to attend the Conference.

A proposed Program for American Forestry with recommendations in five principal fields will be presented for the consideration of the **Fourth American Forest Congress** on October 29-31 in Washington, D.C. The program was worked out by leading conservationists meeting at Higgins Lake, Michigan, in June to revise AFA's 1947 30-point program in the light of changing conditions in forestry. The five principal fields in this plan for the future of forestry are: (1) forest landownership; (2) forest land management; (3) multiple use on all forest lands; (4) education and assistance to forest owners; (5) research.

For directing the thinking of forestry toward five principal channels for action to achieve a greater degree of cooperation in forestry, the delegates set up three immediate goals. These are: (1) to meet the essentials of forest protection; (2) to improve the national timber crop in order to balance the forest budget and establish a growth reserve; (3) to obtain the maximum of economic and social services from our forests by realistic application of the multiple-use principle to their management.

As revised, the program adopted at Higgins Lake will serve as the agenda for the October Congress. At that time, representatives from forestry, related fields, and the general public will be invited to engage in open discussion of the revised program and to offer additional recommendations. Following the Congress the Board of Directors of the AFA will consider the Higgins Lake proposals, and any new and revised proposals growing out of the Congress, in redrafting its 1947 program. This program will then be submitted to the membership of the AFA for a referendum vote.

Detlev W. Bronk, President of the Rockefeller Institute for Medical Research, the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, and the National Academy of Sciences will deliver the keynote address. He will speak on "Forestry in the World Resource Picture." His address is scheduled for the morning of Oct. 29 and will coincide with appearances by the President of the United States and the Secretaries of Agriculture and the Interior.

The dedication of the **Thudichum Psychiatric Research Laboratory** at the Galesburg State Research Hospital at Galesburg, Ill., will take place at that institution on Oct. 17. Dr. Graff, Superintendent of the Hospital, will be Chairman during the morning session. Gov. William G. Stratton, Otto L. Bettag,

Director of the Department of Public Welfare, and Percival Bailey, Research Consultant, Department of Public Welfare, will make the opening addresses. Then D. McK. Rioch, Technical Director, Neuropsychiatric Division, Army Medical Service Graduate School, Bethesda, Md., will read a paper on "The Brain and Consciousness."

The afternoon session will be chaired by R. W. Gerard, Consultant in Research, Department of Public Welfare. The speakers will be: S. S. Kety, Associate Director in Charge of Research, National Institute of Mental Health, Bethesda, Md.; W. Feldberg, Head of Physiology and Pharmacology Division, National Institute for Medical Research, London, England; and D. Ewen Cameron, Director, Allan Memorial Institute of Psychiatry, McGill University, Montreal, Canada. Their respective subjects are: "Circulation and Metabolism of the Human Brain," "Some Aspects of Chemical Transmission in the Central Nervous System," and "Extended Applications of Psychosomatic Theory in the Senium."

The Division of Graduate and Postgraduate Medicine at the **University of Utah College of Medicine** will present a three-day symposium on the **Medical Aspects of Atomic Energy** on October 7, 8, and 9. The first two days will be devoted to a detailed discussion of medical effects of atomic weapons, with one afternoon devoted to civil defense considerations. The latter will be directed by the United States Atomic Energy Commission. The final day will be devoted to clinical and research applications of radioactive elements. Speakers will include distinguished atomic scientists from the Atomic Energy Project and principal University research laboratories.

For additional information regarding registration contact the Office of the Division of Graduate and Postgraduate Medical Education, 175 East 21st South, Salt Lake City, Utah.

Miscellaneous

The **Columbia-Presbyterian Medical Center**, New York City's first such center, will celebrate its 25th anniversary with a two-day social and scientific program on Oct. 12 and 13. The focus of the program will be on new directions in education, medical research, and care of the sick. There will be symposia, panel discussions, and the presentation of papers on medical topics of current significance, including surgery, pediatrics, public health, nursing, dentistry, human reproduction, medicine, neurology, urology, and cancer.

Columbia-Presbyterian Medical Center comprises the largest voluntary hospital in the country. Physically, it is spread over 20 acres, and its collection of buildings includes the Babies Hospital, the Institute of Ophthalmology, the Neurological Institute, the New York Orthopaedic Dispensary and Hospital, The Presbyterian Hospital, Harkness Pavilion, Sloane

Hospital for Women, Squier Urological Clinic and Vanderbilt Clinic, and the Mary Harkness Convalescent Home at Port Chester, N.Y.—all units of Presbyterian; the School of Medicine, the School of Dental and Oral Surgery, the School of Nursing and the School of Public Health—all units of Columbia University; as well as Bard Hall, residence for medical students, Anna C. Maxwell Hall, the student nurse residence, and Harkness Memorial Hall, the apartment residence for graduate nurses. Affiliated units at the Center include two municipal institutions, the Francis Delafield Hospital and the Washington Heights Health and Teaching Center, and one state institution, the Psychiatric Hospital and Institute.

The Medical Center is people as well as institutions and it requires the services of almost 7,000 men and women for its operation. Last year at the Medical Center 35,151 patients were received, 3,696 babies were delivered without a maternal mortality, and 4,570 surgical procedures were performed.

The Monsanto Chemical Co. has announced the development of a process for the production of **cortisone** with cheap raw materials instead of expensive ox bile. The process is based on a total synthesis worked out in 1951 by Robert B. Woodward of Harvard. Ox bile is sold at present for \$14.50 a gram. How much less expensive it will be to make cortisone by the new method is not certain, but it shows promise of providing an unlimited supply of the drug. The raw material that Dr. Woodward used was orthotoluidine, which is cheap and abundant.

A nationwide cooperative research effort to evaluate the use of **gamma globulin** against poliomyelitis has been launched. The program is sponsored by the U.S. Public Health Service in close collaboration with the Association of State and Territorial Health Officers, the American Physical Therapy Association, and the D. T. Watson School of Physiatrics, affiliated with the University of Pittsburgh School of Medicine. An advisory committee comprised of 17 leading polio authorities planned the investigation and will review its progress. The Service's Communicable Disease Center at Atlanta, Ga. will coordinate the program.

The **National Science Teachers Association** is publicizing the fact that a shortage of qualified science teachers for junior and senior high schools may prove to be a most serious bottleneck in the production of technically trained personnel for science and engineering. The decrease in the number of new teachers graduated by the colleges each year since 1950 is greater in science than in any other field. The 1953 yield was only about 4600 new teachers for the entire nation. This is 49 per cent under the class of 1950, and many of these are not actively seeking employment as teachers.

The **New York Society of Electron Microscopists** has started to issue a bibliography on Keysort cards which

will keep abreast of the world literature in all fields of electron microscopy. An outstanding feature of the bibliography is its ease of use. It is already coded and punched by the bibliographer. Articles containing multiple subjects are immediately found by each subject as well as by author. No order of filing is necessary because the cards are selected by needle. The first issue covering the years 1950-52 (approximately 700 cards) is now available. Early publication of material for 1953 and quarterly publications on current literature thereafter are planned.

This undertaking, supervised by a trained bibliographer, has drawn upon the exceptional library resources of the New York area. Wherever possible, the material was examined to achieve accuracy of reference and adequate analysis of subject content. Begun in February, 1952, and continued in 1953 by means of grants from the Lillia Babbit Hyde Foundation, the continuation of this work is assured by the combined support of the Farrand Optical Company, the North American Phillips Company, the Optical Film Engineering Company and the Radio Corporation of America.

The circumstances of its preparation make it possible to offer the bibliography for sale at very nearly the cost of reproduction. UNESCO coupons accompanying orders from abroad will be recognized. Further details may be obtained from the Society at the New York Academy of Sciences' Building, 2 E. 63 St., New York 21, N.Y.

Review copies of the "**Proceedings of the First and Second Medical Conferences of the Muscular Dystrophy Associations of America, Inc.**," held in New York City on April 14-15, 1951, and May 17-18, 1952, are available to science writers upon request to the Muscular Dystrophy Associations of America, Inc., 39 Broadway, New York 6, N.Y. Because of the necessity to economize, only a limited number of the booklets were printed and it is therefore impossible to supply all science writers and book reviewers with a copy of the work. Sufficient copies are on hand, however for those wishing to review it or otherwise use it in their work.

Edited by Ade T. Milhorat, M.D., of New York Hospital and Chairman of the M.D.A.A. Medical Advisory Board, the book contains excerpts of papers read at the conference and abstracts of talks made during a symposium at the second session.

Chemicals wanted by the **Registry of Rare Chemicals**, Armour Research Foundation of Illinois Institute of Technology, 35 W. 33rd St., Chicago 16: lead selenide; nitramide; 9,10-diaminoanthracene; 1,2,3,4-tetrachlorobenzene; 1,4-dihydronaphthalene; 1,5-dihydroxy-4-methyl-3-penten-2-one; alpha-methyl-beta-ethylacrolein; 3,5-dihydroxyhexanol; 2-methylol-2,4-dimethyl-1,3-dioxolane; 2,4-hexadienal; acetol; 1-fluoro-3-bromo-4,6-dinitrobenzene; 2-methyl-1-naphthylacetic acid; chavibetol; glycerinic acid; gymnemic acid; L-limonene; melibiase; thyroxine; and laccase.