

News and Notes

Paris Conference on the Fundamental Constants of Astronomy

G. M. Clemence

U. S. Naval Observatory, Washington, D. C.

An international conference on the fundamental constants of astronomy was held in Paris, March 27–April 1, under the auspices of the Centre National de la Recherche Scientifique. Nineteen delegates from six countries participated; those from the U. S. were Dirk Brouwer, G. M. Clemence, and H. R. Morgan.

Nine resolutions were adopted, six of them in the form of recommendations addressed to the International Astronomical Union. There was unanimous agreement on the undesirability of making any changes in values of fundamental constants that are now used internationally in the calculation of astronomical ephemerides. Although most of these have now been in use for 50 years, and although the values of some of them are known to be inconsistent with one another, it is not yet clear what values would be preferable to adopt in their place, and it seemed impossible to make any revision of

the system that might not require further revision during the next few years. An important resolution concerned the fundamental unit of time, which heretofore has been based on the rotation of the earth. The rate of rotation is variable, being affected by secular, seasonal, and other changes. It was proposed to adopt instead the mean period of the earth's sidereal revolution around the sun.

Other resolutions dealt with the methods used for predicting the positions of the sun, moon, and planets. For the planets Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto, international adoption was recommended of the methods newly developed under sponsorship of the Office of Naval Research, at Yale University, the U. S. Naval Observatory, and the Watson Scientific Computing Laboratory.

The conference was marked throughout by a unanimity of opinion that was quite astonishing in view of the legitimate differences that might reasonably be expected on the highly technical matters discussed. No delegate dissented from any of the actions taken and most were by unanimous agreement.

The proceedings of the conference will be published in full in the *Bulletin Astronomique*.

ONR Cryogenics Conference

W. T. Ziegler

Georgia Institute of Technology, Atlanta

A cryogenics conference sponsored by the Office of Naval Research, Department of the Navy, was held at the Georgia Institute of Technology, Atlanta, Georgia, March 20–21. More than 60 scientists from 24 institutions engaged in low temperature research attended the meetings, at which recent developments in this field were discussed. Sessions were devoted to cryomagnetism, superconductivity, thermal properties of matter, and miscellaneous problems. Features of the meeting were two invited review papers, one by J. H. Van Vleck of Harvard University, entitled "The Present Status of Cryomagnetism," and one by F. G. Brickwedde of the National Bureau of Standards, entitled "Thermal Properties at Low Temperatures."

The conference provided an opportunity for the presentation and discussion of new results and for the exchange of ideas and techniques in the field of low temperature research. It also indicated the need for better coordination between different laboratories and at the same time provided an opportunity for such coordination. In cryomagnetism, for instance, the need was indicated for studies by different investigators of the same paramagnetic salt, preferably in the form of single crystals,

since such studies would provide more adequate data for comparison with theory. New developments in the design and operations of magnets, thermal switches, and moving mechanical contacts for use in cryomagnetic experiments attested to the active interest in equipment design in this field.

Among the interesting experimental results reported in the field of superconductivity were those on the mercury isotopes. Experiments on these isotopes indicated that the normal transition temperature decreased by 0.01° per unit increase in mass number. A discussion was presented on the difficulty of preparing emulsions containing spherical lead, tin, and mercury particles of uniform size, together with the uncertainty introduced in the value of λ (the field penetration depth) calculated from the magnetic susceptibility, because of clustering of the particles; this indicated the need for caution in using the results of such experiments to test the London theory of field penetration.

Liquid helium came in for considerable discussion. Papers were presented on the results of new measurements of the thermal conductivity of helium I, the dielectric constant of helium I and II, the superfluidity of adsorbed helium II films, the λ -points of He³-He⁴ mixtures, and the mechanical detection of second sound in helium II by means of the Rayleigh Disk. The results of the experiments employing the Rayleigh Disk lend an additional independent verification of the two-fluid hypothesis for liquid helium II.

The thermal conductivities of copper, aluminum, tin, 18-8 type stainless steel, inconel, and monel at liquid helium temperatures were reported. At 2.6° K the thermal conductivities of stainless steel and inconel were found to be about one milliwatt/cm/deg and that of monel about twice as great. These data will be of particular value to designers of apparatus for use in this temperature range.

Measurements on the electrical resistance of gold, magnesium, and aluminum were reported; it was shown that both gold and magnesium exhibit a resistance minimum, whereas no minimum was found in aluminum down to 2° K.

Still other papers dealt with the vapor pressure and

critical constants of HD and D₂; the dew points of mixtures of H₂, HD, and D₂; the Hall effect and magnetoresistance of germanium at helium temperatures; dielectric and electrocaloric properties of barium titanate; and design calculations for a small Joule-Thomson helium liquefier.

The conference included an inspection of the Georgia Tech Low Temperature Laboratory, in which an extensive research program is being conducted under the sponsorship of the Office of Naval Research, under the direction of the writer.

Leaders in arranging this conference were I. Estermann, professor of physics at the Carnegie Institute of Technology, Pittsburgh, Pennsylvania, and the writer.

David D. Keck, a member of the Carnegie Institution of Washington's staff at Stanford University, has been appointed head curator of the New York Botanical Garden, Bronx Park, effective January 1, 1951.

Jesse E. Edwards, assistant professor of pathologic anatomy, Mayo Foundation, University of Minnesota, will deliver the 26th Ludvig Hektoen Lecture of the Frank Billings Foundation of the Chicago Institute of Medicine on May 26. His subject will be "Structural Changes of the Pulmonary Vascular Bed and their Functional Significance in Congenital Cardiac Disease."

Ira M. Freeman, associate professor of physics at Rutgers University, has been granted a year's leave of absence to enable him to undertake a special assignment in the Division of Natural Sciences of Unesco in Paris.

Avery S. Hoyt has been appointed chief of the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture, to replace **Percy N. Annand**, who died March 29. Dr. Hoyt, who served as acting chief of the bureau after Dr. Annand's death, has been associated with the Agriculture Department since 1912.

Thomas A. C. Rennie has been named professor of psychiatry at Cornell University Medical College. Dr. Rennie is attending psychiatrist at Payne Whitney Psychiatric Clinic, New York Hospital and, as consultant at the Kingsbridge and Montrose Veterans Administration hospitals, has taken part in the organi-

zation of the psychiatric training programs in these institutions.

William S. Stone, (Col. U.S.A.), has been appointed commandant of the Army Medical Department Research and Graduate School, replacing **Elbert DeCoursey** (Col. U.S.A.), who will take over direction of the Armed Forces Institute of Pathology. Col. Stone, who served as chief of preventive medicine in the North African campaign and as special advisor to the Health and Welfare Division of the U. S. Military Government in Germany, has been chairman of the Army Surgeon General's Medical Research and Development Board since 1946.

James D. Majarakis, instructor in the Department of Surgery of the University of Illinois College of Medicine, has been appointed executive officer of the 427th General Hospital, a 1,000-bed U. S. Army reserve unit which is sponsored by the university.

Visitors to U. S.

David Katz, director of the Psychological Institute, University of Stockholm, has been named the second Hitchcock Lecturer at the University of California for 1949-50. Dr. Katz, who is well known for his work on the perception of color and for his studies of the sense of touch, will give a series of public lectures at Berkeley, May 9-31.

Members of the University of Michigan's visiting faculty who will lecture during the Institute on the Near East, June 26-August 18, include **Emile Beneviste**, Collège de France; **L. P. Elwell-Sutton**, lan-

guage supervisor for the British Broadcasting Corporation; and **George Hourani**, Balliol College, Oxford. Information regarding the lecture schedule may be obtained from Dr. George Cameron, Department of Near Eastern Studies, 2023 Angell Hall, University of Michigan, Ann Arbor.

Recent visitors at the National Bureau of Standards were **L. Mullins**, member of the British Rubber Producers Research Association, Welwyn Garden City, England; **T. F. Van Oss**, representing the Dutch Government, **G. J. Van Veen**, organic chemist, Plastics Institute, Delft, Holland; **Kristen Bo**, chemist, Jacob Holm and Sons, Copenhagen, Denmark; **N. E. Dobbins**, director of research, Vereeniging Brick and Tile Company, Vereeniging, South Africa.

D. J. van Lennep, professor of diagnostic psychology at the University of Utrecht, will be visiting professor at Pennsylvania State College from August 14 to September 1. He plans to arrive here early this summer and will be available for lectures.

Grants and Awards

The **Albert and Mary Lasker Awards for 1949** were presented to **William L. Laurence** and **Herbert and Dixie Yahraes** at the semiannual meeting of the National Association of Science Writers, held April 25 in Washington, D. C. The awards, the first to be made in the field of journalism by the Lasker Foundation, were established to encourage the writing and publication

in newspapers and magazines of outstanding articles on public health improvement and the prolongation of life, especially through medical research and public health programs.

Mr. Laurence received the newspaper award for a series of articles published in the *New York Times* on the development of cortisone and ACTH. He has been a science writer on the *Times* for more than 20 years and has won two Pulitzer prizes. Mr. and Mrs. Yahraes received the magazine award for their article "Our Daughter Is an Epileptic," published in *Collier's*, November 26, 1949. Mr. Yahraes has twice received honorable mention for the Westinghouse Science Writing Award.

Each of the winners received \$500 and a statuette of the Winged Victory of Samothrace, symbolizing triumph over death and disease.

Leason Heberling Adams, geophysicist and physical chemist, has been named the twelfth recipient of the **William Bowie Medal**, awarded annually by the American Geophysical Union. Dr. Adams is director of the Carnegie Institution of Washington's Geophysical Laboratory.

Fellowships

Forty-five Shell Oil Company graduate fellowships are being offered for 1950-51 at 31 colleges and universities, in the fields of chemistry, chemical engineering, geology, geophysics, mechanical and petroleum engineering, physics, and plant science. The fellowships provide tuition and fees, a fixed stipend of \$1,200, and a fund of \$300 for research equipment and supplies. The respective schools are responsible for selection of fellows, and the departments concerned determine the specific research. Further information may be obtained from the Shell Fellowship Committee, 50 West 50th Street, New York City.

The Jessie Horton Koessler Fellowship of the Institute of Medicine of Chicago for research in biochemistry, physiology, bacteriology, or pathology will be available September 1. The stipend is \$500 a year with the possibility of renewal for

one or two years. Applications must be approved by the head of a department in these fields or by the director of a research institute or laboratory in Chicago, and must stipulate that the recipient of the fellowship shall be given adequate facilities for carrying out the proposed research. Applications should be sent in quadruplicate to Dr. Paul R. Cannon, Chairman of the Committee on the Jessie Horton Koessler Fund, 950 East 59th Street, Chicago, before *July 1*.

Colleges and Universities

The Massachusetts Institute of Technology and Barnard College at Columbia University each received last month a gift of one million dollars from John D. Rockefeller, Jr. The gifts are to be used in the over-all development programs of the two colleges. Mr. Rockefeller expressed the hope that Barnard's fund would be applied ultimately to the contemplated new building which is to house the college's science departments, library, and theater.

The College of the Holy Cross, Worcester, Massachusetts, has begun construction of a new \$500,000 biology building which will accommodate a working biology museum and a complete biology reference library. Photographic laboratories and darkrooms for training students in photomicrography and the preparation of lantern slides are included in the plans, in addition to a microtechnique laboratory.

Meetings and Elections

The Society of American Bacteriologists will hold its 50th general meeting at the Lord Baltimore Hotel, Baltimore, May 14-18. The scientific program will be presented before sections on general bacteriology, agricultural and industrial bacteriology, medical bacteriology and immunology, and the physiology of microorganisms. A number of round table discussions on subjects of current interest to microbiologists are planned. On Sunday evening, May 14, Detlev W. Bronk, president of Johns Hopkins University, will address the members and guests of the society at a public lecture on the

subject of fundamental scientific research. It is anticipated that approximately 2,000 persons will register for the meetings.

The American Society for Engineering Education will hold its annual convention June 19-23 at the University of Washington, Seattle. More than 100 research directors and administrators from educational institutions throughout the country are expected to participate in the Engineering College Research Council conferences which will take place during the first two days and which will provide a comprehensive survey of the engineering research activities in the Pacific Northwest.

The Third Heat Transfer and Fluid Mechanics Institute, sponsored by five western universities and five technical societies, will take place June 28-30 at the Institute of Aeronautical Sciences Building, Los Angeles. Information concerning the program may be obtained from J. C. Dillon, Department of Engineering, University of California, Los Angeles 24.

The American Philosophical Society elected the following officers for 1950 at its meeting in Philadelphia on April 22: president, Edwin G. Conklin, professor emeritus of biology, Princeton University; vice presidents, Arthur H. Compton, chancellor, Washington University, St. Louis (re-elected), Herbert F. Goodrich, judge, U. S. Circuit Court of Appeals, Waldo G. Leland, director emeritus, American Council of Learned Societies, Washington, D. C.; secretaries, Jacob R. Schramm, professor of botany, University of Pennsylvania, and Richard H. Shryock, professor and director, Institute of History of Medicine, Johns Hopkins University. The society also elected 18 new members, including four from other countries.

NRC News

The Committee on Diagnosis and Pathology of Nutritional Deficiencies of the NRC's Food and Nutrition Board has prepared a report on **Nutrition Programs for State Health Departments**. Pointing out that malnutrition is still quite common in this country, and that many states

do not have trained physicians and biochemists in their nutritional services, the report discusses the organization, personnel, and activities which an alert state or local health agency can maintain.

Nutritional activities of a state health department are considered under the following headings: administration and policy, investigations and research, laboratory services, education and information services, dietary recommendations and standards, direct services and services for specific groups, and cooperation with physicians.

The report was recently published in *Public Health Reports* of the Public Health Service. Copies are available from the Food and Nutrition Board, NRC, 2101 Constitution Avenue, Washington 25, D. C.

A new editorial board has been appointed for *Mathematical Tables and Other Aids to Computation*, a quarterly journal published by the Division of Mathematical and Physical Sciences of the NRC. The members are D. H. Lehmer, professor of mathematics, University of California, Berkeley, chairman; Edward W. Cannon, assistant chief, Applied Mathematics Division, National Bureau of Standards; Cecil C. Craig, director, Statistical Research Laboratory, University of Michigan; Arthur Erdélyi, professor of mathematics, California Institute of Technology; Francis J. Murray, associate professor of mathematics, Columbia University; and John Todd, National Bureau of Standards. The retiring editor, Raymond C. Archibald of Brown University, has served the journal since its origin in 1943.

The first issue of *United Nations Documents Index: Documents and Publications of the United Nations and Specialized Agencies*, was published by the UN Library in February. The index lists and indexes by subject all of the documents and publications (except restricted materials and internal papers, of the UN and its specialized agencies received by the library. Each monthly issue will contain introductory material concerning distribution, sales, and other pertinent items, a list of docu-

ments and publications of the UN arranged by symbol, followed by lists for each of the specialized agencies, and a subject index in one alphabet referring to all of these documents. The subject index will be cumulated annually. Each issue will contain between 75 and 100 pages. The annual subscription is \$7.50. Payments may be made in other national currencies. Orders may be placed with the Sales and Circulation Section, UN, Lake Success, New York, or Sales Section, European Office of the UN, Palais des Nations, Geneva, Switzerland, or through regular sales agents for the UN publications.

Copies of the complete papers of the **ACS Symposium on Chemical Factors in Hypertension** will be available soon. The symposium was presented at a meeting of the Division of Medicinal Chemistry in San Francisco in March, 1949. None of the papers have been published in any other journal. The 60-page volume is priced at \$1 and may be obtained from the Special Publications Department, American Chemical Society, 1155 Sixteenth Street, N.W., Washington 6, D. C. as long as the supply lasts.

The Registry of Rare Chemicals, 35 West 33rd Street, Chicago 16, Illinois, lists the following wanted chemicals: zinc isopropyl xanthate, ethoxyethyl mercury chloride, 1,1,2-triiodopropane, 1,1-diiodo-2-methylpropane, 2-iodo-3-methylbutane, dihydroxymethyl ether, 2,5-dinitrophenol, 3,5-dinitrophenol, heptane-1,3-dithiol, heptane-2,4-dithiol, hexane-1,3-dithiol, 2-cyanobutadiene-1,3, 1,3-dibromohexane, 1,3-dibromopentane, 2,5-dichlorocyclohexylamine, betaine aldehyde, 2-amino-4-methylamino-6-ethylamino-1,3,5-triazine, 5-allyl-5-(1-methylbutyl) barbiturate, benzoguanamine, and solochrome cyanine.

A new laboratory for research on brucellosis has been established at the University of Wisconsin as center of a state program of control and eradication of the disease. C. A. Brandly, professor of veterinary science, is head of the brucellosis project committee at the university,

which cooperates with the State Laboratory of Hygiene, the Wisconsin Board of Health, the U. S. Public Health Service, and the Wisconsin Department of Agriculture on the program. The Wisconsin legislature has given \$1,500,000 for an area plan of vaccination, testing, and limited slaughter with indemnity to farmers, and an additional \$50,000 for research. The State Laboratory of Hygiene is continuing its tests for human brucellosis. Nearly 900 of the 18,925 blood specimens tested there last year indicated some evidence of brucellosis.

AAAS Section G— Botanical Sciences

Section G will hold sessions for contributed papers during the first part of the Association's 117th Meeting in Cleveland, December 26-31. A series of symposia will be presented during the latter part of the meeting. An immediate response from members who intend to present papers is necessary for purposes of program planning. Tentative titles and subject classifications should be sent to the secretary of Section G *this month*. Final titles may be submitted as late as *September 15*.

John S. Karling, Vice President
Stanley A. Cain, Secretary
Cranbrook Institute of Science
Bloomfield Hills, Michigan

Recently Received—

Abridged Catalog of Organic Chemicals for Laboratory Use. Smith-New York Company, Inc. Freeport, Long Island, N. Y.

Sweet Corn Trials, Mt. Carmel and Windsor, Connecticut, 1949. W. C. Galinat, Connecticut Agricultural Experiment Station, New Haven, Conn.

A New Approach to Problems Encountered in Colorimetric Absorption Analysis. A. Rouy. E. Leitz, Inc., 304 Hudson St., NYC.

Blueprint for Understanding. Institute of International Education. 2 West 45th St., NYC 19.

Report of Bureau of American Ethnology, 1948-49. Smithsonian Institution. U. S. GPO, Washington 25, D. C.