

NEWS and Notes

Science was informed on February 25 that the hearings on House Bills for a National Science Foundation, H. R. 942, 1815, 1830, 1834, will be held on March 6 and 7. A total of 8 hours is planned for the hearing before the House Committee on Interstate and Foreign Commerce. This is the Committee which failed to report on the science bills in the 79th Congress. The event is being managed by John H. Teeter.

The permanent officers of the Inter-Society Committee for a National Science Foundation were elected unanimously at the organizational meeting in Washington on February 23. The new chairman is Edmund E. Day, president of Cornell University; and Harlow Shapley, of Harvard, president of the AAAS, will serve as vice-chairman. Dael Wolfe, executive secretary of the American Psychological Association, became secretary-treasurer of the Inter-Society group. Members of the Executive Committee in addition to the three principal officers are: Isaiah Bowman, president, Johns Hopkins University; Ralph W. Girard, University of Chicago; R. G. Gustavson, University of Nebraska; Henry Allan Moe, secretary general, John Simon Guggenheim Memorial Foundation; W. Albert Noyes, Jr., University of Rochester; and Douglas M. Whitaker, Stanford University. The Executive Committee was empowered to fill vacancies in event any of the members find it impossible to serve.

The meeting, which began at 10 A.M., lasted throughout the day and under the leadership of Kirtley F. Mather, who was the chairman, dele-

gates discussed frankly and in great detail the two principal proposals for a National Science Foundation that are before Congress at the present time (see *Science*, February 14 and February 21). In addition to some 120 delegates from the various constituent groups who were present there were representatives of the Joint Army-Navy Research and Development Board, the President's Scientific Board, the President's Commission on Higher Education, U. S. Public Health Service, and the Office of Naval Research. In general, all of these government agencies approve of a National Science Foundation, and a statement representing the War Department's position having the approval of Gen. Aurand was particularly clear. The statement was read by David M. Delo, chief of the Scientific Manpower Branch of the Research and Development Division, War Department General Staff. The statement follows:

(1) The War Department is specifically interested in the maintenance of the strongest possible scientific research program on a national scale. It realizes that only in this way can the highly trained personnel, the technical devices of warfare, and the necessary reservoir of fundamental scientific knowledge be maintained at a level adequate for national safety.

(2) Since the purpose of the National Science Foundation is to strengthen the national scientific program by centering attention on its fundamental aspects, its scope, and on the training of potential scientists, the war Department is specifically in favor of its establishment.

(3) The administrative structure of a National Science Foundation is not a matter of concern to the War Department so long as it is effective and can accomplish its mission. The War Department, therefore, does not favor one type of proposed legislation as against another from this point of view.

(4) It must be pointed out, however, that the War Department must maintain during time of peace, a close contractual relationship with certain portions of industry which will allow them to mobilize and to expand quickly in time of national emergency so that our production of devices and instrumentalities of warfare can

keep pace with the demands for national defense. It is necessary, therefore, that our contracts contain provisions which are acceptable to industry. Hence, if any proposed legislation contains provisions which militate against the maintenance of this close relationship, it cannot be favored by the War Department. As a result, it is our belief that it would be better to ignore the provisions which govern patents in this proposed legislation so that contracts can be let in accordance with the contractual negotiations which have been utilized previously. This point of view was expressed during 1946 in reference to the bills then pending before the 79th Congress.

(5) The War Department must also be free to let research and development contracts wherever it deems them desirable. On the other hand, since the National Science Foundation will form a focal point for the national basic research program, the War Department would undoubtedly ask it to monitor a considerable portion of the basic research now being performed under contract in universities. It would also expect to utilize the advice of the Foundation in the placing of contracts and in determining proper coverage of the necessary fields of investigation.

(6) It must also be noted that the demands for research devoted specifically to the purposes of national defense may vary from year to year. It is our opinion, therefore, that it would be a mistake to specifically limit the amount of defense research.

(7) In summary—(a) War Department research must be performed or contracted for from the primary view of national defense and the interests of the using agency. The War Department cannot, and should not, attempt to subsidize fundamental research on a national basis. (b) The War Department must be free to maintain its normal contractual relationships with universities, foundations, or industry as hitherto, but would expect to work very closely and freely in the fields of fundamental research with the proposed National Science Foundation. (c) The Department unequivocally favors the establishment of a Foundation. It would specifically favor a form of legislation which would allow it to perform the functions and continue the relationships outlined above.

Late in the afternoon Senator Elbert D. Thomas of Utah, who is sponsoring the bill S. 525, spoke informally in support of the bill.

A Group of 40 high school students arrived in Washington, D. C., February 28 for the Sixth Science Talent Institute, last step in the Annual Science Talent Search conducted annually by Science Service for the Westinghouse Science Scholarships.

At a dinner bringing the Institute to a close March 4, one boy and one girl will be awarded \$2,400 Westinghouse Grand Science Scholarships; eight winners will be awarded \$400 Westinghouse Science Scholarships; and \$3,000 additional in scholarships will be granted at the discretion of the judges. Vannevar Bush will address the young contestants and guests at the dinner to be held at the Statler Hotel.

The group of young people includes 9 girls and 31 boys, 14 to 19 years of age, from 32 localities in 16 states and the District of Columbia. They were picked by the judges from 16,558 contestants, of whom 3,197 completed their entries by taking a three-hour science aptitude examination and writing a 1,000-word essay on "My Scientific Project."

Scientific promise in young people has no discernible relation to what their parents do, according to a Science Service study of the parentage of the 40 winners in the current Talent Search. Numerically, occupations of fathers are listed as: eight businessmen, six teachers, three engineers, three lawyers, two investment brokers. The following occupations are represented by one father each: clergyman, publisher, compositor, tailor, carpenter, biologist, laborer, electrician, plant quarantine inspector, well driller, and motion-picture writer. Six of the winners have only one parent living, Science Service disclosed. Ten of the 40 are only children, 20 have at least one brother or sister, and only one comes from a family with as many as four children. About 17 per cent have parents who attended college.

About People

Quentin B. Zielinski, formerly with the Virginia Agricultural Experiment Station, has been appointed associate professor of horticulture at Oregon State College, Corvallis.

Alexander Wetmore, secretary of the Smithsonian Institution, has been elected

a foreign corresponding member of the Sociedad de Ciencias Naturales La Salle of Venezuela.

Roy C. Thompson, recently of the Metallurgical Laboratory, University of Chicago, and Radiation Laboratory, University of California, has been appointed assistant professor of chemistry at the University of Texas, Austin.

David A. Saxon, formerly with the Radiation Laboratory, Massachusetts Institute of Technology, has been appointed assistant professor of physics, at the University of California, Los Angeles.

Visitors to U. S.

Two Brazilian physicians, Emmanuel Dias and F. Laranja, members of the Oswaldo Cruze Institute, Rio de Janeiro, are visiting the University of Texas Medical Branch, Galveston. Drs. Dias and Laranja will conduct a study of possible cases of Chagas' disease in Texas in cooperation with Ardzronny Packchianian, director of the Microbiology Laboratory at the Medical Branch.

G. Fraenkel, Department of Zoology and Applied Entomology, Imperial College of Science and Technology, London, has been appointed special lecturer at the University of Minnesota for the spring quarter, 1947. Dr. Fraenkel will give a course in insect nutrition as a part of the graduate teaching program of the Division of Entomology and Economic Zoology.

Grants and Awards

Ross G. Harrison, Yale University, will receive the John J. Carty medal and award of the National Academy of Sciences at the annual meeting of the Academy in April.

The award, made by the American Telephone and Telegraph Company in honor of the late John J. Carty, member of the Academy, may be conferred not oftener than once in two years "on anyone who in the judgment of the Academy has made noteworthy contributions to the advancement of fundamental or applied science in any field." In addition to the gold medal, bestowal carries award of the net accumulated income since time of the preceding award.

In transmitting its recommendation to the Academy, the Committee of Award

lauded Dr. Harrison's experimental results leading to the procedure known as tissue culture, obtained as a young man at Johns Hopkins University. The Committee also praised Dr. Harrison's work as chairman of the National Research Council since retirement from active university work in 1938, declaring that he combines sound judgment, sympathy for his fellow man, and a wide comprehension of scientific problems.

"Thus, Dr. Harrison has added to an illustrious scientific career an administrative service that in beneficence and sound results arouses the admiration of his colleagues and merits one of the highest honors which the Academy can bestow," the Committee concluded.

Fellowships

Yale University School of Medicine has announced availability of the following fellowships in the biological sciences: fellowships for research in the medical sciences, including clinical medicine and public health, from the James Hudson Brown Memorial Fund; and the Alexander Brown Coxe Memorial Fellowships in the biological sciences, including medicine. Preference is given holders of the M.D. or Ph.D. degree, and the amount of awards is determined for individual applicants.

Application forms and additional information may be obtained from the Dean, School of Medicine, Yale University, 333 Cedar Street, New Haven 11, Connecticut. Applications should be filed prior to March 15.

The University of Utah, Salt Lake City, has made available 20 research fellowships and the Alumni Development Fund four fellowships for graduate students during the school year 1947-48. These fellowships are open in any department of the University and will range from \$500 to \$1,000, depending on qualifications of the students. Applications should be submitted to the dean of the Graduate School before March 1.

Other departmental fellowships and assistantships are available to graduate students in many sciences. Applications may be addressed to heads of the departments.

The Utah Humanities Research Foundation also offers two fellowships of \$500 and five of \$250 for research in regional culture. Applications may be sent

at any time to Hector Lee, director of the Foundation.

E. I. du Pont de Nemours and Company will award 69 postgraduate and six postdoctoral fellowships to 46 universities for the 1947-48 academic year, continuing its fellowship plan, adopted in 1918 and designed to provide means for advanced training of chemists, physicists, and engineers.

Each postgraduate fellowship provides \$1,200 for a single person or \$1,800 for a married person, and a grant of \$1,000 to the university. Each postdoctoral fellowship carries an award of \$3,000 and a grant of \$1,500 to the university. The postdoctoral fellowships, all in chemistry, go to Cornell University, Harvard University, Massachusetts Institute of Technology, University of Illinois, University of Minnesota, and University of Wisconsin.

Of the postgraduate fellowships 42 are in chemistry, 5 in physics, 15 in chemical engineering, and 7 in mechanical engineering.

The California Institute of Technology has created the Harry Bateman Research Fellowship in pure mathematics in honor of the late Harry Bateman, professor of mathematics, physics, and aeronautics at the Institute.

Candidates for the fellowship should have obtained a doctorate or expect to receive it prior to the beginning of the academic year 1947-48. Appointment will be made on the basis of shown promise of independent research in any field of pure mathematics, and the recipient, in addition to research, will teach one upper-class course in mathematics. The appointment will carry a stipend of \$3,000 for the academic year and, while normally for one year, it may be renewed for a second year.

Application blanks may be obtained from the Dean of the Faculty, California Institute of Technology, Pasadena 4, California, and must be returned to that address before March 15, 1947.

Colleges and Universities

The University of Mainz has recently been opened in the French Zone of Germany, according to a letter written by Udo Undeutsch, dozent of psychology at the University to H. L. Ansbacher, University of Vermont, December 29. The

letter states in part: "Thanks to strong support of the French authorities this university, the full name of which is Johannes-Gutenberg-Universität, was created within the shortest time from literally nothing. It is housed in former anti-aircraft barracks of the most modern construction which offer beautiful and ample quarters. Due to existing conditions many very good men could be obtained for the faculty. We have 4,000 students selected from 10,000 applicants. The Institute of Psychology is headed by Albert Wellek, formerly of the University of Breslau."

The Agricultural Experiment Station, Utah State Agricultural College, Logan, Utah, is site of a new legume seed research station for investigation of problems of production of alfalfa and other forage crop seed, established by the U. S. Department of Agriculture. The following men will work on problems connected with legume seed production: F. E. Todd and G. E. Bohart, on pollinating insects; F. V. Lieberman and S. K. Snow, on destructive insects; J. W. Carlson and M. W. Pedersen, on seed production and improvement problems.

The University of Michigan has approved use of \$42,000 from general funds of the Department of Engineering Research for construction of an illumination laboratory on the roof of the East Engineering building. The new structure will replace present facilities in Randall Laboratory and provide natural light for study of illumination needs of schools, factories, and houses.

Industrial Laboratories

Eastman Kodak Company, Rochester, New York, recently added the following members to its research laboratory staff: James H. Richmond, Masonite Corporation, Laurel, Mississippi; Herman H. Broene, research fellow, Purdue University; and Chester R. Berry, Cornell University.

Eli Lilly and Company, Indianapolis, Indiana, has appointed H. W. Rhodehamel as executive director and E. C. Kleiderer as assistant executive director in the administrative organization of its expanded research program. Following are directors of divisions: G. B. Walden, biochemical; H. A. Shonle, organic chemistry; K. K. Chen, pharma-

cology; W. A. Jamieson, biological; R. M. Rice, medical; W. J. Rice, chemical control; F. B. Peck, associate director, medical division; and H. A. Dettwiler, assistant director, biological division, in charge of production.

Distillation Products, Inc., Rochester, New York, has appointed Wilma Kujawski and Mei Yu Dju to its research staff. Miss Kujawski, formerly librarian at the Manhattan Project, University of Rochester, is now in charge of the research library, and Miss Dju, formerly on the staff of the Henry Lester Institute for Medical Research, Shanghai, is conducting fundamental research on vitamin E in nutrition in the Biochemistry Department.

Meetings

The National Academy of Sciences will hold its annual meeting at the Academy Building, Washington, D. C., April 28, 29, and 30.

The opening session of the business meeting, for members only, will be Monday morning, April 28, at 9:00 o'clock in the lecture room. Concluding session for transaction of business of the Academy, including election of new members, new foreign associates, president, home secretary, and two members of the council, will be at 9:00 o'clock, Wednesday, April 30.

Scientific meetings will be held the full days of April 28 and 29, and a public lecture, for which the speaker and subject are to be announced later, will be delivered Monday evening in the auditorium. Each member of the Academy who has a paper to offer for the scientific program or who wishes to introduce a paper by a nonmember should submit to the home secretary's office, 2101 Constitution Avenue, Washington, D. C., the full title and time of delivery, with two abstracts of the paper, not later than April 7.

The annual dinner, at which President and Mrs. Jewett will meet members and guests, will be Tuesday evening, April 28, at the Hotel Washington.

There are no hotel headquarters for the meeting, and since the U. S. Chamber of Commerce will hold a convention of 2,500-3,000 members during the week of the Academy meetings, members are urged to write directly to hotels for reservations as soon as possible.

The Crystallographic Society will hold its second annual spring meeting at the U. S. Naval Academy, Postgraduate School, Annapolis, Maryland, March 19-21. The registration fee of \$22.00 includes rooms for Wednesday, Thursday, and Friday nights and meals beginning Wednesday night. The fee is \$13.00 for those not requiring rooms or breakfasts. Reservations may be made by writing Newton W. Buerger, Massachusetts Institute of Technology, Cambridge, Massachusetts.

The 21st National Colloid Symposium, official activity of the Division of Colloid Chemistry, American Chemical Society, will be held at Stanford University, Palo Alto, California, June 18-20. The program will consist of a group of papers on "Colloidal Electrolytes" and another on "General Colloid Chemistry," according to J. W. Williams, chairman, National Colloid Symposium Committee.

The Midwest Power Conference will be held March 31 through April 2 with headquarters at the Palmer House, Chicago, Illinois. Sponsored by the Illinois Institute of Technology in cooperation with nine midwestern colleges and eight societies, it is open to all persons interested in power problems. Conference director is Stanton E. Winston, and conference secretary, Edwin R. Whitehead, both of the Illinois Institute of Technology. Mr. Whitehead is now receiving registrations and reservations for luncheons and dinners and has available complete conference programs at the Institute, 3300 Federal Street, Chicago 16, Illinois.

Le Comité Météorologique Internationale will hold its next conference in Washington, September, 1947, to discuss the projected Convention Météorologique Mondiale.

The Pan-American Conference on Cartography will be held in Buenos Aires, in September.

The International Congress on Experimental Cytology will be held in Stockholm, July 10-16.

The World Health Organization Interim Commission will meet in Geneva, Switzerland, March 31.

The International Congress for Microbiology will convene in Copenhagen, Denmark, July 20-26.

The Inter-American Conference on

National Resources will meet in Washington in May.

Elections

The American Standards Association elected Frederick R. Lack, vice-president and director of Western Electric Company in charge of the radio division, as president for 1947. George H. Taber, Jr., executive vice-president of the Sinclair Refining Company, was elected vice-president. Mr. Lack, a member of the A.S.A. board of directors for the past two years, and vice-president during 1946, was nominated by the Institute of Radio Engineers.

The Division of High-Polymer Physics of the American Physical Society has elected Hubert M. James and Robert S. Spencer to the executive committee. Officers for 1947 are Lawrence A. Wood, chairman; Dr. James, vice-chairman; W. James Lyons, secretary; and Dr. Spencer, treasurer.

The New York City Branch, Society of American Bacteriologists, has elected the following officers for 1947: William W. Browne, College of the City of New York, president; Thomas C. Grubb, research laboratories, Vick Chemical Company, vice-president; Mary B. Horton, Sheffield Farms Company, Inc., counselor to the S.A.B. The president has appointed Gustav I. Steffen, New York City Department of Health, program chairman, and Gladys L. Hobby, Morris L. Rakieten, and Mortimer P. Starr, members of the local council.

Plans have been completed at the National Bureau of Standards for erection of two betatrons, enabling scientists there to extend research, measurements, and standards development into the 50,000,000- and 100,000,000-volt range.

Two immediate problems calling for extensive investigation are determination of measurement techniques and formulation of precautionary principles in use of the betatron for cancer treatment.

For the past 20 years the Bureau has played a central role in development of standards for X-ray dosage measurement and protection. The field has been covered thus far only up to 1,500,000 volts. For this purpose the Bureau now has one of the best-equipped X-ray laboratories in the world. Because of its facilities and

experience in the field of radioactivity as well as X-rays, outside organizations are looking to the Bureau for extension of X-ray measurement activities into the newly-opened multimillion volt range.

Both medical and industrial application of high-voltage radiation will be investigated. Problems of protection in both areas will be studied, and one of the aims of the Bureau is to discover necessary thicknesses and types of construction of protective barriers that will give maximum protection with lowest over-all costs.

The Bureau also plans to make a systematic study of nuclear transformations brought about by exposing materials to the X-ray beam.

The betatron authorized by the 1946 Congress was designed to operate up to 50,000,000 volts, but the building will house equipment up to 150,000,000 volts as it becomes available. While building designs are complete, construction has not been started due to increased building costs since appropriation estimates were made. The 1947 budget request calls for addition of a 100,000,000-volt betatron.

The Committee on Geophysical Sciences of the Army and Navy Joint Research and Development Board recently held its first meeting in Washington, D. C. The Committee was established to assist the Board in carrying out provisions of its charter affecting research in physics of the upper atmosphere, meteorology of the lower atmosphere, geomagnetism, geology, hydrology, oceanography, seismology, and geodesy. Members of the Committee which will coordinate Army and Navy research and development activities affecting these sciences are: Roland Beers, chairman, formerly of the faculty of M.I.T.; Carl G. Rossby, head, Department of Meteorology, University of Chicago; Chester R. Longwell, professor of geology, Yale University; Samuel B. Morris, general manager and chief engineer, Department of Water and Power, Los Angeles, California; Rear Adm. R. O. Glover, hydrographer of the U. S. Navy; Capt. Howard B. Hutchinson, aerologist, Office of Naval Research, USN; Col. B. G. Holzman, member of the staff, Deputy Chief of Air Staff for research and development; and Col. D. N. Yates, chief, Air Weather Service.

The U. S. Civil Service Examiners, Philadelphia Quartermaster Depot, have

extended the time of the examination for chemist indefinitely, rather than closing it February 6, as previously announced (*Science*, January 17). Duties of the positions involve chemical research and development at the Philadelphia Quartermaster Depot and other agencies in the Third Civil Service Region. Salaries range from \$4,902 to \$7,102. Applications should be submitted to the Executive Secretary, Board of U. S. Civil Service Examiners, 2800 S. 20th Street, Philadelphia 45, Pennsylvania.

Astronomers and amateurs are planning at least 9 expeditions to observe the total solar eclipse, May 20, from points in South America, according to information received from astronomers in Brazil, Argentina, England, and New Zealand by Charles H. Smiley, Brown University.

Six expeditions will have headquarters in Brazil: two from the United States, one from England, one from New Zealand, and two from Brazil. Three parties will observe from Argentina, but none of these will represent foreign groups.

The Brown University-Skyscrapers Expedition is expected to observe from Araza, about 300 miles northwest of Rio de Janeiro, and the National Geographic Society-Army Air Forces Expedition from Lassance and Bocayuva, about 400 miles north of Rio de Janeiro. The Brazilian groups, as well as an expedition headed by C. B. Michie, New Zealand Astronomical Society, and one led by J. A. Carroll, London, England, are expected to observe from these points.

An expedition under Enrique Gavioli, Argentine National Observatory, Cordoba, is expected to be 50 miles north of Cordoba. A group from the La Plata Observatory will locate near Corrientes in northern Argentina near Paraguay or at Tostado, southeast of Corrientes. A group representing the Asociacion Argentina "Amigos de la Astronomia," under B. H. Dawson, will observe the eclipse at Itati, also in northern Argentina near Paraguay. (*Science Service*.)

Field Laboratories of the Oceanographic Laboratories, University of Washington, at Friday Harbor, San Juan Islands, will be reopened this summer to students and investigators. Plans have been completed for construction of a new \$250,000 research and laboratory building, and a research vessel to replace the *M. S.*

Catalyst is expected to be in operation this summer.

The Warner & Swasey Observatory, Cleveland, Ohio, has received a gift of a three-inch Transit telescope from Bausch & Lomb Optical Company. Formerly housed in the company's observatory, Rochester, New York, the telescope and recording micrometer were used to observe transit of stars in determining sidereal time. In its new location the instrument will be used principally for instruction.

Last summer Bausch & Lomb gave its large, equatorial telescope to the High Altitude Observatory, operated jointly by Harvard and Colorado Universities at Climax, Colorado.

The Ministry of Education of Afghanistan has openings for 31 American men teachers for positions in government schools in Kabul, the capital, and Kandahar, center of Afghan history and Pushtu culture. Teachers, who are required to have B.A., M.A., B.S., or M.S. degrees and actual classroom teaching experience, are needed to teach the following subjects in English: mathematics, physics, chemistry, biology, geography, and geology. The Ministry offers three-year contracts and travel expenses both ways. Further information may be obtained from the Division of International Exchange of Persons, Department of State, Washington, D. C.

Recent Deaths

Fred Winslow Morse, 81, died January 29 at his home in Amherst, Massachusetts. He was emeritus professor at Massachusetts State College, Amherst, where he had been active in the Agricultural Experiment Station from 1910 to 1935.

Moses Gomberg, 81, former chairman of the Chemistry Department, University of Michigan, died February 12 in Ann Arbor, Michigan. Dr. Gomberg was credited with discovering trivalent carbon and was noted for his work in the triphenylmethane series. He also was credited with developing the first satisfactory antifreeze compound for automobile radiators and finding important new solvents for automobile lacquers. He was past president of the American Chemical Society and one-time vice-president of the AAAS.

NRC News

The Sixth Report of the Committee on Marine Ecology as related to Paleontology (1945-46), recently issued, is a bound, mimeographed bulletin of 101 pages, containing material presented at the annual meeting of the Division of Geology and Geography.

The report contains an outline for a comprehensive Treatise on Marine Ecology and Paleoecology that the Committee will prepare with the aid of interested specialists. Included also are eight signed reports. Four are annotated bibliographies of ecological studies that have been carried on in the Pacific area; the remainder, special ecologic studies. The report gives information on current and recently completed activities together with a current bibliography and summary reviews. Requests for copies should be addressed to the Division of Geology and Geography, National Research Council, 2101 Constitution Avenue, Washington 25, D. C., accompanied by a remittance of \$.50 for each copy desired.

A report of the Joint Committee on Forestry of the NRC and the Society of American Foresters, "Problems and Progress of Forestry in the United States," was published by the Society February 1. The report summarizes the history of American forestry, describes the extent, character, and condition of American forests, and explores the problem of drain by utilization and losses through fire and other injurious agencies. The facts concerning public ownership of forests, the problems of private forestry, the place of government activity in advancing forestry on private lands, and education and research in forestry are dealt with in separate sections.

This report culminates two years or more of study by the Committee and especially its chairman, Henry S. Graves, dean emeritus, Yale School of Forestry, and formerly chief of the U. S. Forest Service. It fills the need for a picture of the present forest situation in the United States and for determination and interpretation of problems that are not being met through existing agencies.

Make Plans for—

American Society of Mechanical Engineers, spring meeting, March 2-5, Tulsa, Oklahoma.

Institute of Radio Engineers,

national convention, March 3-6, Hotel Commodore, New York, New York.

University of Pittsburgh Department of Psychology conference, "Current Trends in Psychology," March 5-6, Pittsburgh, Pennsylvania.

Western Metal Congress and Exposition, fifth, March 22-27, Civic Auditoriums, Oakland, California.

American Association of Anatomists, annual meeting, April 3-5, Mount Royal Hotel, Montreal, Canada.

American Geophysical Union, 28th annual meeting, April 28-30, National Museum, Washington, D. C.

Southwestern Division, AAAS, 23rd annual meeting, with Colorado-Wyoming Academy of Science, May 1-3, Colorado College, Colorado Springs.

Society of American Bacteriologists, annual meeting, May 12-16, Bellevue-Stratford Hotel, Philadelphia, Pennsylvania.

American Association of Cereal Chemists, 32nd annual meeting, May 19-23, Hotel President, Kansas City, Missouri.

American Oil Chemists' Society, 38th annual meeting, May 20-22, New Orleans, Louisiana.

American Society of Mechanical Engineers, oil and gas power 19th national conference, May 21-24, Cleveland, Ohio.

American Society of Mechanical Engineers, aviation meeting, May 26-29, Los Angeles, California.

American Society of Mechanical Engineers, wood industries national conference, June 12-13, Madison, Wisconsin.

American Society of Mechanical Engineers, semiannual meeting, June 16-19, Chicago, Illinois.

American Society for Engineering Education, 55th annual meeting, June 18-21, University of Minnesota, Minneapolis.

Chemical Society, London, centenary meeting, July 15-17, London, England.

International Congress of Pure and Applied Chemistry, 11th annual, July 17-24, London, England.

International Physiological Congress, 17th annual, July 21-25, Oxford, England.

COMMENTS

by Readers

In the *Mathematical Cuneiform Texts*, edited by O. Neugebauer and A. Sachs, page 35 (1945), the authors note that "we now have an Old-Babylonian tablet which answers the question to what power must a certain number a be raised to yield a given number? This problem is identical with finding the *logarithm* to the base a of a given number." This remark is followed in the noted volume by some problems which are identical with those appearing in some of our modern textbooks on elementary algebra intended for students who are beginning the study of logarithms. For instance, the problems prove that $\frac{1}{4}$ is the logarithm of 2 to the base 16 and that $\frac{3}{4}$ is the logarithm of 8 to the base 16. This involves the use of fractional exponents.

Another extreme view relating to the same subject is quoted approvingly in volume 2 of the widely consulted textbook on the history of elementary mathematics by the late D. E. Smith of Columbia University, page 512 (1925), as follows: "The invention of logarithms came on the world as a bolt from the blue. No previous work had led up to it, foreshadowed it or heralded its arrival. It stands isolated, breaking in upon human thought abruptly without borrowing from the work of other intellects or following known lines of mathematical thought." It should be emphasized that this statement was made in 1914 in Edinburgh at the Tercentenary of the publication of a volume on logarithms by John Napier (1550-1617).

It might have been thought that 300 years would be sufficient time to establish the merits of an individual as regards his contribution towards the development of such an important subject of elementary mathematics, but from the above it is clear that widely different views relating thereto may be held by those supposed to be in good positions to judge even after this long period of time. A striking feature of the difference of these views is that

they exhibit some of the difficulties involved in the study of the history of science, which has been too much neglected during recent years.

It should, however, be emphasized that the view noted in the second paragraph of this letter is in complete disaccord with that usually held by mathematical historians notwithstanding its appearance in a widely consulted book in our schools. Few subjects involve so many clear steps toward their modern status in the school curriculum as that of logarithms. Hence, the given quotation from the report of an international meeting may also serve as an instance of a historical statement which would naturally arouse much disagreement after the facts relating thereto have been carefully considered by the students of a class in the history of mathematics. Such disagreement may tend to fix these facts more clearly in the minds of the student, provided they are freely expressed. (G. A. Miller, University of Illinois.)

It is believed that the darkening of fruits and vegetables, upon being cut and exposed to the air, is in part similar to that age-old process in the soil whereby the ferruginous silicates, sulfides, and anhydrous oxides are oxidized to the ferric compounds to form brown and red soils, according to Jackson B. Hester, Riverton, New Jersey. The iron in the fruits and vegetables is originally in the form of ferrous compounds which do not impart a brown color, but upon exposure to air are oxidized to ferric compounds which are brown. The change of ferrous iron to ferric iron has been verified by the author by extracting apples, horse radish, potatoes, etc., with strong acetic acid and making the test for ferrous and ferric iron. At the outset the iron occurs largely in the ferrous state, but after exposure to the air or upon long storage it appears in the ferric state, thus imparting a brown discoloration.