

triple salt of sodium carbonate, magnesium carbonate and sodium chloride, and the third known occurrence of pirssonite, which is a double salt of sodium carbonate, calcium carbonate and water.

The samples were supplied by the company to H. I. Smith; the trona was identified by R. C. Wells, and the shortite, northupite and pirssonite by J. J. Fahey, all of whom are members of the U. S. Geological Survey.

W. C. MENDENHALL,
Director

THE FINANCES OF THE AMERICAN CHEMICAL SOCIETY

At the recent meeting of the Board of Directors of the American Chemical Society, according to *Industrial and Engineering Chemistry*, the secretary of the society, Dr. Charles L. Parsons, gave a detailed report covering membership, subscriptions and the income of the society up to November 30, 1939, showing a definite increase in subscriptions to all journals, an increase in membership from 22,187 to 23,505; the election of 2,537 new members in 1939; an increase in student members and corporation members and in student affiliates. He also reported increased subscriptions to the industrial and analytical editions of *Industrial and Engineering Chemistry* and an especially large increase in the *News Edition* from 25,770 to 27,837.

The estimated income and expenditures of the society for 1940 are given as follows:

ESTIMATED INCOME, 1940	
Dues	\$200,000
Subscriptions	190,000
Back Numbers	6,000
Postage	17,500
Interest	21,000
Interest from Endowment Fund	3,000
Directory	3,000
Royalties	3,000
Advertising	182,000
Total	\$625,500
From Reserve	45,057
	\$670,557

ESTIMATED EXPENDITURES, 1940	
<i>Journal of American Chemical Society</i>	\$ 68,300
<i>Chemical Abstracts</i>	195,900
<i>Industrial and Engineering Chemistry</i> including Analytical Edition	162,336
News Edition	52,850
News Service	9,266
Secretary and Business Manager's Office:	
Secretarial	19,472
Business Management	29,208
Treasurer's Office	9,500
President's Office	1,500

Printing Advertising	57,650
Advertising Development	13,050
Technologic Monographs	1,025
Scientific Monographs	1,000
Back Numbers	4,000
Local Sections	24,000
Incidentals	15,000
General Meetings	2,000
Directory	4,500
Total	\$670,557

THE PERMANENT SCIENCE FUND OF THE AMERICAN ACADEMY OF ARTS AND SCIENCES

INCOME from the Permanent Science Fund, according to agreement and declaration of trust, shall be applied by the American Academy of Arts and Sciences to such scientific research as shall be selected ". . . in such sciences as mathematics, physics, chemistry, astronomy, geology and geography, zoology, botany, anthropology, psychology, sociology and economics, history and philology, engineering, medicine and surgery, agriculture, manufacturing and commerce, education and any other science of any nature or description, whether or not now known or now recognized as scientific, and may be applied to or through public or private associations, societies, or institutions, whether incorporated or not, or through one or more individuals."

Applications for grants under this indenture are considered by a committee of this academy on stated dates only. The next meeting to consider applications will be held on March 1. Applications should be made on special forms furnished by the committee. Correspondence, including requests for application blanks, should be addressed to the chairman of the Committee on the Permanent Science Fund, Professor John W. M. Bunker, Massachusetts Institute of Technology, Cambridge, Mass.

Grants-in-aid from this fund were voted by the academy on October 11, 1939, as follows:

Professor Orlin Biddulph, Department of Botany, State College of Washington, for further studies with radioactive phosphorus in plants, \$200.

Professor Hyman Y. Chase, Department of Zoology, Howard University, for further studies on the effect of ultra-violet upon cell division in marine eggs, \$300.

William G. Clark, instructor, Department of Zoology, University of Minnesota, for assistance, animals and expendable materials in his investigation of the relations between adrenal cortex and membrane functions, \$400.

Dr. Rudolf Hoeber, visiting professor of physiology, University of Pennsylvania Medical School, for compensation of an assistant in a study of the relation between molecular configuration of dye-stuffs and their secretion by the kidney, \$600.

Lewis H. Kleinholz, instructor in biology, Cambridge

School of Liberal Arts, for purchase of test animals in a determination of the distribution of the pituitary hormone, intermedin, \$75.

Professor Robert H. Lowie, Department of Anthropology, University of California, for an investigation by Snr. Curt Nimuendaju, of the Kayapo Indians, and their cogeners in the region west of the Araguaya River, Brazil, \$500.

William G. Lynn, associate in zoology, The Johns Hopkins University, for the cost of illustrations of a monograph on amphibians of Jamaica, B. W. I., which has been accepted for publication, \$170.

Professor Thomas L. Patterson, Department of Physiology, Wayne University College of Medicine, for purchase of animals for his study of the effect of changed emotional states on body activity, \$60.

Professor William B. Redmond, Department of Biology, Emory University, for the purchase of animals required in a further study of a new method of immunization against malaria, \$350.

Edward J. Schremp, instructor in physics, Washington University, for materials and equipment to be used in the determination of directional distribution of cosmic rays at St. Louis, \$500.

Professor C. Richard Soderberg, Massachusetts Institute of Technology, for his investigation of the plastic properties of polycrystalline metals, the award to be contingent upon the securing by the applicant of sufficient funds to assure the continuation of this project for at least one year, \$500.

David M. Steven, Henry fellow, Harvard University, for his investigation of night blindness as an index of vitamin A deficiency among the population of Labrador and North Newfoundland, \$400.

Martin D. Whitaker, instructor of physics, New York University, for one year's rental of a radium-beryllium source of neutrons for his studies on differential effects in slow neutron scattering, \$850.

THE WESTERN SOCIETY OF NATURALISTS

THE twelfth annual winter meeting of the Western Society of Naturalists was held in the San Carlos Hotel in Monterey, California, December 20, 21, 22 and during the morning of December 23. Preceding a smoker on the evening of December 20, Dr. Harald U. Sverdrup, director of the Scripps Institution of Oceanography, talked briefly of the recent work and forthcoming program of the institution's scientific operations at sea, and then showed colored motion pictures taken by Dr. Roger Revelle, of the staff, during a research cruise last spring in the Gulf of California.

Two symposia were given in honor of two respective octogenarian members. An evening dinner was given also in their honor. The first symposium was "The Biological Basis of Social Problems," honoring Dr. William E. Ritter, professor emeritus of zoology in the University of California and first director of the Scripps Institution of Oceanography; contrib-

utors to this symposium were: Dr. C. M. Child, Dr. F. B. Sumner, Dr. S. J. Holmes, *chairman*, Dr. E. B. Copeland and Dr. H. S. Jennings. Contributors to the second symposium, honoring Dr. Douglas H. Campbell, and entitled "The Evolution of Land Plants," were: Dr. A. W. Haupt, Dr. G. M. Smith, *chairman*, Dr. I. L. Wiggins and Dr. H. F. Copeland.

Besides some twenty-seven contributed papers, two other symposia were presented. They were "Nutrient Requirements of Microorganisms," under the chairmanship of Dr. C. B. van Niel, Hopkins Marine Station, Pacific Grove, and "Animal Migration," under the chairmanship of Dr. R. C. Miller, California Academy of Sciences, San Francisco.

The following officers were elected: *President*, Professor George E. MacGinitie, Kerckhoff Marine Biological Laboratory of the California Institute of Technology, Corona del Mar; *Vice-president*, Dr. Robert C. Miller, director of the California Academy of Sciences, San Francisco; *Secretary-Treasurer*, Dr. Denis L. Fox, Scripps Institution of Oceanography, La Jolla; *Members of the Executive Committee*, Dr. Gilbert M. Smith, Stanford University, and Dr. S. F. Light, University of California, Berkeley.

D. L. Fox

THE PRIZE OF THE AMERICAN ASSOCIATION

THE American Association prize of \$1,000 was awarded at the Columbus meeting to Dr. I. I. Rabi, professor of physics at Columbia University. The nominating committee in announcing the award made the following statement:

As in past years the committee found it difficult to choose from almost equally meritorious contributions in scientific fields so different that comparison and contrast were impossible.

Notwithstanding this difficulty, the committee reached a unanimous decision in favor of Dr. Rabi's research as outlined in his paper, "Radio Frequency Spectra of Atoms and Molecules" because it extends the range of scientific knowledge regarding atoms in a very significant way.

Dr. Rabi has not only discovered radiations, emitted by atoms, that are pitched lower than any hitherto observed but also devised a method of measuring them. Although they lie within the range of radio, they are too feeble by far for detection by even the most sensitive devices now known in radio.

Dr. Rabi's work has opened a way of measuring such subtle properties of atoms and molecules as the magnetism of their component parts a hundred times more accurately than was possible by any instrument available up to the present time. Of special significance is his conclusion that "there are no forces between the nucleus and the electrons because of their spins, other than those arising from the fact that the nucleus, as well as the electron, is a magnet."