Meetings and Societies

AAAS Indianapolis Meetings, 1871–1937

The 124th meeting of the American Association for the Advancement of Science this coming 26–30 Dec. is also the fourth Indianapolis meeting. The previous meetings in this key industrial center of the Midwest were held in 1871, 1890, and 1937. A brief comparison of the meetings not only indicates the growth of the AAAS—and of the societies that participate—but also provides an indication of the shifts in emphasis in scientific research. The development of the city and of the nation over 86 years is indicated, and the influence of the times and of the personalities of the past is reflected in the programs and proceedings of these earlier conventions. A number of members who attended the third Indianapolis meeting of 1937 will be in a position to make their own comparisons of the changes that 20 years have brought.

The first Indianapolis meeting, 16–22 Aug. 1871, was held relatively early in the long history of the association. It was only the 20th AAAS meeting, since there had been no meetings during the war between the North and the South. Before this there had been only one convention west of Ohio—the Chicago meeting of 1868.

When the proceedings of this meeting of 86 years ago are read, it is at once apparent that great changes in industry, in transportation, and in the growth of the nation, and at least equally great developments in science, have occurred. In 1871, the population of Indianapolis, exclusive of suburbs, was 48,000—about one-tenth of what it is today. AAAS membership at that time was only 537; it has since increased 100-fold. For inland transportation, railroads were the only large carriers of freight and people. The railroads were relatively prosperous and in a phase of expansion. The use of steel rails and the spread of the Bessemer process of steel production were shortly to come. Then, as now, Indianapolis was a key center of the state and of the region. Indeed, every 24 hours, eighty trains stopped at the Union Depot. In that halcyon period, when hospitality could be abundant and convention visitors could often send free telegrams, two of the 12 railroads that passed through the city invited the 196 AAAS registrants and their families to ride free on excursions to Terre Haute and to the Mammoth Cave in Kentucky. On the first of these trips, time was allotted for free refreshments at Knightsville and for a longer stop-off at Brazil, Ind., to inspect the coal and iron operations there and to partake of a bountiful dinner generously contributed by the townspeople. The city of Terre Haute entertained the delegates overnight, after a reception and addresses. At the close of the meeting, the citizens of Louisville and the Louisville and Nashville Railroad provided complimentary meals on the Mammoth Cave trip.

The technical sessions, at which 107 papers were read before the (then) two sections—A–Mathematics, Physics, and Chemistry and B–Natural History (geology, zoology, botany, ethnology)—were held in the legislative chambers of the State House. The larger general sessions and social events were accommodated in the Academy of Music. General chairman of the first Indianapolis meeting was the Honorable Daniel Macauley, who headed a local committee of 95 members. At the committee's formal reception of the association, on the first afternoon, Governor Conrad Baker gave a brief address of welcome. This was responded to by retiring president Thomas Sterry Hunt, a prominent geologist and charter member of the association, who had succeeded astronomer-mathematician William Chauvenet following the latter's death in office. A tribute was paid to the pioneer scientific work of William McClure and of the Owens, of Indiana's New Harmony community. Hunt's AAAS presidential address the same evening was a scholarly, historical review of the crystalline rocks of the Appalachians. Immediately afterward, Asa Gray, eminent botanist and also a charter member of the association, assumed the presidency of the first Indianapolis meeting.

In the last part of the 19th century, the emphasis in science was still on the descriptive, rather than on the experimental, aspects. Two of the longer papers, for instance, were "On the geological history of the Gulf of Mexico," by E. W. Hilgard (Oxford, Miss.), and "On the characteristics of primary groups of the class of mammals," by Theodore Gill (Washington, D.C.). Among the several resolutions passed at the business meetings were recommendations that the geologic survey of Missouri be published and that the Niagara Falls area be resurveyed.

After an interval of 19 years, the second Indianapolis meeting was held 19–26 Aug. 1890. As in 1871, sessions were held principally in the State House, which had been rebuilt. Nearby, the Soldiers and Sailors Monument, a dominant feature of the center of the city, was in process of erection. Indianapolis had grown to be a city of 105,436 and now had 15 railroads; the membership of the AAAS had increased more than threefold, to 1944, and the number of sections had increased from two to eight.

Ten local committees, responsible for virtually all phases of the meeting, were headed by George W. Sloan, general chairman. Lieutenant Governor Ira J. Chase and Mayor Thomas L. Sullivan welcomed members of the association to the state and city. Social events were numerous and pleasant. At Woodruff Place, one evening, General Lew Wallace, author of *Ben Hur,* addressed the visitors. An excursion was made to the natural-gas region of Indiana, the site of many diversified industries.

This 39th meeting of the association was under the presidency of Asa Gray's successor in botany at Harvard University, George Lincoln Goodale. The AAAS presidential address of retiring president T. C. Mendenhall, well-known physicist, on "The relations of men of science to the general public," would, in part at least, be not inappropriate for the present time. Mendenhall noted that AAAS meetings not only have served scientists but have brought them into closer relations with the public. He found, however, "that the relation between men of science and the general public is not what it should be in the best interest of either or both." Mendenhall said that the viewpoint of the layman "now and then [is] tinctured with contempt for men who devote their lives and energies to study and research, the results of which cannot always be converted into real estate or other forms of taxable property." Conversely, he pointed out that a number of scientists are unable or unwilling to present the results of their work to the intelligent public in understandable language; that men of science may assume superior wisdom on subjects outside their specialties; and that the interest of the scientist in public affairs should not be less than that of other men. Mendenhall observed: "It is generally recognized that, aside

from all questions of a partisan political nature, this country is today confronted by several problems of the utmost importance to its welfare, to the proper solution of which the highest intellectual powers of the nation should be given."

There were 364 registrants, from 30 states, the District of Columbia, and Canada and from several foreign countries at this meeting. Some 213 papers were read. Each of the eight sectional vice presidents gave an address. The following list indicates the subjects of interest to each discipline at the time: A–Mathematics and Astronomy, Seth Carlo Chandler, "The variable stars"; B–Physics, Cleveland Abbe, "A plea for terrestrial physics"; C–Chemistry, Robert B. Warder, "Recent theories of geometrical isomerism"; D–Mechanical Science and Engineering, James E. Denton, "History of attempts to determine the relative value of lubricants by mechanical tests"; E–Geology and Geography, John C. Branner, "The relations of the state and national geological surveys to each other and to the geologists of the country"; F–Biology, Charles Sedgwick Minot, "On certain phenomena of growing old"; H–Anthropology, Frank Baker, "The ascent of man"; I–Economic Science and Statistics, J. Richards Dodge, "The standard of living in the United States."

This last address may be of considerable historical interest. In 1890, the American standard of living, Dodge found, was the highest known—with "no barriers to wealth or station which capacity and persistence cannot sweep away." Statistics were cited on the consumption of meat and other foodstuffs, which was conspicuously higher than elsewhere in the world. There was a parallel high consumption of wool and other textiles, Wages were 50 to 300 percent above those of any other country. Because of surpluses, prices for farm crops were not always satisfactory to the farmers. The question of whether such prosperity could continue was considered, and the speaker concluded that it could, provided that production commensurate with the rapidly growing population could be maintained.

Among the numerous items of business transacted, Section C lent its help to effect a consolidation of the 14-year-old American Chemical Society, then based in New York, with other groups of chemists to form an enlarged and truly national society. A resolution was passed by the council urging the U.S. Department of the Interior to take action to preserve tracts of sequoias in California. The council appropriated $250 from research funds to assist E. W. Morley and H. T. Eddy to continue their investigation of the velocity of light in the magnetic field.

The third Indianapolis meeting, 27 Dec.–1 Jan. 1937–38, was in marked contrast to the two previous meetings in that city. It was much larger and more complex. With some 30 societies holding their national meetings and with the sections of the AAAS by this time numbering 15, there were 3094 registrants, from every state except Nevada and Vermont, and the total attendance was estimated at 5000. A total of 1681 papers were given, in 225 technical sessions in 48 rooms and three laboratories, and the general program was 273 pages in length. AAAS membership had increased to 18,776, and the city's population was approaching 400,000.

In its general organization the 1937 meeting was typical of those of the present day, and it stands as 11th in size of all the 123 AAAS meetings to date. A substantial number of those who attended that meeting, and some who helped with it, will be present at this year's meeting, 20 years later. To mention but a few: Paul B. Sears, this year's retiring president of the association, read two papers, in botany and ecology; Thomas Park and Chauncey D. Leake, other current AAAS board members, read papers before the Ecological Society of America and Section L, respectively, and the latter also presided at a session as president of the History of Science Society. By a coincidence, Stuart A. Rice was vice president for Section K–Social and Economic Sciences—an office in which he is again serving at this year's meeting. A. W. Tucker, Isaac Schour, and Robert C. Anderson, current vice presidents for Sections A–Mathematics, Nd–Dentistry, and Np–Pharmacy, respectively, all read papers in 1937. Joseph J. Cripe, manager of the Indianapolis Convention Bureau, who served as chairman of the printing committee 20 years ago, has been an invaluable consultant this year and again is a member of local committees.

General chairman of the third Indianapolis meeting—the 101st meeting of the association—was Stanley Coulter; the Executive Committee was composed principally of the chairmen of the eight special committees. The president of the AAAS was George D. Birkhoff, eminent professor of mathematics at Harvard University. The association's "permanent secretary" was F. R. Moulton, and the details of the meeting were the responsibility of Sam Woodley, F. C. Brown (exhibits), and Austin H. Clark (press service). As will be the case at this year's meeting, the AAAS main registration was at the Murat Temple, and the Claypool Hotel was AAAS headquarters. Other sessions were held in the same principal downtown hotels in which sessions are scheduled this year. In his report of this 1937 meeting, Moulton wrote: "It is quite possible that . . . [it] will be remembered as the beginning of a new era in the Association because of the increasing sense of responsibility of scientists to society. . . . The opinion was frequently expressed that in integrating the sciences—physical, biological, and social—and in examining the relations of all of them with society, the Association is rendering its greatest service to science and to the world."

The AAAS presidential address of the retiring president, Edwin G. Conklin (emeritus professor of biology of Princeton University), entitled "Science and ethics," was consistent with this emphasis. Conklin took issue with specialists who maintain that science has no concern with ethics and made the point that any program for human welfare needs both areas of human thought. He observed: "Neither in human nature nor in social relations has progress kept pace with science. That is not the fault of science but rather of man and of society. The great advances in the applications of science have often been used for selfish purposes rather than for social welfare. . . . The fact is that social progress has moved so much slower than science that one might say that scientific progress is matched against social stagnation. Many thoughtful persons are asking: 'Will science, which has so largely made our modern civilization, end in destroying it?' " Conklin concluded that education in ethics and in human values is the chief hope of human progress and that men must live up to the best that they know. The AAAS presidential reception that followed was given by the local committee, with Mr. and Mrs. Eli Lilly at the head of the receiving line.

Among other highlights of the third Indianapolis meeting were the 16th Sigma Xi address, "Biological applications of surface chemistry," given by General Electric's Irving Langmuir, subsequently 94th president of the association, and the third Phi Beta Kappa address before the AAAS—"Shakespeare and the critics," by George Lyman Kittredge of Harvard University. This latter was preceded by a performance of Tschaikowsky's fourth symphony, by the Indianapolis Symphony Orchestra. A public lecture on "Syphilis as a public health problem" by Thomas Parran, Jr., Surgeon General, was the climax of a six-session symposium on the subject sponsored by Section N.

Among the many hundreds of short papers given at the 1937 meeting was one on the fine structure of television images and another that pointed out that automobile drivers under 25 years of age were responsible for 20 percent of the nearly 40,000 highway fatalities each year.

The Annual Exposition of Science, 13 years of age as an organized, integral part of AAAS meetings, had 69 exhibits, 34 of them commercial.

The 15th AAAS Newcomb Cleveland prize was awarded to Philip R. White for his paper "Root pressure: an unappreciated force in sap movement," read before the Botanical Society of America. The winner of the first Theobald Smith award, given annually by Eli Lilly and Company, was Robley D. Evans, then at Massachusetts Institute of Technology, for his studies of radium poisoning.

In summary, the records of the three previous meetings in Indianapolis succeed in conveying the warm spirit of hospitality and interest in the work of the association shown by the people of this great community of the Midwest.

RAYMOND L. TAYLOR
Associate Administrative Secretary

IGY Satellite Meeting at NAS

The National Academy of Sciences will be host to an international conference on rocket and earth satellite programs for the International Geophysical Year, 30 Sept.–5 Oct. The conference was called by the Special Committee for the International Geophysical Year (CSAGI), located in Brussels, Belgium. The meeting will bring together delegates from the national IGY committees that are participating in research rocket programs, satellite launching programs, and setting up stations for tracking and observing the scientific earth satellites during the Year. Chairman of the conference is L. V. Berkner, president of Associated Universities, New York, and the IGY committee's reporter on rockets and satellites. This is the first international conference on the IGY to be held in the United States.

Affirmative answers, indicating that delegates will attend the conference, have so far been received from the national committees of Australia, Canada, Great Britain, Iran, Japan, Peru, and the U.S.S.R. A tentative agenda includes discussion of the satellite ground tracking and observation program; the problem of communications in connection with the ground tracking and observation programs; the interchange of data from rocket and satellite experiments; and a discussion of the scientific experiments in the rocket and satellite programs.

Public Health

Reports on a wide variety of research projects aimed at protecting and advancing people's health will be highlights of the 5-day 85th annual meeting of the American Public Health Association and meetings of 40 related organizations in Cleveland, Ohio, beginning 11 Nov. The sessions are expected to attract more than 5000 public health workers from throughout the Western Hemisphere. Of about 400 scientific papers to be presented in 75 sessions, more than half will be reports on research accomplishments or opportunities.

Considerable interest is expected to center around a session on radiation protection. The session will include a symposium on current status in setting radiation exposure standards; a scientific paper on community health problems resulting from peacetime uses of radiation, to be presented by Roy J. Morton, associate director of the radioactive waste disposal research project at Oak Ridge National Laboratory and president-elect of the association; and a paper on program planning for radiation protection, to be presented by Herman E. Hilleboe, New York State health commissioner, and Alexander Rihm, Jr., chief of the radiological health section of the New York State Department of Health. Another session of timely interest will be a panel discussion on influenza, including epidemiology, status of vaccine production and utilization, control measures, and laboratory services.

One of the general sessions scheduled will feature addresses by the association's president, John W. Knutson, assistant surgeon general and chief dental officer of the U.S. Public Health Service, and Lowell J. Reed, president emeritus of Johns Hopkins University. Another general session is the closing symposium, which will be devoted to public health priorities for 1958.

Neutron Interactions

More than 150 outstanding nuclear physicists representing the United Kingdom, the U.S.S.R., France, India, Japan, Italy, Sweden, Germany, Norway, Denmark, the Netherlands, and the United States met 9–13 Sept. at Columbia University to participate in the International Conference on the Neutron Interactions with the Nucleus. I. I. Rabi, Higgins professor of physics at Columbia and Nobel Prize winner, presided over the conference, and W. B. Lewis, vice president of Atomic Energy of Canada, Ltd., served as vice president. The many distinguished participants included Homi Bhabha of India and Francis Perrin of France.

The meeting was held under the auspices of the International Union of Pure and Applied Physics. In addition to the host, Columbia University, the sponsors were the U.S. Atomic Energy Commission, the Office of Naval Research, and the Air Force Office of Scientific Research.

Geneva Station's 75th Anniversary

"The role of agriculture in future society" will be the theme of a 75th anniversary symposium at Cornell University's New York State Experiment Station in Geneva, N.Y., on 4 Oct. Governor Averell Harriman will address the assembly and will break ground for a food science building and pilot plant. Willard F. Libby, member of the Atomic Energy Commission, will lead a discussion on trends in scientific research in agriculture and their probable impact upon future society. The sessions will be open to the public.

Fauna of the Soil

During the sixth International Congress of Soil Science at Paris in 1956, zoologists specializing in the study of the fauna of the soil formed an international group with the object of providing a means for the exchange of information among workers in this field. To achieve this object, a news bulletin is being published, and, in addition, international colloquia on particular aspects of the subject will be held at intervals.

The first number of the bulletin was published in May; it includes a questionnaire requesting details of current research projects, together with information of animal groups studied. The results of this inquiry will be reported in future numbers of the bulletin. Anyone interested in this field of research and who has not received the bulletin may obtain a copy by writing to Mr. J. d'Aguilar, Station centrale de Zoologie agricole, Route de St-Cyr, Versailles, France.

The first colloquium, Methods of Research in Soil Zoology, will be held at Rothamsted Experimental Station, Harpenden, Herts., England, 10–14 July 1958, immediately prior to the International Zoological Congress to be held in London. The news bulletin provides the program and other details of the colloquium.

Forthcoming Events

October

20–22. American College of Apothecaries, St. Louis, Mo. (R. E. Abrams, Hamilton Court, Chestnut and 39 St., Philadelphia, Pa.)

20–27. International Soc. of Surgery, 17th cong., Mexico, D.F., Mexico. (P. Martin, ISS, 141, rue Bellieard, Brussels, Belgium.)

21. Air Pollution Symp., 2nd annual, Philadelphia, Pa. (A. D. Hollingsworth, Franklin Inst., Benjamin Franklin Parkway at 20th, Philadelphia 3.)

21–25. Medical Aspects of Workmen's

Compensation, New York. (Office of Associate Dean, New York Univ. Post-Graduate Medical School, 550 First Ave., New York 16.)

21–26. Ultra High Frequency Circuits and Antennas, internatl. conf., Paris, France. (Congrès Circuits et Antennes Hyperfréquences, Société des Radioélectriciens, 10, Avenue Pierre-Larousse, Malakoff (Seine), France.)

22. American Soc. of Safety Engineers, annual, Chicago, Ill. (J. B. Johnson, ASSE, 425 N. Michigan Ave., Chicago 11.)

22–25. American Dietetic Assoc., annual, Miami, Fla. (Miss R. M. Yakel. ADA, 620 N. Michigan Ave., Chicago 11. Ill.)

23–25. American Soc. of Body Engineers, Detroit, Mich. (E. W. Lange, ASBE, 100 Farnsworth, Detroit 2.)

24–25. Computer Applications Symp., Chicago, Ill. (Conference Secretary, Armour Research Foundation, 10 W. 35 St., Chicago 16.)

24–25. Engineers General Assembly, New York, N.Y. (Engineers Joint Council, 29 W. 39 St., New York 18.)

24–25. New Mexico Acad. of Science, annual, Albuquerque (W. J. Koster, Dept. of Biology, Univ. of New Mexico, Albuquerque.)

24–26. Acoustical Soc. of America, Ann Arbor, Mich. (W. Waterfall, ASA, 57 E. 55 St., New York 22.)

24–27. American Soc. for Aesthetics, annual, Washington, D.C. (T. Munro, Cleveland Museum of Art, Cleveland 6, Ohio.)

24–5. Pan Indian Ocean Science Assoc., 3rd cong., Tananarive, Madagascar. (R. Paulian, Institut de Recherche Scientifique, B.P. 434, Tananarive.)

25–26. Kentucky Acad. of Science, Berea. (G. Levey, Berea College, Berea.)

25–26. Midwest Conf. on Biology Teaching in Colleges and Smaller Universities, Des Moines, Iowa. (L. P. Johnson, Dept. of Biology, Drake Univ., Des Moines 11.)

25–28. American Heart Assoc. Scientific Sessions, Chicago, Ill. (Medical Director, AHA, 44 E. 23 St., New York 10.)

26. American Mathematical Soc., Washington, D.C. (J. H. Curtiss, AMS, 190 Hope St., Providence 6, R.I.)

27–1. Atom Fair, New York, N.Y. (Atomic Industrial Forum, 3 E. 54 St., New York 22.)

28–29. American Cancer Soc., annual scientific session, New York, N.Y. (B. S. Miller, ACS, 521 W. 57 St., New York 19).

28–30. Association of Military Surgeons of the U.S., annual, Washington, D.C. (R. E. Bitner, AMSUS, Suite 718, 1726 Eye St., Washington 6.)

28–31. American Nuclear Soc., 2nd winter, New York, N.Y. (J. Burt, J. M. Mathes, Inc., 260 Madison Ave., New York 16.)

29–31. Entomological Soc. of Canada, annual, Lethbridge, Alta., Canada. (R. H. Wigmore, Science Service Bldg., Carling Ave., Ottawa 3, Ont.)

29–3. Photoperiodism in Plants and Animals, internatl. conf., Gatlinburg, Tenn. (R. Winthrow, Division of Radiation and Organisms, Smithsonian Inst., Washington 25, D.C.)

30–2. American Soc. of Parasitologists, annual, Philadelphia, Pa. (P. E. Thompson, Research Div., Parke, Davis & Co., Detroit 32, Mich.)

30–2. American Soc. of Tropical Medicine and Hygiene, annual, Philadelphia, Pa. (R. B. Hill, 3575 St. Gaudens Rd., Miami 33, Fla.)

30–2. Federation of Paint and Varnish Production Clubs, 35th annual, Philadelphia, Pa. (FPVPC, 121 S. Broad St., Philadelphia 7.)

31. Reactor Safety Conf., New York, N.Y. (Atomic Industrial Forum, 3 E. 54 St., New York 22.)

31–2. Engineering and Scientific Education Conf., Chicago, Ill. (J. E. Harrington, Western Soc. of Engineers, 84 E. Randolph St., Chicago 1.)

31–2. Gerontological Soc., annual, Cleveland, Ohio. (N. W. Shock, Baltimore City Hospitals, Baltimore 24, Md.)

November

2–8. World Metallurgical Cong., 2nd, Chicago, Ill. (W. H. Eisenman, American Soc. for Metals, 7301 Euclid Ave., Cleveland 3, Ohio.)

2–10. Measuring Instruments and Automation, internatl. cong., Düsseldorf, Germany. (Nordwest Deutsche Ausstellungs Gesellschaft, M.B.H., Ehrenhof 4, Düsseldorf.)

3. American College of Dentists, annual, Miami, Fla. (O. W. Brandhorst, 4221 Lindell Blvd., St. Louis 8, Mo.)

3. Society of Vertebrate Paleontology, annual, Philadelphia, Pa. (J. T. Gregory, Peabody Museum, Yale Univ., New Haven, Conn.)

3–9. Pan American Cong. of Pharmacy and Biochemistry, 4th, Washington, D.C. (G. Griffenhagen, Smithsonian Institution, Washington 25.)

4–5. Crystal Structure Analysis by IBM 704 Computer, NBS Conf., Washington, D.C. (V. Vand, Pennsylvania State Univ., University Park.)

4–5. Society of Vertebrate Paleontology,

technical sessions, Atlantic City, N.J. (J. T. Gregory, Peabody Museum, Yale Univ., New Haven, Conn.)

4–6. Analytical Chemistry in Nuclear Reactor Technology, Gatlinburg, Tenn. (D. D. Cowen, Oak Ridge National Laboratory, P.O. Box X, Oak Ridge, Tenn.)

4–6. Geological Soc. of America, annual, Atlantic City, N.J. (H. R. Aldrich, GSA, 419 W. 117 St., New York 27.)

4–6. Mineralogical Soc. of America, annual, Atlantic City, N.J. (C. S. Hurlbut, Jr., Dept. of Mineralogy, Harvard Univ., Cambridge 38, Mass.)

4–6. Paleontological Soc., annual, Atlantic City, N.J. (H. B. Whittington, Museum of Comparative Zoology, Harvard Univ., Cambridge 38, Mass.)

4–6. Society of Economic Geologists, annual, Atlantic City, N.J. (H. M. Bannerman, U.S. Geological Survey, Washington 25.)

4–7. American Dental Assoc., annual, Miami, Fla. (H. Hillenbrand, 222 E. Superior St., Chicago 11, Ill.)

6–8. Electronic Techniques in Medicine and Biology, Boston, Mass. (H. S. Kindler, Instrument Soc. of America, 313 Sixth Ave., Pittsburgh 22, Pa.)

7–8. Society for Applied Spectroscopy, 12th annual, New York, N.Y. (J. Hansen, 27 Tulsa Ave., Metuchen, N.J.)

7–8. Television and Radio in the Health Field, conf., Chicago, Ill. (American Medical Assoc., 535 N. Dearborn St., Chicago 10.)

7–9. Animal Care Panel, 8th annual, San Francisco, Calif. (R. J. Flynn, ACP, Box 299, Lemont, Ill.)

7–9. Society of Rheology, annual, Princeton, N.J. (W. R. Willets, Titanium Pigment Corp., 99 Hudson St., New York.)

10–13. Society of American Foresters, 57th annual, Syracuse, N.Y. (H. Clepper, SAF, 415 Mills Bldg., Washington 6.)

10–13. Xi Sigma Pi, Syracuse, N. Y. (J. R. Parker, School of Forestry, Univ. of Georgia, Athens.)

10–14. Society of Exploration Geophysicists, 27th annual, Dallas, Tex. (J. C. Hollister, Colorado School of Mines, Golden.)

11–13. Radio Fall Meeting, IRE, Toronto, Ont., Canada. (V. Graham, RETMA, 11 W. 42 St., New York 26.)

11–14. American Petroleum Inst., 37th annual, Chicago, Ill. (API, 50 W. 50 St., New York 20.)

11–15. American Public Health Assoc., 85th annual, Cleveland, Ohio. (R. M. Atwater, APHA, 1790 Broadway, New York 19.)

11–15. American Soc. of Professional Biologists, annual, with American Public Health Assoc., Cleveland, Ohio. (A, F. Borg, Dept. of Bacteriology, Kansas State College, Manhattan.)

13–15. American Meteorological Soc., College Station, Tex. (K. C. Spengler, AMS, 3 Joy St., Boston 8, Mass.)

13–15. Clinical Chemistry Symp., Cleveland, Ohio. (F. E. Bunts Educational Inst., Cleveland, Clinic Foundation, 2020 E. 93 St., Cleveland 6.)

13–15. Standards, 8th national conf., San Francisco, Calif. (American Standards Assoc., 70 E. 45 St., New York 17.)

13–16. Society of Naval Architects and Marine Engineers, 65th annual, New York. (W. N. Landers, SNAME, 74 Trinity Pl., New York 6.)

14–15. Operations Research Soc. of America, Pittsburgh, Pa. (M. L. Ernst, Box 2176, Potomac Station, Alexandria, Va.)

14–16. American Inst. of Mining, Metallurgical, and Petroleum Engineers, semiannual, Chicago, Ill. (H. N. Appleton, AIME, 29 W. 39 St., New York 18.)

14–16. American Soc. of Refrigerating Engineers, Chicago, Ill. (R. C. Cross, ASRE, 234 Fifth Ave., New York 1.)

17–22. Radiological Soc. of North America, annual, Chicago, Ill. (D. S. Childs, 713 E. Genesee St., Syracuse, N.Y.)

18–21. Magnetism and Magnetic Materials Conf., Washington, D.C. (L. R. Maxwell, U.S. Naval Ordnance Lab., White Oak, Silver Spring, Md.)

18–22. American Soc. of Agronomy, annual, Atlanta, Ga. (L. G. Monthey, ASA, 2702 Monroe St., Madison, Wis.)

18–22. Citrus Virus Diseases Conf., Riverside, Calif. (J. M. Wallace, Dept. of Plant Pathology, Univ. of California, Riverside.)

18–9. Pacific Science Cong., 9th, Bangkok, Thailand. (Pacific Science Board, National Research Council, 2101 Constitution Ave., NW, Washington 25.)

20–24. National Assoc. for Mental Health, annual, Atlantic City, N.J. (NAMH, 10 Columbus Circle, New York 19.)

25–27. American Acad. for Cerebral Palsy, 11th annual, New Orleans, La. (R. R. Rembolt, Iowa Hospital–School State University of Iowa, Iowa City.)

25–27. Physics and Dynamics of Fluids, APS, Bethlehem, Pa. (F. N. Frenkiel, Applied Physics Lab., Johns Hopkins Univ., Silver Spring, Md.)

28–29. American Physical Soc., St. Louis, Mo. (K. K. Darrow, Columbia Univ., New York 27.)

28–30. Central Assoc. of Science and Mathematics Teachers, 57th annual, Chicago, Ill. (L. Panush, Northeastern High School, Detroit 7, Michigan.)

29–30. American Soc. of Animal Production, annual, Chicago, Ill. (H. H. Stonaker, Animal Husbandry Dept., Colorado State Univ., Fort Collins.)

December

1–6. American Soc. of Mechanical Engineers, annual, New York, N.Y. (C. E. Davies, ASME, 29 W. 39 St., New York 18.)

1–15. Bahamas Medical Conf., 4th, Nassau, Bahamas. (B. L. Frank, 1290 Pine Ave., West, Montreal, Que., Canada.)

2–5. Entomological Soc. of America, annual, Memphis, Tenn. (R. H. Nelson, ESA, 1530 P St., NW, Washington 5.)

4–8. American Psychoanalytic Assoc., New York, N.Y. (J. N. McVeigh, APA, 36 W. 44 St., New York 36.)

4–10. American Acad. of Optometry, annual, Chicago, Ill. (C. C. Koch, 1506–1508 Foshay Tower, Minneapolis 2, Minn.)

5–7. Texas Acad. of Science, annual, Dallas. (G. C. Parker, Education Dept., Texas A&M College, College Station.)

6–7. Oklahoma Acad. of Science, annual, Enid. (J. T. Self, Dept. of Zoology, Univ. of Oklahoma, Norman.)

7–8. American Acad. of Dental Medicine, New York, N.Y. (S. Ross, 136 E. 36th St., New York 16.)

8–11. American Inst. of Chemical Engineers, annual, Chicago, Ill. (F. J. Van Antwerpen, AIChE, 25 W. 45 St., New York 36.)

9–11. Fluorides Symp., Cincinnati, Ohio. (Secretary, Inst. of Industrial Health, Kettering Laboratory, Eden and Bethesda Aves., Cincinnati 19.)

9–13. Eastern Joint Computer Conf., Washington, D.C. (H. H. Goode, Dept. of Electrical Engr., Univ. of Michigan, Ann Arbor.)

13–14. Association for Research in Nervous and Mental Disease, 37th annual, New York, N.Y. (R. J. Masselink, 700 W. 168 St., New York 32.)

17–19. Nuclear Sizes and Density Distributions Conference, Stanford, Calif. (R. Hofstadter, Stanford Univ., Stanford, Calif.)

19–21. American Physical Soc., Stanford, Calif. (W. A. Nierenberg, Univ. of California, Berkeley 4.)

26–27. Northwest Scientific Assoc., annual, Spokane, Wash. (W. B. Merriam, Geography Dept., State College of Washington, Pullman.)

EQUIPMENT NEWS

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Science *does not assume responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to* Science, *Room 740, 11 W. 42 St., New York 36, N.Y. Include the name(s) of the manufacturer(s) and the department number(s).*

■ PROCESS VAPOR FRACTOMETER consists of an analyzer, a programmer and a recorder. The analyzer is installed in the plant, close to the sample take-off point. Column temperature is regulated to ± 0.1°C with a range of 50° to 100°C. The programmer supplies timing, switching, and other electric functions for calibration. From one to four components are directly recorded on a bar-chart representation. Concentration span for each component may be adjusted independently. (Perkin-Elmer Corp., Dept. S587)

■ ROCKING TABLE is a servo-controlled two-axis system for simulating control systems. Angular rotation about each axis is controlled by electric signals supplied to the servo amplifiers. Motions about the two axes are independent. The table measures 16 by 10 in. and has a capacity of 30 lb. Maximum deflection is ± 15 deg, and maximum angular velocity is 120 deg/sec. Response is flat to ± 0.5 db up to a frequency of 1.5 cy/sec. (Short Brothers and Harland Ltd., Dept. S596)

■ WAVEFORM ANALYZER for the frequency range from 0.5 to 2250 cy/sec has a resolution of 0.5 cy/sec. Up to 225 cy/sec, resolution is 0.1 cy/sec. The output of the analyzer is an inked chart record. Six scan ranges from 2 to 500 cy/sec may be centered at almost any point in the range. Resolution is adjustable in steps to 20 cy/sec. (Panoramic Radio Products Inc., Dept. S597)

■ PHASE SHIFTER for thyratron control applies alternating current to the thyratron grid and varies its phase angle over 180° to control thyratron output up to 10 kw. Four isolated control windings are provided for d-c input signals. Input signal power requirement is 1 mw. Signal voltage for full control may be 0 to 1 v or 0 to 2.5 v, depending on the model. (Vectrol Engineering Inc., Dept. S599)

■ MOISTURE ANALYZER is an application of nuclear magnetic resonance technique for detecting protons. The instrument will detect hydrogenous liquids in solid material. Tightness of binding of the water or other hydrogenous liquid may be estimated by more detailed examination of the magnetic resonance spectrum. The sample to be measured is placed in the uniform magnetic field of a perma-