Scientific Meetings

Nuclear Engineering and Science Congress

Atomic energy has become a multidimensional phenomenon with many ramifications into the social, as well as into the natural and engineering, sciences. It still has a fantastically destructive potential, but this is now being strongly offset by its positive and beneficial effects in many different areas. Not only are we building a complex technology with a variety of "peaceful applications," but at the same time atomic energy has become a force to pull groups together with diverse interests.

People with widely varying specialties and with different backgrounds of experience are finding that they must work together if the problems are to be solved. The barriers that so frequently tend to develop between different disciplines are in this instance being weakened, with increased mutual understanding as the result. For example, power-reactor development cannot be successful without the joint cooperation of science and engineering; of government, industry, and education; of insurance companies and power companies; and of the United States and other countries on this side of the Iron Curtain and maybe—in the end—on the other side as well.

Under the shadow of an atomic-weapons race between the United States and the U.S.S.R., enthusiasm for the development of peaceful atomic applications has grown in chain-reaction fashion during the last year or so. One might say that the control rods on this reaction were pulled back at Geneva, and the activity throughout the world since then is proceeding so fast that it is very difficult to keep track of it and to see what patterns are forming.

It was against this background that the Nuclear Science and Engineering Congress was held at Cleveland, Ohio, during the week of 12 Dec. Twenty-six different organizations came together to discuss some of their mutual interests and activities in the atomic-energy field. The proceedings were planned by a general committee formed from the sponsoring societies as a result of initiative taken by the Engineers Joint Council. Under the chairmanship of John R. Dunning (Columbia University), this committee established subcommittees that managed to put together a successful and fast-moving program.

The significance of the meeting lay in its broad sponsorship and in the variety of subjects that came up for discussion under the general heading of nuclear science and engineering. To provide a rough picture of the total proceedings, and to illustrate the diversity of interests that found common ground, the societies that contributed papers are listed here, along with examples of subjects discussed in each case. More than half of the papers were provided by eight of the ten constituent societies of the Engineers Joint Council, and these societies are therefore listed first.

American Institute of Chemical Engineers: "Reactor-site selection," "The reactor at the University of Michigan," "Gamma-radiation effects on certain solutions," "Sodium cooling of reactors," "Uranium diffusion through graphite," "Continuous dissolution of uranium reactor fuels," "Small nuclear power packages," "Storage tanks for radioactive wastes," "Neutron flux measurements."

This organization was particularly active, not only in terms of the number of papers presented, but also in its sponsorship of an International Atomic Exposition, which was held simultaneously, and in its arrangements for the sale to those interested of preprints of most of the papers. At a special dinner meeting, the speaker was Gunnar Randers, special adviser on atomic energy matters to the Secretary-General of the United Nations. He gave an excellent presentation of his country's view of the cooperation on atomic matters showing that small size states such as his need to get into commercial operation in order to raise their standard of living.

American Society of Mechanical Engineers: "The liquid metal fuel reactor," "Reactor pressure vessels," "Reactor safety and shielding," "Reactor controls and instrumentation," "Fuel elements," "The corrosion of liquid metal coolants," "Temperature transients in a nuclear power system."

American Institute of Mining and Metallurgical Engineers: "Radiation damage to metals," "Neutron effects in graphite," "Solid hydrides," "Ceramic fuel materials," "Production of uranium metal," "Zirconium metallurgy."

American Water Works Association: "Measurement of radioactivity in water," "Radiochemical techniques for radioisotope separation," "Removal of radiation fallout by water treatment processes," "Land disposal of reactor wastes."

American Institute of Electrical Engineers: "Control of research-type nuclear reactors," "Reactor instrumentation at Chalk River," "Dynamics and control of nuclear power plants," "A reactor simulator for teaching purposes," "Machine sources of ionizing energy."

American Society for Engineering Education: In order to illustrate the kinds of educational backgrounds that are important in nuclear engineering, the views of specialists in five different areas were presented: "Nuclear and thermal design of power reactors," "Mechanical design of power reactors," "Fuel element, metallurgy, corrosion, and coolant problems," "Reactor control and instrumentation," "Design of radioactivity facilities and absorption shields." The speakers were generally agreed that in the training of nuclear engineers emphasis should be placed first upon the engineering fundamentals, but that the standard courses can be enriched by including problems and examples from the nuclear field.

American Society of Civil Engineers: "Meteorology as related to reactor-site selection," "Radiation effects on structural materials," "The Army package power reactor."

American Society of Refrigerating Engineers: "High radio pasteurization—a new process of food preservation combining radiation with refrigeration."

American Chemical Society: "Literature on nuclear engineering, radiation hazards, biological effects of radiation, and so forth," "Radioisotopes in chemical studies," "Boron compounds," "Neutron reactions in chemical analysis," "Radiation-induced cross-linking and degradation," "Radiation effects on polymers," "Legal problems in atomic energy," "U^{233} and thorium separation from fission products," "New developments in high-temperature emf measurements," "Water quality problems," "Hot laboratory preparations at kilocurie level," "Atomic waste disposal," "Radioactivity in stream pollution," "Plutonium hexafluoride." The ACS contributed more papers than any other single society, and since the AIChE contributed nearly as many, it can be said that the meeting was largely chemical in character. Together these two organizations contributed more than a third of the papers.

American Nuclear Society: "Irradiation effects in uranium and its alloys," "Fluid breeder reactor concept," "Evo-

lution of gas from graphite-moderated material," "The small liquid metal fuel reactor," "Temperature-dependent kinetics of circulating fuel reactors," "Design of radiation analytic facilities," "Testing of reactor fuel elements," "Economics of radiochemical plants," "Neutron cross sections of plutonium isotopes," "Nuclear properties of U^{233} and U^{235}." The existence of this society is in itself a recognition of the fact that atomic energy will not fall within the sphere of any one of the older societies. It was organized to provide a common meeting ground for physicists, chemists, biologists, and all others with a special interest in nuclear science.

American Geological Institute: "Radioactivity surveying," "Uranium supplies," "Uranium deposits in different parts of the world," "Uranium processing and geochemistry."

American Society for Metals, American Society for Testing Materials, Institute of Radio Engineers, Society of Automotive Engineers, and American Rocket Society: "Hydrogen-uranium relationships," "Self-luminous materials," "An accelerator as a radiation source," "Radioactive methods for measuring engine deposits," "Nuclear radiation in combustion research."

Atomic Industrial Forum: "AEC licensing policies and procedures," "The insurance problem," "Radiation safety regulations," "AEC classification policies," "Atomic energy patent problems." This organization represents a large variety of industrial interests in atomic energy, thus broadening even more the base of the meeting.

Cleveland Engineering Society: This organization sponsored a well-attended 1-day conference for management on "The place of the atom in your business."

To summarize the meeting in terms of society participation does not give a fair picture, because, after all, the program was organized into 50 separate sessions with several societies contributing to each in most cases. Many of the titles of these sessions related, of course, to reactor technology. The liquid metal fuel reactor attracted the most attention of the various reactor types that were considered. With uranium carried in solution or as a slurry in liquid bismuth at high temperatures, this system appears to have some real advantages, but the attention given to it at Cleveland is probably out of proportion to its present state of development.

Also of special interest was a reactor design concept presented by H. H. Hyman and J. J. Katz (Argonne National Laboratory). They propose a heterogeneous reactor that permits continuous chemical processing of the fuel. In heterogeneous systems, it is ordinarily necessary that the fuel elements be removed from time to time for separate processing, whereas continuous chemical treatment of the fuel is one of the big advantages of a homogeneous reactor system. In this instance, the virtues of the two systems are combined by using bare uranium fuel elements, which are slowly dissolved in the cooling fluid, which is continuously processed.

The complicated question of separating uranium and plutonium from fission products was discussed in some detail by both the chemists and the chemical engineers. Other sessions were devoted to the effects of radiation on structural materials, on chemical reactions, on polymers, and on food. These radiation effects promise to open up new fields in the chemical and food and drug industries. Much is still to be learned, but whereas we used to speak of "radiation damage," it is now becoming customary to refer to "radiation effects."

Safety problems, site selection, and the disposal of reactor wastes occupied several sessions. Uranium deposits in several different parts of the world were discussed, along with the pertinent geology and methods of surveying.

One of the major problems in the design of reactor fuel elements results from the effects of radiation on the uranium itself. For some reason, the uranium changes its dimensions, and to prevent this becomes a major metallurgical problem. In discussing these effects in a paper entitled "Irradiation effects in uranium and its alloys," S. H. Paine and J. H. Kittel made an interesting observation. They concluded "candidly" that uranium "is not a very satisfactory engineering material for use in a nuclear reactor." They were, however, willing to admit that its one "virtue is that it fissions."

The meeting also had its political overtones. Senator Clinton P. Anderson, chairman of the Joint Congressional Committee on Atomic Energy, was the after-dinner speaker at the Cleveland Engineering Society's Conference for Management. Senator Anderson attracted considerable attention by attacking the secrecy policies of the Atomic Energy Commission and its policies related to access permits. By the end of the year, the AEC had awarded permits to more than 600 different organizations, each with permission to acquire certain kinds of classified information. Senator Anderson had this to say: "Why did we ever need access permits and clearances? Here [in Cleveland] are businessmen and scientists from all over the world talking about so-called secrets! But 10,000 people at home have been reading confidential material as I have. How long do they stay secrets? . . . Now exactly what do we accomplish by this procedure? I will pass over the question of whether such confidential information is worth guarding. I will ask instead if this whole complicated system of clearances keeps information out of the hands of our enemies—assuming they want it. Of course it doesn't. Are we to think that a foreign spy would necessarily have some sort of a police record showing him to have been an undesirable citizen or an embezzler when he asks an "L" clearance check? Hardly! . . ."

At the All-Congress dinner Lewis L. Strauss, chairman of the Atomic Energy Commission, was the speaker. He emphasized the seriousness of a "mounting shortage" of scientific and engineering talent. He said that, unless we create a large reservoir of technical talent and make certain that the reservoir is consistently replenished, we will be outdistanced and left behind. He pointed out that this country is at present training fewer than 500 persons a year for work in the field of atomic power, whereas there is a current need for 3 or 4 times this number. He took this occasion to announce that to help meet this problem a summer institute for engineering college professors is to be held at Argonne during an 8-week period this coming summer. It is to be jointly sponsored by the AEC, National Science Foundation, the American Society for Engineering Education, and Northwestern University. The purpose is to help engineering college professors gain a more intimate acquaintance with the field in order that they may include nuclear materials in their engineering courses.

The story of the meeting cannot be complete without reference to the 161 exhibitors of the International Atomic Exposition. Many of the organizations represented reported enthusiastically both on sales orders and on new contacts. Most of the exhibitors were industrial and in many cases repeated what was shown at Geneva last August. Of special interest was the subcritical nuclear reactor in actual operation that was shown by New York University. The American Museum of Atomic Energy had a wide variety of educational exhibits illustrating the peacetime uses of atomic energy. The exhibit of the Quartermaster Food and Container Institute for the Armed Forces was of special importance, because it illustrated the possible use of radiation for food sterilization.

It is the purpose of this summary to give some picture of the over-all proceedings as planned by the program committee, but the meeting had, without doubt, another large impact, which cannot be summarized. The informal discussions that took place in the Exhibit Hall, in the corridors, and in the hotel rooms provided many opportunities for exchange of views, discussion of common problems, and, without doubt, for job seeking and recruitment. The informal

breakfast meetings that were organized to bring together those on the same programs provided many opportunities for people to associate faces with names they already knew. Also, it was significant that a number of representatives of German industry were much in evidence.

A meeting of this kind was without precedent, but it was clearly a success. With atomic energy continuing to draw more groups together and, at the same time, leading in new directions, there can be little doubt that the forces that brought this meeting into being will in due course operate to produce another.

PHILIP N. POWERS
Internuclear Company, Clayton, Missouri

Meeting Notes

■ Supported by the Sociedade Brasileira para o Progresso da Ciência (Brazilian Society for the Advancement of Science), the National Research Council of Brazil, and the Associação Paulista de Bibliotecários (Paulista Association of Librarians), a symposium on scientific bibliography and documentation was held in São Paulo 24–27 Feb. The program of the symposium included (i) bibliographic problems that scientists and librarians are interested in, (ii) the Brazilian Institute of Bibliography and Documentation, (iii) systematic documentation, (iv) photographic documentation, (v) the most important bibliographic problems in Brazil.

There were also panels on librarianship; punch-card bibliographic method; union catalogs of books and periodicals; bibliographic research on social sciences, physics, and natural history; and the meaning of documentation.

This symposium was organized by the Sociedade Brasileira para o Progresso da Ciência in connection with many other Brazilian university libraries under the responsibility of Paulo Sawaya, general secretary of the SBPC, P.O. Box 2926, São Paulo, Brazil.

■ The American Electroencephalographic Society will hold its tenth annual meeting at the Claridge Hotel, Atlantic City, N.J., 15–17 June. The program includes a colloquium on "The history of neurophysiology," with Alexander Forbes as chairman, and a symposium on "EEG in the diagnosis of coma states," with Jerome K. Merlis as chairman.

■ The ninth annual summer conference sponsored by the biology department of Brookhaven National Laboratory will be held 21–23 May, 1956. The program consists of a symposium on Genetics in Plant Breeding. The program is divided into five sections as follows.

"Use of changes in the chromosomal complement," K. Sax, E. R. Sears, E. G. Anderson, and G. L. Stebbins; "Applications of the studies in quantitative inheritance," E. R. Dempster, C. C. Cockerham, and R. Allard; "Use of self-incompatibility and male sterility," M. M. Rhoades, D. Lewis, D. F. Jones, and W. H. Gabelman; "Use of radiation-induced mutations," W. M. Myers, J. MacKey, C. F. Konzak, and W. C. Gregory; "Use of natural and induced variability," R. A. Brink, J. D. Harlan, G. W. Keitt, and D. M. Boone.

The conference will be held at the laboratory, which is located at Upton, Long Island, about 65 miles east of New York. Inquiries about further information should be addressed to Dr. H. H. Smith, Brookhaven National Laboratory, Upton, N.Y., *by 1 May.*

■ The 32nd annual meeting and 29th annual scientific sessions of the American Heart Association will be held in Cincinnati, Ohio, beginning 27 Oct. and continuing through 31 Oct. The scientific portion of the meeting will be conducted 27–29 Oct. Those wishing to present papers must submit abstracts *by 15 May* to the Medical Director, American Heart Association, 44 E. 23 St., New York.

Because of the expanded facilities available, there will be space for an increased number of both scientific and technical exhibits. Application forms for prospective scientific exhibitors must also be submitted to the medical director *by 15 May.*

■ The fifth National Clay Conference will be held at the University of Illinois, Urbana, 8–10 Oct. The conference is sponsored annually by the Clay Minerals Committee of the National Academy of Sciences–National Research Council, under the chairmanship of R. E. Grim of the University of Illinois.

Contributed papers on subjects related to clay mineralogy or technology will be welcome. Titles for inclusion in the program must be received *by 1 May,* and short informative abstracts will be required *by 15 June.* Titles and abstracts may be sent to Dr. W. F. Bradley, Illinois State Geological Survey, Urbana.

■ The American College of Cardiology will hold its fifth annual convention at the Hotel Drake in Chicago 16–18 May. The meeting over which Walter S. Priest of Chicago will preside, will present three symposia devoted to (i) congestive heart failure, (ii) cor pulmonale, and (iii) cardiac catheterization and angiocardiography. The sessions will cover all aspects of research, diagnosis, and therapy.

In addition, there will be research and commercial exhibits outlining the latest advances in cardiology. Further information may be obtained from the secretary of the college, Dr. Philip Reichert, Empire State Building, New York, N.Y.

■ The Atomic Industrial Forum has announced that site of the second annual Trade Fair of the Atomic Industry has been shifted from the Morrison Hotel in Chicago to the Navy Pier. The fair will run during the period 24–28 Sept., concurrently with a major forum meeting on "Management and technology for the atomic industry," 25–27 Sept. The Morrison Hotel will remain as conference headquarters and primary meeting location.

Emphasis in the Trade Fair is on the products and services directly related to the application of atomic energy, either through power generation, heat utilization, or wide use of radiation in manufacturing processes, research, agriculture, medicine, and food sterilization.

■ The third International Conference on Biochemical Problems of Lipids will be held in Brussels, Belgium, 26–28 July and will consider the blood lipids and the clearing factor. Topics to be discussed are the chemical and physical-chemical properties of the blood lipids and lipoproteins, the changes in lipid distribution, the mechanism of clearing and the enzymatic factors involved, the relationship to metabolism, transport, and other related problems.

The conference is organized under the auspices of the Royal Flemish Academy of Sciences of Belgium in the "Paleis der Academien," Brussels. Inquiries and applications for participation should be addressed to the chairman of the organizing committee, Prof. R. Ruyssen, St. Jansvest 12, University of Ghent, Ghent, Belgium.

■ The annual meeting of the Society of Rheology was held in New York City, 2–4 Nov. 1955. Herbert Leaderman (National Bureau of Standards) was presented with the Bingham medal of the society by John D. Ferry (of the University of Wisconsin). Ferry reviewed Leaderman's researches and writings in the field of rheology and pointed out the importance of his work in preparing and promoting an international standard of nomenclature for the science of flow and deformation of materials.

The technical program of the meeting was divided into five half-day sessions. At the first session on Wednesday afternoon, four papers dealing with the rheology of metals were presented. During succeeding sessions, papers were given on such diverse topics as the deformation of the earth, the flow of glacier ice, the

relationship of the flow of synovial fluid to health and disease in the human body, and mathematical approaches to rheological problems. Several papers described the visco-elastic properties of various high-polymeric materials used for rubbers, plastics, and fibers. A new kind of mass flowmeter was described, and methods for making improved measurements of bulk moduli and intrinsic viscosities were considered.

■ The 36th annual meeting of the American Society of Ichthyologists and Herpetologists will be held at the Conservation Training School, Higgins Lake, near Roscommon, Mich. 21–24 June. Housing accommodations for adults may be arranged by addressing the school. Titles of papers to be presented should reach Charles F. Walker, Museum of Zoology, Ann Arbor, Mich., *by 1 May*. Inquiries may be directed to the local chairman, Dr. Reeve M. Bailey, Museum of Zoology, Ann Arbor.

Society Elections

■ American Association of Scientific Workers: pres., Harry Grundfest, Columbia University; sec., Robert Rutman, National Secretary, 6331 Ross St., Philadelphia, Pa.; treas., Alfred Lisi, Philadelphia, Pa. The vice presidents are Hans Blumenfeld, Kirtley Mather, Dwight McNair-Scott, Phillip Newmark, Linus Pauling, Melba Phillips, Theodor Rosebury, and Leland Taylor.

■ Association for Applied Solar Energy: pres., Jan Oostermeyer, Phoenix, Ariz.; vice pres., Walter T. Lucking, Arizona Public Service Company, Phoenix; sec.-treas., John I. Yellott, Stanford Research Institute, Menlo Park, Calif.

■ Council of the American Association of Physics Teachers: pres., Walter C. Michels, Bryn Mawr College; pres. elect, Vernet E. Eaton, Wesleyan University; Frank Verbrugge, Carleton College; treas., Francis W. Sears, Dartmouth College.

■ Genetics Society of Canada: pres., Stanley G. Smith, Forest Insect Laboratory, Sault Ste. Marie, Ontario; v. pres., T. J. Arnason, University of Saskatchewan; sec.-treas., J. W. Morrison, Cereal Crops Division, Central Experimental Farm, Ottawa, Ontario.

■ Society of Rheology: pres., F. D. Dexter, Bakelite Company; 1st v. pres., J. H. Dillon, Textile Research Institute; 2nd v. pres., J. H. Elliott, Hercules Powder Company; editor, Bryce Maxwell, Princeton University; sec.-treas., W. R. Willets, Titanium Pigment Corporation.

Forthcoming Events

May

1–3. Electronic Components Symposium, 7th annual, Washington, D.C. (A. W. Rogers, U.S. Army Signal Corps, Fort Monmouth, N.J.)

3–5. American Philosophical Assoc., Western Div., Bloomington, Ind. (W. H. Hay, Bascom Hall, Univ. of Wisconsin, Madison 6.)

3–5. Illinois State Acad. of Science, annual, Springfield, Ill. (L. E. Bamber, 223 Natural History, Univ. of Illinois, Urbana.)

3–5. Midwestern Psychological Assoc., annual, St. Louis, Mo. (D. W. Fiske, Dept. of Psychology, Univ. of Chicago, Chicago 37, Ill.)

3–5. Soc. for American Archaeology, annual, Lincoln, Nebr. (A. C. Spaulding, Museum of Anthropology, Univ. of Michigan, Ann Arbor.)

4. American Assoc. of Spectrographers, 7th annual, Chicago, Ill. (J. P. Merutka, H. M. Harper Co., 8200 Lehigh Ave., Morton Grove, Ill.)

4. Annual Conf. for Engineers, Columbus, Ohio. (H. A. Bolz, College of Engineering, Ohio State Univ., Columbus 10.)

4–5. Chi Beta Phi National Convention, Charleston, W.Va. (C. B. Park, Dept. of Chemistry, Lenoir-Rhyne College, Hickory, N.C.)

4–5. Minnesota Acad. of Science, annual, Minneapolis. (B. O. Krogstad, Science and Mathematics Div., Univ. of Minnesota, Duluth Branch, Duluth 5.)

4–5. Wisconsin Acad. of Sciences, Arts, and Letters, annual, Milwaukee. (R. J. Dicke, 3 King Hall, Univ. of Wisconsin, Madison 6.)

4–6. Oklahoma Acad. of Science, Quartz Mountain State Park. (D. E. Howell, Entomology Dept., Oklahoma A. & M. College, Stillwater.)

6–9. American Inst. of Chemical Engineers, New Orleans, La. (F. J. Van Antwerpen, AIChE, 25 W. 45 St., New York 36.)

7–8. New Orleans Acad. of Science, annual, New Orleans, La. (Father J. H. Mullahy, S.J., Dept. of Biological Sciences, Loyola Univ., New Orleans 18.)

8–10. Symposium on Chemistry and Biology of Purines, London, England (invitational). (G. E. W. Wolstenholme, Ciba Foundation, 41 Portland Pl., London, W.1.)

9. American Acad. of Arts and Sciences, annual, Cambridge, Mass. (R. W. Burhoe, 28 Newbury St., Boston 16, Mass.)

9–12. Virginia Acad. of Science, annual, Richmond, Va. (F. F. Smith, Box 1420, Richmond 11.)

10. Assoc. of Vitamin Chemists, Chicago, Ill. (M. Freed, Dawes Products, 4800 S. Richmond, Chicago 32.)

10–11. American Inst. of Chemists, annual, Boston, Mass. (L. Van Doren, AIC, 60 E. 42 St., New York 17.)

10–11. Atomic Energy Conf., San Antonio, Tex. (E. Wiggin, Atomic Industrial Forum, Inc., 260 Madison Ave., New York 16.)

10–11. Operations Research Soc. of America, 4th annual, Washington, D.C. (H. J. Miser, Rt. 2, Box 211, Vienna, Va.)

10–12. National Science Fair, 7th annual, Oklahoma City, Okla. (J. H. Kraus, Science Clubs of America, 1719 N St., NW, Washington 6.)

11–12. Indiana Acad. of Science, Martinsville. (W. A. Daily, Eli Lilly Research Laboratories, Indianapolis 6, Ind.)

14–15. Soc. of American Military Engineers, 36th annual, Washington, D.C. (SAME, 808 Mills Bldg., Washington 6.)

14–17. Symposium & Exhibit on Recent Developments in Research Methods and Instrumentation, 6th annual, Bethesda, Md. (J. B. Davis, National Institutes of Health, Bethesda 14.)

14–19. Assoc. of Official Seed Analysts, Sacramento, Calif. (R. G. Colborn, Seed Div., Dept. of Agriculture, Capitol Bldg., Lincoln, Nebr.)

14–19. International Spectroscopical Colloquium, 6th, Amsterdam. (F. Freese, Laboratorium voor Analytische Chemie, 125 Nieuwe Achtergracht, Amsterdam.)

15–16. Industrial Nuclear Technology Conf., Chicago, Ill. (INT Conf., Armour Research Foundation, 10 W. 35 St., Chicago 16.)

16–18. American College of Cardiology, 5th annual, Chicago, Ill. (P. Reichert, Empire State Bldg., New York, N.Y.)

16–18. Soc. for Experimental Stress Analysis, Pittsburgh, Pa. (W. M. Murray, Massachusetts Inst. of Technology, Cambridge 39.)

17. Maryland Acad. of Science, annual, Baltimore. (T. King, MAS, Enoch Pratt Free Library, Baltimore 1.)

18–26. World Cong. on Fertility and Sterility, 2nd, Naples, Italy. (C. D. Guerrero, Melchor Ocampo 487, Mexico, D.F. Mexico.)

19–20. Population Assoc. of America, annual, Ann Arbor, Mich. (H. Carter, National Office of Vital Statistics, Public Health Service, Washington 25.)

20–22. Building Research Inst., 5th annual, Niagara Falls, Ontario, Canada. (W. H. Scheick, BRI, 2101 Constitution Ave., Washington 25.)

20–22. International Cong. of Neo-Hippocratic Medicine, Montecatini Terme, Italy. (Dr. Valente, 41 Av. Verdi, Montecatini, Terme.)

20–24. American Assoc. of Cereal Chemists, New York, N.Y. (C. L. Brooke, Merck & Co., Inc., Rahway, N.J.)

21–23. American Trudeau Soc., 51st annual, New York, N.Y. (Miss E. Lovell, National Tuberculosis Assoc., 1790 Broadway, New York 19.)

21–24. Air Pollution Control Assoc., Niagara Frontier, annual, Buffalo, N.Y. (H. C. Ballman, APCA, 4400 Fifth Ave., Pittsburgh 13, Pa.)

23–1. International Cong. of Animal Reproduction, 7th, Madrid, Spain. (European Assoc. for Animal Reproduction, Via Quintino Sella 54, Rome, Italy.)

23–26. European Symposium on Vitamin B_{12}, 1st, Hamburg, Germany. (H. Bauer, Nervenklinik, Hamburg-Eppendorf.)

24–26. International Cong. on Pathology of Infectious Diseases, Lyons, France. (Secretary, Institut Pasteur, Paris.)

24–26. National Soc. of Professional Engineers, Atlantic City, N.J. (P. H. Robbins, 1121 15 St., N.W., Washington 5.)

(See issue of 16 March for comprehensive list)