

## Preview of AAAS Meeting, Atlanta

Raymond L. Taylor

Since the time of the preliminary announcement of the Atlanta meeting, which will be held 26–31 December [*Science* 121, 751 (27 May 1955)], the symposia listed therein have been implemented and augmented and the sections and participating societies, in a number of instances, have had to open additional sessions for contributed papers. From such program details as the names and addresses of authors, and from the volume of advance registrations and applications for housing accommodations, it is quite apparent that this year's 122nd AAAS meeting will enjoy an excellent attendance representing all sections of the continent and abroad.

As the list of participating societies and the outline of symposia show, virtually no principal field of science will be neglected. The special program, "The crisis in science education"—for which, unprecedentedly in recent years, all AAAS sections and most of the societies have cleared the morning of 29 December—the three sessions of the International Geophysical Year, the four-part AAAS-ORINS general symposium, "Atomic energy and agriculture," the distinguished evening addresses of James R. Killian, Jr., Warren Weaver, Robert R. Williams, and Laurence M. Gould on the four successive evenings 27–30 December, the 2-day Conference on Scientific Editorial Problems, and the special report on the Geneva International Conference on the Peaceful Uses of Atomic Energy by Clarence E. Larson and Shields Warren, with Detlev W. Bronk presiding, added to an exceptional series of symposia, all promise a particu-

larly stimulating, informative, and significant meeting.

The programs of the sessions and pertinent details on the local committees, registration, housing, and exhibitors follow.

### Contributed Papers

Sessions for contributed papers are too numerous to catalog. Of the 17 participating sections, the following nine have scheduled them: C—Chemistry, D—Astronomy, E—Geology and Geography, F—Zoological Sciences, G—Botanical Sciences, I—Psychology, L—History and Philosophy of Science, Np—Pharmacy, and Q—Education.

Participating societies with sessions for contributed papers are: American Meteorological Society, American Association of Clinical Chemists, Astronomical League, National Speleological Society, American Society of Parasitologists, Herpetologists League, Society of Systematic Zoology, Ecological Society of America, National Association of Biology Teachers, American Phytopathological Society, Society for the Advancement of General Systems Theory, National Science Teachers Association, and the American Nature Study Society.

### Special Sessions

One of the characteristic and most important features of the annual meetings of the Association is the series of outstanding general addresses by distinguished authorities that are sponsored by organizations that meet regularly with the AAAS. These special events are joint

sessions with the Association and are open to the general public of the city in which the meeting is held.

*Society of the Sigma Xi.* Tuesday, 27 Dec., 8 P.M., Dinkler Plaza Room, Hotel Dinkler Plaza. "Is there a scarcity of scientists?" by James R. Killian, Jr., president, Massachusetts Institute of Technology. Joseph W. Barker, director, Research Corporation, and president, Society of the Sigma Xi, will preside. George W. Beadle, president of the AAAS, will represent the Association.

*AAAS Presidential Address.* Wednesday, 28 Dec., 8 P.M., Sisters Chapel, Spelman College, Atlanta University. "Science and people" by Warren Weaver, vice president for natural and medical sciences, Rockefeller Foundation, and retiring president of the Association. George W. Beadle, chairman, Biology Division, California Institute of Technology, and president of the Association, will preside. Preceding the address, James V. Carmichael, president, Scripto, Inc., and general chairman of the Atlanta meeting, will speak briefly. Following the address there will be an informal AAAS Presidential Reception in the nearby gymnasium of Spelman College. All registrants and members of the local committees are cordially invited to attend. (AAAS chartered buses will carry passengers from the hotels before the address and to the hotels after the reception.)

*AAAS Special Program.* Thursday, 29 Dec., 9 A.M., Dinkler Plaza Room, Hotel Dinkler Plaza. "The crisis in science education."

*Scientific Research Society of America.* Thursday, 29 Dec., 8 P.M., Dinkler Plaza Room, Hotel Dinkler Plaza. "Chemistry as a supplement to agriculture in meeting world food problems" by Robert R. Williams, chairman, Williams-Waterman Fund for the Combat of Dietary Diseases, Research Corporation. Wallace R. Brode, associate director, National Bureau of Standards, and chairman, Scientific Research Society of America, will preside. Chauncey D. Leake, member of the AAAS board of directors, will represent the Association.

*National Geographic Society.* Thursday, 29 Dec., 8:30 P.M., Gymnasium, State College of Business Administration. "Atlantic's farthest shores" (illustrated) by Newman Bumstead, assistant chief, Cartographic Staff, National Geo-

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graphic Society. Warren Weaver, retiring president of the AAAS, will preside.

*Reports on the Geneva International Conference on the Peaceful Uses of Atomic Energy.* Friday, 30 Dec., 4: 30 P.M., Committee Room 2, Municipal Auditorium. "The physical sciences" by Clarence E. Larson, vice president, National Carbon Division, Union Carbide and Carbon Corporation, Cleveland, Ohio. "Biological and medical sciences" by Shields Warren, director, Cancer Research Institute, New England Deaconess Hospital, Boston, Mass. Detlev W. Bronk, director, Rockefeller Institute for Medical Research, will preside.

*United Chapters of Phi Beta Kappa.* Friday, 30 Dec., 8 P.M., Room Dinkler B, Hotel Dinkler Plaza. "Science and the other humanities" by Laurence M. Gould, president, Carleton College. Goodrich C. White, president, Emory University, and recent president, United Chapters of Phi Beta Kappa, will preside. AAAS president-elect Paul B. Sears will represent the Association.

#### AAAS Conferences

In recent years, in addition to the Academy Conference, several other conferences have become recurrent events at AAAS meetings. Also, not infrequently, interest in special subjects may develop to the point where a special program is arranged. These conferences and special programs are open to all interested.

*Academy Conference.* Wednesday morning and afternoon, 28 Dec., Parlor F, Hotel Piedmont.

*Conference on Scientific Editorial Problems.* Wednesday and Thursday mornings and afternoons, 28-29 Dec., Library, State College of Business Administration. (See page 1069.)

*Conference on Scientific Manpower.* Cosponsorship of the AAAS Special Session, "The crisis in science education," Thursday morning, 29 Dec., Dinkler Plaza Room, Hotel Dinkler Plaza. (See page 1069.)

#### AAAS Symposia

Well-established scientists and younger specialists alike have come to anticipate the AAAS symposia that have become an increasingly important aspect of the annual meetings of the Association.

Characteristically, AAAS symposia explore relatively neglected areas of scientific inquiry or constitute up-to-date surveys of knowledge in particular fields. Such programs are significant and valuable because they focus attention on critical areas, summarize the present status of current research, and provide

positions from which to direct further research. Typically, these programs originate in the minds of the officers and committeemen of the sections of the Association and are developed by them, either personally or by others deputized as program chairmen. Often, the sectional symposia are concerned with interdisciplinary problems and are sponsored by two or more sections; participating societies also may collaborate. If the potential demand warrants it, the papers of such programs are gathered together and published by the Association as symposium volumes.

In recent years the practice has become well established of arranging, for each annual meeting, one or two programs of especially wide interest or timeliness. The responsibility for developing these sessions, sponsored by the Association as a whole, rests on the Committee on AAAS Meetings, appointed each year by the president of the Association. On occasion, a proposed sectional program may be chosen to be developed as a general symposium. More commonly, the Committee on AAAS Meetings plans and arranges these general sessions itself. The committee may invoke the aid of consultants and appoint others to implement such general programs.

At its meeting on 8 May 1955, the committee agreed that AAAS meetings should include and emphasize programs that are of importance to science as a whole. The committee decided that this Atlanta meeting should include consideration of the serious situation confronting the United States today, of too few college students electing majors and graduate work in the sciences and engineering, and the related problem of the growing shortage of qualified science teachers at both the high-school and college levels.

The problem was deemed of such general significance that a special session, on the morning of Thursday, 29 Dec., was fixed for a survey of the steps that must be taken—and the contributions that can be made—by national organizations, federal and state agencies, industry, and educational institutions. Unprecedented in recent years, no AAAS section will hold sessions on that morning, and most of the participating societies have also been able to clear this time—so that nearly all will be able to attend, together with invited delegates from AAAS affiliates and other interested agencies and institutions. The Association is indebted to all concerned for their splendid cooperation. It is anticipated that AAAS Council Meeting II, Friday morning, 30 Dec., will be largely devoted to specific steps that organized science can take to help resolve this emergency.

It was decided also that, in view of

their broad interdisciplinary scope and significance, the four-session symposium, "Atomic energy and agriculture" and the sessions of the International Geophysical Year would be cosponsored by the Association as a whole.

#### AAAS General Symposium

The AAAS and the Oak Ridge Institute of Nuclear Studies have scheduled a joint program on *Atomic Energy and Agriculture*. Parts I to IV are cosponsored by AAAS Section O—Agriculture, part I by the Ecological Society of America, parts I and II by AAAS Section G—Botanical Sciences, part II by the American Society of Plant Physiologists, Southern Section, and part III by AAAS Section F—Zoological Sciences. Arranged by a committee with C. L. Comar, Medical Division, Oak Ridge Institute of Nuclear Studies, as general chairman.

This first presentation to a large audience of the latest research and thinking on the applications of radioisotopes in the agricultural sciences anticipates—and, to a considerable extent, complements—the related and coordinated Conference on the Use of Isotopes in Agriculture that will be held 12-14 January 1956 at East Lansing, Mich., under the sponsorship of the Council of Participating Institutions of Argonne National Laboratory.

*Atomic Energy and Agriculture*, part I, "Soil-plant relations." Tuesday, 27 Dec., 2 P.M., Exhibit Hall 1, Municipal Auditorium. Arranged by Nathan S. Hall, Division of Biology and Medicine, U.S. Atomic Energy Commission, Washington, D.C. Robert F. Reitemeier, U.S. Department of Agriculture Plant Industry Station, Beltsville, Md., will preside. The program will consist of the following six parts.

1) "Uses of macronutrient isotopes in soil fertility research" by L. E. Ensinger, Department of Agronomy and Soils, and R. W. Pearson, U.S. Department of Agriculture, Alabama Polytechnic Institute.

2) "Solubility and plant utilization of micronutrients" by D. W. Thorne, Utah Agricultural Experiment Station, and H. H. Wiebe, Utah State Agricultural College.

3) "Potentialities of isotopic procedures in soil evaluation" by Maurice Fried, U.S. Department of Agriculture, Beltsville, Md.

4) "The use of radioisotopes in soil physics research" by M. D. Thorne, U.S. Department of Agriculture, Beltsville, Md., and W. A. Raney, U.S. Department of Agriculture and Mississippi State College.

5) "Role of tracers in root develop-

ment investigations" by G. W. Burton, Georgia Coastal Plain Experiment Station.

6) Presentation of John Scott award to Edgar S. McFadden, agronomist, Texas Agricultural Experiment Station by Ernest T. Trigg, City of Philadelphia Board of Directors of City Trusts, Philadelphia, Pa.

*Atomic Energy and Agriculture*, part II, "Plant metabolism and crop improvement." Wednesday, 28 Dec., 9 A.M., Exhibit Hall 1, Municipal Auditorium. Arranged by H. B. Tukey, Department of Horticulture, Michigan State University. H. B. Tukey will preside. The following six papers will be presented.

1) "Photosynthesis" by N. E. Tolbert, Oak Ridge National Laboratory.

2) "Nitrogen metabolism in plants as indicated by  $N^{15}$ " by R. M. MacVicar, Oklahoma Agricultural and Mechanical College.

3) "The translocation of organic nutrient in plants" by C. A. Swanson, Ohio State University.

4) "Nutrient uptake, with special reference to foliar absorption" by S. H. Wittwer, Michigan State University.

5) "Uptake and movement of plant regulators" by J. W. Mitchell, U.S. Department of Agriculture Plant Industry Station, Beltsville, Md.

6) "Use of radiation in plant breeding" by W. Ralph Singleton, University of Virginia.

*Atomic Energy and Agriculture*, part III, "Animal metabolism." Wednesday, 28 Dec., 2 P.M., Exhibit Hall 1, Municipal Auditorium. Arranged by Homer Patrick, program director, University of Tennessee-Atomic Energy Commission Agricultural Research Program. Homer Patrick will preside. The following four papers will be presented.

1) "Micronutrient metabolism" by G. K. Davis, University of Florida.

2) "Macronutrient metabolism" by C. L. Comar, Oak Ridge Institute of Nuclear Studies.

3) "Lactation and hormones" by J. C. Shaw, University of Maryland.

4) "Use of isotopes in studies of amino acid synthesis in animals" by J. E. Stekol, Institute for Cancer Research, Philadelphia, Pa.

*Atomic Energy and Agriculture*, part IV, "Food sterilization." Thursday, 29 Dec., 2 P.M., Exhibit Hall 1, Municipal Auditorium. Arranged by B. F. Trum, Veterinary Corps, United States Army. H. R. Kraybill, American Meat Institute Foundation, Chicago, Ill., and B. F. Trum will preside. The following seven papers will be presented.

1) "Introduction" by H. R. Kraybill.

2) "Radiation facilities designed to process commercial quantities of food products" by L. E. Brownell and J. U. Nehemias, Engineering Research Insti-

tute, University of Michigan, and J. J. Bulmer, University of Michigan.

3) "The design of a megacurie radiation source" by Bernard Manowitz and D. J. Metz, Brookhaven National Laboratory, and R. H. Bretton, Yale University.

4) "The effect of irradiation sterilization on protein, carbohydrate, and fat with particular reference to their nutritive value" by B. C. Johnson, University of Illinois.

5) "Toxicological studies on food sterilized by ionizing radiations" by M. S. Read and H. F. Kraybill, Army Medical Nutrition Laboratory, Denver, Colo.

6) "Present-day status of radiation sterilization" by B. E. Proctor and S. A. Goldblith, Massachusetts Institute of Technology.

7) "Feasibility of food irradiation" by R. G. H. Siu, Office of the Quartermaster General, U.S. Army, Washington, D.C.

#### International Geophysical Year

The United States National Committee for the International Geophysical Year, established by the National Academy of Sciences, is in charge of planning, executing, and directing the U.S. program with the aid of technical panels and committees composed of many of the nation's leading geophysicists. Federal support for the program has been obtained by the USNC-IGY through the National Science Foundation.

The nations participating in the IGY include: Argentina, Australia, Austria, Belgium, Brazil, Burma, Canada, Chile, Czechoslovakia, Denmark, Finland, France, East Germany, West Germany, Great Britain, Greece, Hungary, Iceland, India, Ireland, Israel, Italy, Japan, Mexico, Morocco, Netherlands, New Zealand, Norway, Pakistan, Peru, Philippines, Spain, Sweden, Switzerland, Thailand, Tunisia, Union of South Africa, U.S.S.R., United States, and Yugoslavia. Each country has responsibility for planning and executing its own program under a general plan developed by the Comité Spécial de l'Année Géophysique Internationale, appointed by the International Council of Scientific Unions.

Simultaneous synoptic investigations throughout the world will be carried out in meteorology, latitude and longitude determinations, geomagnetism, gravity measurements, ionospheric physics, aurora and airglow, solar activity, cosmic rays, glaciology, oceanography, seismology, and rocket exploration of the upper atmosphere. In addition, the U.S. effort includes upper atmosphere research using satellite vehicles.

The program committee is composed

of Joseph Kaplan, University of California, Los Angeles, and Hugh Odishaw, National Academy of Sciences, cochairmen; Wallace W. Atwood, Jr., National Academy of Sciences; Werner A. Baum, Florida State University; J. Wallace Joyce, National Science Foundation; G. F. Schilling, National Academy of Sciences; Alan H. Shapley, National Bureau of Standards, Boulder, Colo.; Waldo E. Smith, American Geophysical Union; and Raymond L. Taylor, AAAS.

The following three programs are joint programs of the AAAS, the U.S. National Committee for the IGY of the National Academy of Sciences-National Research Council, the American Geophysical Union, and the National Science Foundation.

*International Geophysical Year*, part I, "The earth." Tuesday, 27 Dec., 9 A.M., Committee Room 1, Municipal Auditorium. Joseph Kaplan, University of California, Los Angeles, will preside. The following six papers will be presented.

1) "Earth, sun, and interplanetary medium" by Fred L. Whipple, Harvard University.

2) "The oceans and the earth" by Roger R. Revelle, Scripps Institution of Oceanography.

3) "Glaciers and ice fields" by William B. O. Field, American Geographical Society, New York.

4) "Seismology and the earth's structure" by James B. Macelwane, St. Louis University.

5) "The earth's gravity" by George P. Woollard, University of Wisconsin.

6) "International aspects of the IGY program" by Lloyd V. Berkner, Associated Universities, Inc., New York.

*International Geophysical Year*, part II, "The atmosphere." Wednesday, 28 Dec., 9 A.M., Committee Room 1, Municipal Auditorium. Lloyd V. Berkner, Associated Universities, Inc., will preside. The following six papers will be presented.

1) "The earth's magnetic field" by E. O. Hulburt, Naval Research Laboratory.

2) "The ionosphere" by M. G. Morgan, Dartmouth College.

3) "The aurora" by C. T. Elvey, University of Alaska.

4) "The airglow" by E. R. Manring, Air Force Cambridge Research Center, Sacramento Peak, Sunspot, N.M.

5) "Geophysical aspects of cosmic rays" by S. E. Forbush, Carnegie Institution of Washington.

6) "The IGY program of the United States" by Joseph Kaplan, University of California, Los Angeles.

*International Geophysical Year*, part III, "The atmosphere," continued. Thursday, 29 Dec., 9 A.M., Committee Room 1, Municipal Auditorium. Alan H. Shapley, Central Radio Propagation

Laboratory, Boulder, Colo., will preside. The following six papers will be presented.

1) "Weather and atmosphere" by Harry Wexler, U.S. Weather Bureau.

2) "Rocket exploration of the upper atmosphere" by James Alfred Van Allen, State University of Iowa.

3) "The IGY earth satellite program" by Homer E. Newell, Jr., Naval Research Laboratory.

4) "The antarctic IGY program" by Laurence M. Gould, Carleton College.

5) "The equatorial IGY program" by R. C. Peavey, National Academy of Sciences.

6) "The northern latitudes IGY program" by Nathaniel C. Gerson, Air Force Cambridge Research Center, Cambridge, Mass.

## Sectional and Societal Symposia

### Physics

*Radiation Measurements.* Tuesday, 27 Dec., 2 P.M. Arranged by J. H. Howey and J. H. Tolan, Georgia Institute of Technology. Fred L. Mohler, National Bureau of Standards, will preside. Speakers: Marshall Brucer, Oak Ridge Institute of Nuclear Studies; Jack Francis, Oak Ridge National Laboratory; J. H. Tolan, Georgia Institute of Technology and Emory University.

*The Role of Physics in Premedical Education.* Wednesday, 28 Dec., 9:30 A.M. Program of Sigma Pi Sigma, cosponsored by AAAS Section B-Physics and Alpha Epsilon Delta. Arranged by Daniel R. McMillan, head, Physics Department, Emory University. Daniel R. McMillan will preside. Speakers: R. T. Lagemann, Vanderbilt University; Peter A. Stewart, Emory University Medical School; H. Davis Bruner, Emory University Medical School.

*Research Progress in Physics.* Wednesday, 28 Dec., 2 P.M. Arranged by J. H. Howey, Georgia Institute of Technology. Clifford K. Beck, North Carolina State College, will preside. Speakers: G. L. Pearson, Bell Telephone Laboratories; Clyde L. Cowan, Jr., Los Alamos Scientific Laboratory; Arthur E. Ruark, University of Alabama; Charles E. Falk, Brookhaven National Laboratory.

*Training for Careers in Physics.* Thursday, 29 Dec., 2 P.M. Arranged by J. H. Howey, Georgia Institute of Technology. Alan T. Waterman, National Science Foundation, will preside. Speakers: Gerald A. Rosselot, Bendix Aviation Corporation; Clifford K. Beck, North Carolina State College; Josiah Crudup, Breunau College.

### Chemistry

*Recent Concepts in Clinical Chemistry.* Monday, 26 Dec., 2 P.M. Program of

the American Association of Clinical Chemists. Arranged by Albert E. Sobel, Jewish Hospital of Brooklyn, Brooklyn, N.Y. Albert E. Sobel will preside. Speakers: Albert E. Sobel; Joseph H. Gast, College of Medicine, Baylor University; Samuel Natelson, Rockford Memorial Hospital, Rockford, Ill.; D. B. Zilver-smit, University of Tennessee, Memphis; Henry G. Kunkel, Rockefeller Institute for Medical Research.

*Patterns of Biochemical and Histological Responses to Chemical Agents*, part I. Wednesday, 28 Dec., 9 A.M. Program of AAAS Section C-Chemistry, cosponsored by AAAS Section N-Medical Sciences and the American Chemical Society, Georgia Section. Arranged by Jules Cass, University of Cincinnati. Jules Cass will preside. Speakers: Jules Cass; Jack Schubert, Argonne National Laboratory; Parkhurst Shore and Bernard B. Brodie, National Heart Institute, Bethesda, Md.; David A. Karnofsky, Cornell University Medical College.

*Patterns of Biochemical and Histological Responses to Chemical Agents*, part II. Wednesday, 28 Dec., 2 P.M. Program of AAAS Section C-Chemistry, cosponsored by AAAS Section N-Medical Sciences and the American Chemical Society, Georgia Section. Arranged by Jules Cass, University of Cincinnati. Jules Cass will preside. Speakers: J. R. M. Innes, Chemical Corps Medical Laboratories; James Fouts and Bernard B. Brodie, National Heart Institute, Bethesda, Md.

*The Sedimentary Kaolins Along the Southeastern Fall Line.* Thursday, 29 Dec., 2 P.M. Joint Program of AAAS Section C-Chemistry and the American Chemical Society, Georgia Section, cosponsored by AAAS Section E-Geology and Geography. Arranged by LeRoy A. Woodward, Scripto, Inc., Atlanta Ga. LeRoy A. Woodward will preside. Speakers: Thomas L. Kessler, Foote Mineral Co., Kings Mountain, N.C.; C. G. Albert, Minerals and Chemicals Corporation of America, McIntyre, Ga.; G. W. Brindley, Pennsylvania State University; L. A. Woodward; Ivan L. Lester, Georgia Kaolin Company, Dry Branch, Ga.; Lane Mitchell, Georgia Institute of Technology.

*Radiation Chemistry and Related Fields*, part I. Friday, 30 Dec., 9 A.M. Program of AAAS Section C-Chemistry, cosponsored by AAAS Section B-Physics and the American Chemical Society, Georgia Section. Arranged by Ellison H. Taylor, Oak Ridge National Laboratory. Ellison H. Taylor will preside. Speakers: S. C. Lind, Oak Ridge National Laboratory; William H. Hamill, University of Notre Dame; A. O. Allen, Brookhaven National Laboratory.

*Radiation Chemistry and Related Fields*, part II. Friday, 30 Dec., 2 P.M.

Program of AAAS Section C-Chemistry, cosponsored by the AAAS Section B-Physics and the American Chemical Society, Georgia Section. Arranged by Ellison H. Taylor, Oak Ridge National Laboratory. Ellison H. Taylor will preside. Speakers: Ralph Livingston, Oak Ridge National Laboratory; J. H. Crawford, Jr., Oak Ridge National Laboratory; Harvey M. Patt, Argonne National Laboratory.

### Geology and Geography

*Military Geology*, part I. Wednesday, 28 Dec., 9 A.M. Joint session of AAAS Section E-Geology and Geography, the Association of American Geographers, Southeastern Division, and the Geological Society of America. Arranged by Frank C. Whitmore, Jr., U.S. Geological Survey, Washington, D.C. Frank C. Whitmore, Jr., will preside. Speakers: Lawrence D. Bonham, U.S. Geological Survey, Washington, D.C.; Arnold C. Orvedal and Howard M. Smith, Soil Conservation Service, U.S. Department of Agriculture; Dwight W. Swanson and Franklin Newhall, Soil Conservation Service, U.S. Department of Agriculture; Lloyd Spetzman, U.S. Geological Survey, Washington, D.C.; Louis C. Pelletier, U.S. Geological Survey, Washington, D.C.; William Craig, Corps of Engineers, U.S. Army.

*Military Geology*, part II. Wednesday, 28 Dec., 1:30 P.M. Joint session of AAAS Section E-Geology and Geography, the Association of American Geographers, Southeastern Division, and the Geological Society of America. Arranged by Frank C. Whitmore, Jr., U.S. Geological Survey, Washington, D.C. Frank C. Whitmore, Jr., will preside. Speakers: W. C. Iseminger, Corps of Engineers, U.S. Army; Charles C. Bates, Hydrographic Office, Navy Department; Maurice J. Terman, U.S. Geological Survey, Washington, D.C.; Arnold C. Orvedal and Anton J. Vessel, Soil Conservation Service, U.S. Department of Agriculture; Nicholas Shreders, U.S. Geological Survey, Washington, D.C.; Edward C. T. Chao, U.S. Geological Survey, Washington, D.C.

### Zoological Sciences

*Formation and Early Development of the Embryo*, part I. Tuesday, 27 Dec., 9 A.M. Program of AAAS Section F-Zoological Sciences, cosponsored by the American Society of Zoologists and the Association of Southeastern Biologists. Arranged by R. C. von Borstel, Oak Ridge National Laboratory, C. B. Metz, Florida State University, and Albert Tyler, California Institute of Technology. Albert Tyler will preside. Speakers: W. S. Vincent, College of Medicine, State University of New York, Syracuse; A. L. Colwin, Queens College; C. B.

Metz; M. C. Chang, Worcester Foundation for Experimental Biology.

*Formation and Early Development of the Embryo*, part II. Tuesday, 27 Dec., 2 P.M. Program of AAAS Section F—Zoological Sciences, cosponsored by the American Society of Zoologists and the Association of Southeastern Biologists. Arranged by R. C. von Borstel, C. B. Metz, and Albert Tyler. Albert Tyler will preside. Speakers: Hans Borei, University of Pennsylvania; J. R. Gregg, Columbia University; R. C. von Borstel; Albert Tyler.

*Distribution and Speciation of Cave Vertebrates*. Tuesday, 27 Dec., 2:00 P.M. Joint session of the National Speleological Society and the Herpetologists League. Arranged by G. Nicholas, LaSalle High School, Cumberland, Md., and James A. Fowler, Academy of Natural Sciences of Philadelphia. James A. Fowler will preside. Speakers: Kenneth Dearolf, Reading Public Museum, Reading, Pa.; Thomas C. Barr, Vanderbilt University; Charles E. Mohr, Audubon Nature Center, Greenwich, Conn.; Robert Inger and Loren Woods, Chicago Natural History Museum; Victor H. Hutchison, Duke University; Edward McCrady, University of the South.

*The Systematic Content of General Biology Courses*. Friday, 30 Dec., 9 A.M. Arranged by Ross H. Arnett, St. John Fisher College, Rochester, N.Y. Ross H. Arnett will preside. Speakers: William C. Beaver, Wittenberg College; Charles Heimsch, University of Texas; Andrew Stauffer, Ohio Northern University; A. M. Winchester, John B. Stetson University.

#### Biological Sciences

*Applications of Serology in Biological Research*. Wednesday, 28 Dec., 9 A.M. Program of the Society of General Physiologists, cosponsored by AAAS Sections F—Zoological Sciences and G—Botanical Sciences and the Association of Southeastern Biologists. Arranged by Norman G. Anderson, Oak Ridge National Laboratory. H. R. Wolfe, University of Wisconsin, will preside. Speakers: H. R. Wolfe; T. Makinodan, Oak Ridge National Laboratory; Ray D. Owen, California Institute of Technology; Wiktor W. Nowinski, University of Texas Medical Branch; Norman G. Anderson.

*The Species Problem*, part I. Wednesday, 28 Dec., 2 P.M. Program of the Association of Southeastern Biologists, cosponsored by AAAS Sections F—Zoological Sciences and G—Botanical Sciences, American Society of Naturalists, American Society of Parasitologists, Genetics Society of America, and the Society of Systematic Zoology. Arranged by Ernst Mayr, Museum of Comparative Zoology, Harvard University. Ernst Mayr will preside. Speakers: Ernst Mayr; Hampton L. Carson, Washington University;

Verne E. Grant, Rancho Santa Ana Botanic Garden, Claremont, Calif.; John L. Brooks, Yale University; John Imbrie, Columbia University.

*The Species Problem*, part II. Thursday, 29 Dec., 2 P.M. Program of the Association of Southeastern Biologists, cosponsored by AAAS Sections F—Zoological Sciences and G—Botanical Sciences, American Society of Naturalists, American Society of Parasitologists, Genetics Society of America, and the Society of Systematic Zoology. Arranged by Ernst Mayr. Ernst Mayr will preside. Speakers: T. M. Sonneborn, Indiana University; John A. Moore, Columbia University; C. Ladd Prosser, University of Illinois; Ernst Mayr.

#### Botanical Sciences

*The Tobacco Plant*. Tuesday, 27 Dec., 9 A.M. Program of AAAS Section G—Botanical Sciences, cosponsored by the American Phytopathological Society and the American Society of Plant Physiologists, Southern Section. Arranged by Barry Commoner, Washington University. Barry Commoner will preside. Speakers: W. G. Frankenburg, General Cigar Company, Lancaster, Pa.; M. L. Zucker, Connecticut Agricultural Experiment Station; H. H. Smith, Cornell University; E. E. Clayton, American Sumatra Corporation, New York.

*The Cotton Plant*. Tuesday, 27 Dec., 2 P.M. Program of AAAS Section G—Botanical Sciences, cosponsored by the American Phytopathological Society and the American Society of Plant Physiologists, Southern Section. Arranged by Barry Commoner. James H. M. Henderson, Tuskegee Institute, will preside. Speakers: Wayne C. Hall, Texas Agricultural Experiment Station, College Station; Wanda K. Farr, Saint Clairsville, Ohio; S. G. Stephens, North Carolina State College; J. T. Presley, U.S. Department of Agriculture, Agricultural Research Service, Beltsville, Md.

*Plant Pathologists Can Use TV*. Wednesday, 28 Dec., 8 P.M. Program of the American Phytopathological Society. Actual TV programs will be presented over a closed circuit TV system and kinescopes of plant pathology programs previously presented by institutions will be shown. Appreciation is expressed for TV facilities provided by Haskell Boyter, director of radio and television education, Atlanta Public Schools. W. H. Bragonier, Iowa State College, will preside. Participants: A. F. Sherf, Cornell University; M. C. Shurtleff, Iowa State College; H. R. Garriss, North Carolina State College.

*Implications of Current Physiological and Biochemical Research on Marine Algae*. Friday, 30 Dec., 9 A.M. Program of the American Society of Plant Physiologists, Southern Section, cosponsored

by AAAS Section G—Botanical Sciences and the Botanical Society of America, Southeastern Section. Arranged by Aubrey W. Naylor, Duke University. Lawrence R. Blinks, Hopkins Marine Station, will preside. Speakers: Luigi Provasoli, Haskins Laboratories, New York; William B. Wilson, U.S. Fish and Wildlife Service, Galveston, Tex.; J. H. Ryther, Woods Hole Oceanographic Institution; Theodore R. Rice, U.S. Fish and Wildlife Service, Beaufort, N.C.

#### Psychology

*Status of Military Psychology*. Tuesday, 27 Dec., 9 A.M. Program of AAAS Section I—Psychology, cosponsored by the Southern Society for Philosophy and Psychology. Arranged by Wilse B. Webb, U.S. Naval School of Aviation Medicine. Wilse B. Webb will preside. Speakers: Wilse B. Webb; Lloyd G. Humphreys, Air Force Personnel and Training Command; Denzel D. Smith, Office of Naval Research; Walter F. Grether, Aero Medical Laboratory, Wright-Patterson Air Force Base; Robert L. Egbert, Human Resources Research Office, Continental Training Command.

*Maternal Deprivation*. Tuesday, 27 Dec., 9 A.M. Program of the Society for Research in Child Development. Arranged by William C. Rhodes, Division of Mental Hygiene, Georgia Department of Public Health, Atlanta. William C. Rhodes will preside. Speakers: Marie Skodak, Consulting Psychologist, Flint, Mich.; Phyllis Matthews, Psychologist, Cobb County, Ga.; Florence Beasley, Georgia Department of Public Health.

*Learning*. Tuesday, 27 Dec., 2 P.M. Program of AAAS Section I—Psychology, cosponsored by the Southern Society for Philosophy and Psychology. Arranged by Stanford C. Ericksen, Vanderbilt University. Stanford C. Ericksen will preside. Speakers: Clyde E. Noble, Louisiana State University; Robert E. Morin and Daniel B. Cruse, University of Texas; Henry Wunderlich, University of Florida; Gilbert W. Meier, Vanderbilt University.

*Role Learning in Children*. Tuesday, 27 Dec., 2 P.M. Program of the Society for Research in Child Development. Arranged by William C. Rhodes, Division of Mental Hygiene, Georgia Department of Public Health, Atlanta. Walter D. Smith, Florida State University, will preside. Speakers: J. W. Wiggins, Emory University; R. L. Witherspoon, Ruth Connor, and Earl Koos, Florida State University.

*Sensory Processes*. Wednesday, 28 Dec., 9 A.M. Program of AAAS Section I—Psychology, cosponsored by the Southern Society for Philosophy and Psychology and the American Physiological Society. Arranged by John F. Hahn, University of Virginia. John F. Hahn will preside.

Speakers: Lloyd M. Beidler, Florida State University; Frank A. Geldard, University of Virginia; Merle Lawrence, University of Michigan; Cecil W. Mann, Tulane University; Lorrin A. Riggs, Brown University. Discussants: T. G. Andrews, University of Maryland; J. W. Gebhard, Johns Hopkins University.

*Brain Function.* Wednesday, 28 Dec., 2 P.M. Program of AAAS Section I—Psychology, cosponsored by the Southern Society for Philosophy and Psychology and the American Physiological Society. Arranged by Harlow W. Ades, Southwestern Medical School, University of Texas, Austin. Harlow W. Ades will preside. Speakers: John P. Nafe and D. R. Kenshalo, Florida State University; Irving T. Diamond, Jay Goldberg, and William D. Neff, University of Chicago; Arthur J. Riopelle, Emory University, and Harlow W. Ades; Walter A. Mickle, Tulane University.

*Primate Behavior.* Thursday, 29 Dec., 2 P.M. Program of AAAS Section I—Psychology, cosponsored by the Southern Society for Philosophy and Psychology. Arranged by Arthur J. Riopelle, Emory University. Arthur J. Riopelle will preside. Speakers: J. M. Warren, University of Oregon; Roger T. Davis, University of Texas; Henry W. Nissen and Catherine Nissen, Yerkes Laboratories of Primate Biology; Harry F. Harlow, University of Wisconsin; Austin H. Riesen, University of Chicago; Neil C. Tappen, Emory University.

#### Social and Economic Sciences

*Contemporary Patterns in Southern Population, Migration, and Urbanization.* Wednesday, 28 Dec., 2 P.M. Program of AAAS Section K—Social and Economic Sciences. Arranged by Donald P. Ray, George Washington University. Barnett O. Williams, University of Georgia, will preside. Speakers: Homer L. Hitt, Louisiana State University; Harlan W. Gilmore, Tulane University, and Nicholas J. Demerath, University of North Carolina.

*Political Trends in the South.* Thursday, 29 Dec., 2 P.M. Joint session of AAAS Section K—Social and Economic Sciences and the Southern Political Science Association. Arranged by Donald P. Ray, George Washington University. Lynwood M. Holland, Emory University, will preside. Speakers: Lee S. Greene, University of Tennessee; Jasper B. Shannon, University of Kentucky.

*Some Peaceful Uses of Atomic Energy.* Thursday, 29 Dec., 8 P.M. Program of the National Academy of Economics and Political Science, with the collaboration of the National Social Science Honor Society, Pi Gamma Mu; cosponsored by AAAS Section K—Social and Economic Sciences and the Oak Ridge Institute of Nuclear Studies. Arranged by Donald

Armstrong, U.S. Army (ret.), Washington, D.C. Marshall Brucer, Oak Ridge Institute of Nuclear Studies, will preside. Speakers: W. Kenneth Davis, U.S. Atomic Energy Commission, Washington, D.C.; Shields Warren, Cancer Research Institute, New England Deaconess Hospital, Boston, Mass.; Walker L. Cislser, Detroit Edison Company.

#### History and Philosophy of Science

*Entropy.* Tuesday, 27 Dec., 2 P.M. Program of the Society for the Advancement of General Systems Theory. Arranged by Ludwig von Bertalanffy, Mount Sinai Hospital, Los Angeles, Calif. W. Ross Ashby, Center for Advanced Study in the Behavioral Sciences, Stanford, Calif., will preside. Speakers: Ludwig von Bertalanffy; Anatol Rapoport, University of Michigan. Discussant: Walter Rosenblith, Massachusetts Institute of Technology.

*Sociology of Science.* Wednesday, 28 Dec., 2 P.M. Program of AAAS Section L—History and Philosophy of Science, cosponsored by the History of Science Society and the Philosophy of Science Association. Arranged by Jane M. Oppenheimer, Bryn Mawr College. Chauncey D. Leake, Ohio State University College of Medicine, will preside. Speakers: Philipp Frank, Institute for the Unity of Science, Cambridge, Mass.; Harold K. Schilling, Pennsylvania State University; Paul B. Sears, Yale University; Philip Rieff, Brandeis University.

*Science and Humanities.* Thursday, 29 Dec., 2 P.M. Program of AAAS Section L—History and Philosophy of Science, cosponsored by AAAS Section Q—Education, the History of Science Society, and the Philosophy of Science Association. Arranged by Raymond J. Seeger, National Science Foundation. Raymond J. Seeger will preside. Speakers: Harcourt Brown, Brown University; William D. Stahlman, Massachusetts Institute of Technology; Raymond S. Stites, National Gallery of Art; Richard Courant, New York University.

*Creativity in Science.* Thursday, 29 Dec., 8 P.M. Program of AAAS Section L—History and Philosophy of Science, cosponsored by AAAS Section I—Psychology, the History of Science Society, and the Southern Society for Philosophy and Psychology. Arranged by Raymond J. Seeger, National Science Foundation. Raymond J. Seeger will preside. Speakers: Samuel Eilenberg, Columbia University; Howard Hanson, University of Rochester; W. F. G. Swann, Bartol Research Foundation; Lamar Dodd, University of Georgia.

#### Engineering

*Automation*, part I. Tuesday, 27 Dec., 9 A.M. Program of AAAS Section M—Engineering, cosponsored by AAAS Sec-

tion P—Industrial Science. Arranged by Mario J. Goglia, Georgia Institute of Technology. W. S. Buckingham, Georgia Institute of Technology, will preside. Panelists: Frank F. Groseclose, Georgia Institute of Technology; Lillian M. Gilbreth, Montclair, N.J.; James Stern, UAW-CIO Automation Committee, Detroit, Mich.; Adam Abruzzi, Stevens Institute of Technology.

*Automation*, part II. Tuesday, 27 Dec., 2:30 P.M. Program of AAAS Section M—Engineering, cosponsored by AAAS Section P—Industrial Science. Arranged by Mario J. Goglia, Georgia Institute of Technology. E. K. Ritter, Georgia Institute of Technology, will preside. A tour of the Rich Computer Center at Georgia Institute of Technology will be followed by a discussion of computers presented by the staff of the Rich Computer Center.

*Socio-economic Aspects of Orthopedic Engineering*, part I. Friday, 30 Dec., 9:30 A.M. Program of AAAS Section M—Engineering, cosponsored by AAAS Sections K—Social and Economic Sciences and N—Medical Sciences. Arranged by Eugene F. Murphy, Prosthetic and Sensory Aids Service, Veterans Administration, New York. Thomas P. Goodwyn, State Division of Vocational Rehabilitation, Atlanta, Ga., will preside. Speakers: Robert L. Bennett, Warm Springs Foundation, Warm Springs, Ga.; Grace Marie Freymann, Warm Springs Foundation; Donald Dabelstein, Office of Vocational Rehabilitation, Department of Health, Education, and Welfare, Washington, D.C.

*Socio-economic Aspects of Orthopedic Engineering*, part II. Friday, 30 Dec., 1:30 P.M. Program of AAAS Section M—Engineering, cosponsored by AAAS Sections K—Social and Economic Sciences and N—Medical Sciences. Arranged by Eugene F. Murphy, Prosthetic and Sensory Aids Service, Veterans Administration, New York. E. B. Whitten, National Rehabilitation Association, Washington, D.C., will preside. Speakers: McCarthy Hanger, Jr., J. E. Hanger, Inc., St. Louis, Mo., and Orthopedic Appliance and Limb Manufacturers Association; W. Frank Harmon, Atlanta Brace Shop, Atlanta, Ga., and Orthopedic Appliance and Limb Manufacturers Association; Augustus Thorndike, Chestnut Hill, Mass., and Eugene F. Murphy and Anthony Staros, Prosthetic and Sensory Aids Service, Veterans Administration, New York.

#### Medical Sciences

*Microbiology and Medical Research*, part I, "Nutrition." Tuesday, 27 Dec., 9 A.M. Program of AAAS Section N—Medical Sciences, cosponsored by AAAS Section F—Zoological Sciences. Arranged by S. E. Luria, University of Illinois. Har-



old D. West, Meharry Medical College, will preside. Speakers: B. D. Davis, New York University College of Medicine; J. W. Moulder, University of Chicago; G. W. Kidder, Amherst College; Harry Eagle, National Microbiological Institute, National Institutes of Health.

*Physiological Bases in Psychiatry*, part I, "Comparative therapeutic values of new agents in various behavioral disturbances." Tuesday 27 Dec., 9 A.M. Program of the American Psychiatric Association, cosponsored by the American Physiological Society. Harold E. Himwich, Galesburg State Research Hospital, Galesburg, Ill., is program chairman. Speakers: Herman Denber and Etta G. Bird, Manhattan State Hospital, New York; Werner Tuteur, Elgin State Hospital, Elgin, Ill.; Frank J. Ayd, Jr., Baltimore, Md.; Veronica M. Pennington, Mississippi State Hospital, Whitfield; Carl C. Pfeiffer, N. S. Apter, and M. R. Berry, Emory University School of Medicine; Nina Toll, Middletown, Conn.; Harold E. Himwich; William Gallagher, Manteno State Hospital, Manteno, Ill.; Nathan S. Kline, Rockland State Hospital, Orangeburg, N.Y.

*Microbiology and Medical Research*, part II, "Metabolism." Tuesday, 27 Dec., 2 P.M. Program of AAAS Section N—Medical Sciences, cosponsored by AAAS Section F—Zoological Sciences. Arranged by S. E. Luria. Ernest Bueding, School of Medicine, Louisiana State University, New Orleans, will preside. Speakers: V. A. Najjar, Johns Hopkins University; S. S. Cohen, University of Pennsylvania; W. E. Knox, Harvard Medical School; J. G. Hirsch, Rockefeller Institute for Medical Research.

*Physiological Bases in Psychiatry*, part II: "Basic studies of new psychopharmacological agents." Tuesday, 27 Dec., 2 P.M. Program of the American Psychiatric Association, cosponsored by the American Physiological Society. Arranged by Harold E. Himwich. Speakers: Richard Smith and Arthur Riopelle, Emory University; Amedeo S. Marrazzi and E. Ross Hart, Army Chemical Center, Md.; James E. P. Toman, Michael Reese Hospital, Chicago, Ill., and Guy M. Everett, Abbott Laboratories, North Chicago, Ill.; C. D. Hendley, T. E. Lynes, and F. M. Berger, Wallace Laboratories, New Brunswick, N.J.; Harold E. Himwich; Robert G. Grenell, University of Maryland School of Medicine; Abram Hoffer, University Hospital, Saskatoon, Canada; Bernard B. Brodie, National Institutes of Health, Bethesda, Md.

*Microbiology and Medical Research*, part III, "Radiation effects." Wednesday, 28 Dec., 9 A.M. Program of AAAS Section N—Medical Sciences, cosponsored by AAAS Section F—Zoological Sciences. Arranged by S. E. Luria. C. P. Miller, University of Chicago, will preside.

Speakers: Kimball C. Atwood, Oak Ridge National Laboratory; G. E. Stapleton, Oak Ridge National Laboratory; B. N. Jaroslow, Argonne National Laboratory; C. P. Miller, University of Chicago.

*Physiological Bases in Psychiatry*, part III, "Basic studies of alcohol." Wednesday, 28 Dec., 9 A.M. Program of the American Psychiatric Association, cosponsored by the American Physiological Society. Arranged by Harold E. Himwich. Speakers: Robert G. Grenell, University of Maryland School of Medicine; Ernst Fischer, Medical College of Virginia; W. W. Westerfield, State University of New York Medical Center, Syracuse; J. C. Forbes and G. M. Duncan, Medical College of Virginia; Mark D. Altschule, McLean Hospital, Waverley, Mass.; Curt P. Richter, Johns Hopkins Hospital, Baltimore, Md.; Harvey B. Haag, Gerda I. Klingman, and Ruby Bane, Medical College of Virginia; W. Horsley Gantt, Johns Hopkins University School of Medicine; Theodore Koppányi, Georgetown University School of Medicine.

*Microbiology and Medical Research*, part IV, "Infection and chemotherapy." Wednesday, 28 Dec., 2 P.M. Program of AAAS Section N—Medical Sciences, cosponsored by AAAS Section F—Zoological Sciences. Arranged by S. E. Luria. C. C. Randall, Vanderbilt University, will preside. Speakers: S. E. Luria; D. R. Ginder, Emory University; G. H. Hitchings, Burroughs Wellcome and Company Research Laboratories, Tuckahoe, N.Y.; Igor Tamm, Rockefeller Institute for Medical Research. Presentation of the Theobald Smith award. Presentation of the Anne Frankel Rosenthal Memorial award for Cancer Research.

*Physiological Bases in Psychiatry*, part IV, "Alcohol addiction: etiology and treatment." Wednesday, 28 Dec., 2 P.M. Program of the American Psychiatric Association, cosponsored by the American Physiological Society. Arranged by Harold E. Himwich. Speakers: Ruth Fox, Alcoholics Treatment Center, New York; Milton Avol, Van Nuys, Calif.; Joseph F. Fazekas, District of Columbia General Hospital, Washington; Richard C. Proctor, Bowman Gray School of Medicine, Winston-Salem, N.C.; Joseph Thimann, Washingtonian Hospital, Boston, Mass.; David J. Myerson, Long Island Hospital, Boston, Mass.; Jackson A. Smith, Nebraska Psychiatric Institute, Omaha; Ebbe Curtis Hoff, Division of Alcohol Studies and Rehabilitation, Richmond, Va.; Oskar Diethelm, New York Hospital, New York.

*Place of Experimentation in Hospital Administration*. Thursday, 29 Dec., 2 P.M. Program of the American Association of Hospital Consultants. Arranged by Jack Masur, Bureau of Medical Services, U.S. Public Health Serv-

ice, Washington, D.C. Jacque B. Norman, Greenville, S.C., will preside. Speakers: E. M. Bluestone, Montefiore Hospital, New York; E. Dwight Barnett, School of Public Health, Columbia University. Discussants: John E. Gorrell, National Foundation for Infantile Paralysis, New York; Anthony J. J. Rourke, New Rochelle, N.Y.

## Dentistry

*Newer Knowledge of the Physiology of Saliva*, part I. Wednesday, 28 Dec., 10 A.M. Program of AAAS Section N—Dentistry, cosponsored by the American College of Dentists, American Dental Association, and the International Association for Dental Research, North American Division. Arranged by J. F. Volker, School of Dentistry, University of Alabama. J. F. Volker will preside. Speakers: C. E. Klapper, University of Alabama Medical Center, Birmingham; H. H. Chauncey, P. A. Weiss, and V. F. Lisanti, Tufts College School of Dental Medicine, Boston, Mass.; Leon Schneyer, University of Alabama Medical Center, Birmingham; John Haldi and Winfrey Wynn, Emory University School of Dentistry; Donald B. Giddon and V. F. Lisanti, Tufts College School of Dental Medicine, Boston, Mass.

*Newer Knowledge of the Physiology of Saliva*, part II. Wednesday, 28 Dec., 2 P.M. Arranged by J. F. Volker, School of Dentistry, University of Alabama. John Haldi, Emory University School of Dentistry, will preside. Speakers: Ward Pigman, Jane Reid, and William Hawkins, University of Alabama Medical Center, Birmingham; Jane Reid and Ward Pigman; W. G. Shafer and Joseph Muhler, Indiana University School of Dentistry, Indianapolis; S. B. Barker, H. S. Schwartz, and W. J. Lewis, University of Alabama Medical Center, Birmingham; Winfrey Wynn and John Haldi, Emory University School of Dentistry, Atlanta, Ga.; Richard S. Manly, Tufts College School of Dental Medicine, Boston, Mass.

## Pharmacy

*Applications of Nucleonics to the Health Professions*. Tuesday, 27 Dec., 8 P.M. Program of AAAS Section Np—Pharmacy, cosponsored by the American Pharmaceutical Association, Scientific Section; the American Association of Colleges of Pharmacy; the American Society of Hospital Pharmacists; and the American College of Apothecaries. Arranged by John E. Christian, Purdue University. John E. Christian will preside. Speakers: Marshall Brucer, Oak Ridge Institute of Nuclear Studies; Henry A. Blair, School of Medicine and Dentistry, University of Rochester; Howard E. Skipper, Southern Research Institute; L. E. Brownell, University of

Michigan; George E. Burch, School of Medicine, Tulane University.

*Hazardous Household Chemicals and Agricultural Poisons.* Thursday, 29 Dec., 8 P.M. Program of AAAS Section N-Pharmacy, cosponsored by the Committee on Toxicology and the Committee on Pesticides, American Medical Association; the American Pharmaceutical Association, Scientific Section; the American Association of Colleges of Pharmacy; the American Society of Hospital Pharmacists; and the American College of Apothecaries. Arranged by Bernard E. Conley, American Medical Association. Bernard E. Conley will be moderator. Speakers: Wayland J. Hayes, Communicable Disease Center, U.S. Public Health Service, Savannah, Ga.; Lester M. Petrie, Georgia Department of Public Health, Atlanta; Irving Kerian, Food and Drug Administration, Washington, D.C.; Veronica L. Conley, Committee on Cosmetics, American Medical Association.

### Industrial Science

*Resource Development through Science*, part I, "Scientific development of southern resources." Wednesday, 28 Dec., 9 A.M. Program of AAAS Section P-Industrial Science, cosponsored by AAAS Sections M-Engineering and K-Social and Economic Sciences and the Southern Association of Science and Industry. Arranged by Earle L. Rauber, Federal Reserve Bank of Atlanta. Earle L. Rauber will preside. Speakers: Lloyd Raisty, Federal Reserve Bank of Atlanta; E. L. Hendricks, U.S. Department of the Interior, Washington, D.C.; J. Wayne Reitz, University of Florida; Robert A. Laurence, U.S. Geological Survey, Knoxville, Tenn.

*Resource Development through Science*, part II, "Science in area development." Wednesday, 28 Dec., 2:15 P.M. Program of AAAS Section P-Industrial Science, cosponsored by AAAS Sections M-Engineering and K-Social and Economic Sciences and the Southern Association of Science and Industry. Arranged by Earle L. Rauber. H. M. Conway, Jr., Southern Association of Science and Industry, will preside. Speakers: Charles Hamman, Stanford Research Institute; Richard M. Alt, Arthur D. Little, Inc. Discussants: Clayton D. McLendon, Citizens and Southern National Bank; Frank Shaw, Atlanta Chamber of Commerce.

### Education

*Developing Leaders in Science.* Monday, 26 Dec., 9 A.M. Joint session of AAAS Section Q-Education and the International Council for Exceptional Children. Arranged by Paul Witty, Northwestern University. Paul Witty will preside. Speakers: Paul Brandwein, Forest Hills High School, Forest Hills, N.Y.; Morris Meister, Bronx High School of

Science, New York; Walter Barbe, University of Chattanooga; Antonia Bell Morgan, Aptitude Associates, Inc., Merrifield, Va.; Madeleine F. Coutant, New York State Education Department, Albany; Robert D. MacCurdy, University of Florida.

*Education of the Gifted.* Monday, 26 Dec., 2 P.M. Joint session of AAAS Section Q-Education and the International Council for Exceptional Children. Arranged by Paul Witty. Paul Witty will preside. Speakers: Walter Barbe; Paul Brandwein; Madeleine F. Coutant; Morris Meister; Antonia Bell Morgan; D. A. Worcester, University of Nebraska.

*The Role of Evaluation in the Improvement of Policies and Practices in Institutions of Higher Learning.* Tuesday, 27 Dec., 9 A.M. Joint session of AAAS Section Q-Education and the American Educational Research Association. Arranged by James E. Greene, University of Georgia. Rufus E. Clement, Atlanta University, will preside. Speakers: Ralph F. Berdie, University of Minnesota; William Coleman, University of Tennessee; James E. Greene; Paul I. Clifford, Atlanta University; Wesley W. Walton, Educational Testing Service, Princeton, N.J.; A. J. Brumbaugh, Southern Regional Educational Board.

*The Coordination of Science and Education.* Tuesday, 27 Dec., 2 P.M. Program of the National Association of Biology Teachers. Edna Higbee, NABT, Pittsburgh, Pa., will preside. Speakers: Ned E. Bingham, University of Florida; Victor A. Greulach, University of North Carolina. Panel discussion: "Progress report of the implementation of the recommendations of the Southeastern Conference on Biology Teaching." George W. Jeffers, Longwood College, will be moderator. Panel members from state teams follow. Alabama: P. H. Yancey, Spring Hill College; Florida: W. Hugh Stickler, Florida State University; Georgia: W. B. Baker, Emory University; Kentucky: William B. Owsley, Morehead State College; Louisiana: W. G. Erwin, Northwestern State College; Mississippi: R. L. Caylor, Delta State College; North Carolina: F. Ray Derrick, Appalachian State Teachers College; South Carolina: Harry W. Freman, University of South Carolina; Tennessee: W. W. Wyatt, University of Tennessee; Virginia: G. W. Jeffers, Longwood College.

*Attracting Secondary Students into Science.* Demonstration lectures in five areas of the physical sciences. Tuesday, 27 Dec., 2 P.M. Program of the National Science Teachers Association. Arranged by Katherine Hertzka, Hoke Smith High School and Josie Slocumb and Annie Sue Brown, Atlanta Public Schools. John S. Richardson, NSTA, Ohio State University, will preside. Speakers: S. M. Christian, R.C.A. Laboratories,

Princeton, N. J.; Robert T. Lagemann, Vanderbilt University; James G. Lester, Emory University; J. A. Stanfield, Georgia Institute of Technology; William H. Jones, Emory University.

*Science and Human Resources.* Wednesday, 28 Dec., 9 A.M. Joint session of the National Association of Biology Teachers, National Science Teachers Association, and the American Nature Study Society. Arranged by John P. Harrold, NABT, Midland, Mich., and Frances Hall, NABT, Atlanta, Ga. Brother H. Charles, F. S. C., NABT, St. Mary's College, Winona, Minn., will preside. Speakers: Robert B. Platt, Emory University; J. W. Kercheval, Iowa State Teachers College; E. K. Weaver, Atlanta University; Donald Martin, U.S. Communicable Disease Center, Chamblee, Ga.

*Recent Research in Science Education.* Wednesday, 28 Dec., 2 P.M. Program of the National Association for Research in Science Teaching, cosponsored by the National Science Teachers Association, National Association of Biology Teachers, Central Association of Science and Mathematics Teachers, American Educational Research Association, American Nature Study Society, International Council for Exceptional Children, AAAS Section Q-Education, and the AAAS Cooperative Committee on the Teaching of Science and Mathematics. Arranged by George G. Mallinson, Western Michigan College. Waldo W. E. Blanchet, Fort Valley State College, will preside. Speakers: Clark Hubler, Wheelock College; Julian Greenlee, Florida State University; Jacqueline Buck Mallinson, Kalamazoo, Michigan; Hubert Evans, Teachers College, Columbia University; Edward K. Weaver, Atlanta University; Woolford B. Baker, Emory University; George G. Mallinson.

*What University and College Science Departments Can Do about Their Responsibility for Teacher Education.* Thursday, 29 Dec., 8 P.M. Program of the AAAS Cooperative Committee on the Teaching of Science and Mathematics, cosponsored by AAAS Section A-Mathematics. Arranged by John R. Mayor, AAAS. Panel members: E. A. Cameron, University of North Carolina; A. B. Garrett, Ohio State University; George G. Mallinson, Western Michigan College; John R. Mayor; Walter M. Nielson, Duke University; Howard M. Phillips, Emory University.

### Science in General

*Southern Agriculture from 1913 to 1956.* Tuesday, 27 Dec., 9 A.M. Joint session of the National Association of Biology Teachers, National Science Teachers Association, and the American Nature Study Society. Arranged by Malvina Trussell, ANSS, Florida State



University. Malvina Trussell will preside. Speakers: George H. King, Agricultural Experiment Stations, University of Georgia; S. G. Chandler, University of Georgia Extension Service; Herbert L. Stoddard, Sr., Thomasville, Ga.; Ed Komarek, Greenwood Farms, Thomasville, Ga.; J. W. Fanning, University of Georgia.

*The Nature Study Idea and Its Contribution to the School Program.* Tuesday, 27 Dec., 2 P.M. Program of the American Nature Study Society. Arranged by Malvina Trussell, Florida State University. W. B. Baker, Emory University, will preside. Speakers: E. Laurence Palmer, National Wildlife Federation of American Nature Association; Walter Thurber, State University of New York, State Teachers College, Cortland; Helen Boer, Tallahassee, Florida; Stanley Mulaik, University of Utah.

*Inside the Salk Story.* Tuesday, 27 Dec., 4 P.M. Program of the National Association of Science Writers. Arranged by Odom Fanning, Bradford D. Ansley, Edwina Davis, and Katherine Barnwell. Roland H. Berg will preside. Speakers: Earl Ubell, *The New York Herald Tribune*; Greer Williams, Chicago, Ill.; Dorothy Ducas, National Foundation for Infantile Paralysis; Cleland B. Wyllie, University of Michigan News Service.

*The Appeal of the Nature Writer to All Age Groups.* Thursday, 29 Dec., 2 P.M. Program of the American Nature Study Society. Arranged by Malvina Trussell, Florida State University. Richard L. Weaver, University of Michigan, will preside. Speakers: Roger Tory Peterson, Editor, Field Guide Series, Old Lyme, Conn.; Herbert S. Zim, University of Illinois; Millicent E. Selsam; Ed Dodd; Charles E. Mohr, Audubon Nature Center, Greenwich, Conn.

*Conference on Scientific Editorial Problems.* The cochairmen of the third conference on scientific editorial problems are Marian Fineman, Editorial Branch, Dugway Proving Ground, Dugway, Utah; A. E. Tyler, Technical Publishing Society, Los Angeles, Calif.; and Robert W. Russell, Engineering Center, University of Southern California.

1) Opening plenary session. Wednesday, 28 Dec., 10 A.M. A. E. Tyler will preside. Speaker: Saul Herner.

2) "Scientific and technical writing: organization of material." Wednesday, 28 Dec., 2 P.M. Arranged by Paul H. Flint, Tufts University. Paul H. Flint will preside. Panel members: Frederick Ashenhurst and Richard Wiegand. Speaker: E. J. Megroth.

3) "Scientific and technical editing: editing of technical reports and manuals." Wednesday, 28 Dec., 2 P.M. Arranged by Milton O. Lee, Federation of American Societies for Experimental

Biology. Milton O. Lee will preside. Panel members: to be announced. Speaker: John Wilson.

4) "Storage and retrieval of scientific and technical information: trends in scientific and technical documentation." Wednesday, 28 Dec., 2 P.M. Arranged by Scott Adams, American Documentation Institute. James W. Perry, Western Reserve University, will preside. Panel members: Madeline M. Berry, Bernard M. Fry, Eugene Jackson, John W. Kuipers, and Ralph R. Shaw. Speakers: Eugene Garfield and S. N. Alexander.

5) "Graphic methods in the communication of scientific and technical information." Wednesday, 28 Dec., 2 P.M., and Thursday, 29 Dec., 9 A.M. Arranged by J. G. Adashko, Ford Instrument Company, Long Island City, N.Y. J. G. Adashko will preside. Panel members: I. Hartley, W. W. Holler, J. E. Levy, H. E. Marschall, L. E. Neville.

6) "Scientific and technical editing: management of publications." Wednesday, 28 Dec., 2 P.M., and Thursday, 29 Dec., 9 A.M. Arranged by C. M. Johnson, U.S. Navy Electronics Laboratory, San Diego, Calif. C. M. Johnson will preside. Panel members: A. M. Glazoe, Dwight E. Gray, Martin E. Jansson, C. M. Johnson, Howard R. Kennedy, Alberto F. Thompson. Speaker: Dwight E. Gray.

7) "Scientific and technical writing: the audience." Thursday, 29 Dec., 9 A.M. Arranged by Paul H. Flint. Paul H. Flint will preside. Panel members: Frederick Ashenhurst and Richard Wiegand. Speaker: Jay R. Gould.

8) "Scientific and technical editing: editing of scientific journals." Thursday, 29 Dec., 9 A.M. Arranged by Milton O. Lee. Milton O. Lee will preside. Panel members: Bentley Glass, Robert R. Davis, Albert Noyes, Mina S. Rees, Graham DuShane, and David Goddard. Speaker: Wallace R. Brode.

9) Closing plenary session. Thursday, 29 Dec., 2 P.M. A. E. Tyler will preside. Speaker: A. N. Spence.

*The Crisis in Science Education.* Thursday, 29 Dec., 9 A.M. George W. Beadle, chairman, Division of Biology, California Institute of Technology, and president of the AAAS, will be chairman. Speakers: Charles Dollard, Arthur S. Flemming, and Alan T. Waterman.

#### Vice Presidential Addresses

Vice presidential addresses have been scheduled as follows:

C—Chemistry. Robert S. Ingols, "Chlorination of water," Tuesday evening, 27 Dec.

D—Astronomy. Gerald M. Clemence, "Standards of time and frequency," Thursday evening, 29 Dec.

E—Geology and Geography. Wallace W. Atwood, Jr., "United States participation in international science," Tuesday evening, 27 Dec.

F—Zoological Sciences. J. Gordon Carlson, "Some observations on the mitotic movements of chromosomes," Thursday evening, 29 Dec.

G—Botanical Sciences. Lawrence R. Blinks, "Flora et fauna potomacensis," Wednesday evening, 28 Dec.

I—Psychology. S. S. Stevens, "The theory and uses of scales of sensation," Tuesday afternoon, 27 Dec.

L—History and Philosophy of Science. Raymond J. Seeger, "Man and science," Friday afternoon, 30 Dec.

N—Medical Sciences. S. E. Luria, "Infectious heredity and its medical applications," Wednesday afternoon, 28 Dec.

P—Industrial Science. George L. Parkhurst, "The chemical industry and its raw materials," Wednesday noon, 28 Dec.

Q—Education. Carter V. Good, "The role of values in educational and social research," Wednesday morning, 28 Dec.

#### AAAS Business Sessions

The board of directors of the Association will meet at 9:30 A.M., Tuesday, 27 Dec., in a private suite at the Hotel Dinkler Plaza. Dates and hours of subsequent sessions of the Board of Directors during the meeting will be decided at this first session.

The council of the association will meet Tuesday, 27 Dec., at 4 P.M., in the Rainbow Roof, Hotel Dinkler Plaza. A second session of the council is scheduled for Friday, 30 Dec., at 9 A.M., in the same room, at which time the council will take up the question of what organized science can do about the shortage of science teachers and students. All members of the council have been notified individually, and it is hoped that all can attend. Subjects to be considered by the council (in addition to the agenda prepared) usually are first brought before the board of directors through the administrative secretary. During the meeting, communications for the board of directors should be addressed to Dael Wolfe and left at the Hotel Dinkler Plaza mail desk.

All section chairmen and section secretaries will meet Friday, 30 Dec., at 12 noon in the Central YMCA, 145 Luckie St. N.W., for luncheon and a business meeting. Dael Wolfe and Raymond L. Taylor will be cochairmen.

#### AAAS Science Theatre Programs

The AAAS Science Theatre, a permanent feature of the Association's annual

meeting, presents showing of the latest domestic and foreign scientific films—all with sound—throughout the meeting period. In the following schedule, programs are both repeated and transposed to increase the opportunities for those attending the sessions of the 122nd meeting to see particular films. Most titles—but not all—will be shown twice. The Association is greatly indebted to all those who made these pictures and lent them for showing.

The AAAS Science Theatre will be in the Municipal Auditorium near the Annual Exposition of Science and Industry.

*Admission to the Science Theatre.* The Science Theatre is a feature for the pleasure and information of all registrants attending the annual meeting; it is deemed well worth the considerable cost of projection. It cannot be for the casual passerby; thus admission is restricted to those who wear the AAAS Convention Badge.

*Hours of the Science Theatre* are 9 A.M. to 1 P.M. and 2 P.M. to 6 P.M. on Tuesday and Wednesday, 27–28 Dec.; 1 P.M. to 5 P.M. on Thursday, 29 Dec.; and 9 A.M. to 1 P.M. and 1 P.M. to 4 P.M. on Friday, 30 Dec.

#### 27 December, Morning

*The Story of Light.* General Electric Co. Color; 10 min.

*American Flamingo.* Produced in cooperation with the National Audubon Society by Carlin Films, Inc. Color; 14 min.

*Bronchopulmonary Segments, Part I: Anatomy and Bronchoscopy.* Chevalier L. Jackson, John Franklin Huber, and Charles M. Norris, Temple University, and Pfizer Laboratories. Color; 31 min.

*The World That Nature Forgot.* Monsanto Chemical Co. Color; 30 min.

*Magic Pathway.* Produced by Prosner-Barnes Productions, Inc.; distributed by Movies, U.S.A., Inc. Color; 21 min.

*Man Is A Universe.* National Film Board of Canada. 12 min.

*Animals Unlimited.* Films of the Nations Distributors, Inc. Color; 20 min.

*The Way of the Navaho.* Columbia Broadcasting System, Inc.—“Adventure” television program; Department of News and Public Affairs. 33 min.

*Glass and You.* Corning Glass Works; distributed by Association Films, Inc. Color; 29 min.

*Pipeline to the Clouds.* General Electric Co. Color; 25 min.

#### 27 December, Afternoon

*Look to the Sea.* Joseph M. Rowland and Donn Hale Munson, Glenn L. Martin Aircraft Corp. Color; 15 min.

*Horizons of Hope.* Produced by John Sutherland Productions; distributed by Movies, U.S.A., Inc. Color; 18 min.

*Animal Language.* Columbia Broadcasting System, Inc.—“Adventure” television program; Department of News and Public Affairs. 29 min.

*Eye to the Unknown.* Consolidated Engineering Corp. Color; 33 min.

*Birth of a Florida Key.* Films of the Nations Distributors, Inc. Color; 14 min.

*The Nike.* American Telephone and Telegraph Co. 10 min.

*Louisiana Story.* Robert J. Flaherty's last film; distributed by Contemporary Films, Inc. 77 min.

*Embryology of Human Behavior.* Produced by the Medical Audio-Visual Institute of the Association of American Medical Colleges; distributed by International Film Bureau, Inc. Color; 28 min.

#### 28 December, Morning

*Atomic Tests in Nevada.* U.S. Air Force for the U.S. Atomic Energy Commission. Color; 25 min.

*Interim Report.* National Foundation for Infantile Paralysis. 15 min.

*Blue Ice.* Australian News and Information Bureau. Color; 30 min.

*Waltzing Mice.* Sandoz Pharmaceuticals. Color; 15 min.

*The Suspension Bridge.* U.S. Steel Corp. Color; 26 min.

*King Cobra—Kills! Cures?* Emerson Yorke Studio; distributed by Young America Films, Inc. 15 min.

*Horizon Unlimited.* Joseph M. Rowland and Donn Hale Munson, Glenn L. Martin Aircraft Corp. Color; 15 min.

*Upper Extremity Prosthetic Principles.* Veterans Administration. Color; 27 min.

*Yosemite: End of the Rainbow.* Produced by Guy Haselton; distributed by Bailey Films, Inc. Color; 22 min.

*Four-Wheel Test Tube.* General Motors Corp. Color; 10 min.

*Too Young to Say.* Produced by the University of Southern California on a grant from the Beltone Hearing Aid Co. Color; 14 min.

*Thunderbolt Hunters.* General Electric Co. 10 min.

#### 28 December, Afternoon

*The Waiting Harvest.* U.S. Steel Corp. Color; 23 min.

*Pitfalls in Management of Refractory Heart Failure.* Medical Film Guild Ltd. Color; 35 min.

*Music in Motion.* American Telephone and Telegraph Co. Color; 18 min.

*The Effect of Serpasil (Reserpine) on Monkeys.* Produced by CIBA Pharmaceutical Products, Inc. with technical assistance by Sturgis-Grant Products, Inc. Color; 15 min.

*Navy Photography in Science.* U.S. Navy. Color; 28 min.

*Children With Nephrosis.* Robert E. Cooke, Yale University School of Med-

icine, for the Medical Advisory Board, National Nephrosis Foundation, Inc.; produced by Campus Film Productions, Inc., with Leo L. Leveridge, Medical Film Department, Pfizer Laboratories. Color; 13 min.

*Safe Passage.* Raytheon Manufacturing Co. Color; 19 min.

*A Cinematographic Study of the Function of the Mitral Valve in situ.* Authors: Elliott S. Hurwitt, Adrian Kantrowitz, and Antol Herskovitz, Montefiore Hospital, New York; revised for teaching with the assistance of Leo L. Leveridge, Medical Audio-Visual Institute of the Association of American Medical Colleges. Color; 13 min.

*The Young City.* Produced by the Municipality of Vienna, Austria; distributed by E. J. Mauthner, New York. 55 min.

#### 29 December, Afternoon

*Pipeline to the Clouds.* General Electric Co. Color; 25 min.

*Glass and You.* Corning Glass Works; distributed by Association Films, Inc. Color; 29 min.

*The Way of the Navaho.* Columbia Broadcasting System, Inc.—“Adventure” television program; Department of News and Public Affairs. 33 min.

*Animals Unlimited.* Films of the Nations Distributors, Inc. Color; 20 min.

*Man Is A Universe.* National Film Board of Canada. 12 min.

*Magic Pathway.* Produced by Prosner-Barnes Productions, Inc.; distributed by Movies, U.S.A., Inc. Color; 21 min.

*The World That Nature Forgot.* Monsanto Chemical Co. Color; 30 min.

*Bronchopulmonary Segments, Part I: Anatomy and Bronchoscopy.* Chevalier L. Jackson, John Franklin Huber, and Charles M. Norris, Temple University, and Pfizer Laboratories. Color; 31 min.

*American Flamingo.* Produced in cooperation with the National Audubon Society by Carlin Films, Inc. Color; 14 min.

*The Story of Light.* General Electric Co. Color; 10 min.

#### 30 December, Morning

*Embryology of Human Behavior.* Produced by the Medical Audio-Visual Institute of the Association of American Medical Colleges; distributed by International Film Bureau, Inc. Color; 28 min.

*Louisiana Story.* Robert J. Flaherty's last film; distributed by Contemporary Films, Inc. 77 min.

*The Nike.* American Telephone and Telegraph Co. 10 min.

*Birth of a Florida Key.* Films of the Nations Distributors, Inc. Color; 14 min.

*Eye to the Unknown.* Consolidated Engineering Corp. Color; 33 min.

*Animal Language.* Columbia Broadcasting System, Inc.—“Adventure” television program; Department of News and Public Affairs. 29 min.

*Horizons of Hope.* Produced by John Sutherland Productions; distributed by Movies, U.S.A., Inc. Color; 18 min.

*Look to the Sea.* Joseph M. Rowland and Donn Hale Munson, Glenn L. Martin Aircraft Corp. Color; 15 min.

### 30 December, Afternoon

*Too Young to Say.* Produced by the University of Southern California on a grant from the Beltone Hearing Aid Co. Color; 14 min.

*Four-Wheel Test Tube.* General Motors Corp. Color; 10 min.

*Yosemite: End of the Rainbow.* Produced by Guy Haselton; distributed by Bailey Films, Inc. Color; 22 min.

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*Interim Report.* National Foundation for Infantile Paralysis. 15 min.

*Atomic Tests in Nevada.* U.S. Air Force for the U.S. Atomic Energy Commission. Color; 25 min.

## Participating Societies and Organizations

### Physics

American Meteorological Society  
Oak Ridge Institute of Nuclear Studies  
Sigma Pi Sigma

### Chemistry

Alpha Chi Sigma  
American Association of Clinical Chemists  
American Chemical Society, Georgia Section

### Astronomy

Astronomical League  
Atlanta Astronomy Club

### Geology and Geography

Association of American Geographers, Southeastern Division  
Geological Society of America  
National Geographic Society  
National Speleological Society

### Zoological Sciences

American Society of Parasitologists  
American Society of Zoologists  
Herpetologists League  
Society of Systematic Zoology

### Zoological and Botanical Sciences

American Society of Naturalists  
Association of Southeastern Biologists  
Ecological Society of America  
Genetics Society of America

Mountain Lake Biological Station  
National Association of Biology Teachers  
Society of General Physiologists  
Society of Marine Borer Chemists and Biologists

### Botanical Sciences

American Phytopathological Society  
American Phytopathological Society, Southern Division  
American Society of Plant Physiologists, Southern Section  
Botanical Society of America, Southeastern Section

### Psychology

Society for Research in Child Development  
Southern Society for Philosophy and Psychology

### Social and Economic Sciences

National Academy of Economics and Political Science  
Pi Gamma Mu  
Southern Political Science Association

### History and Philosophy of Science

History of Science Society  
Philosophy of Science Association  
Society for the Advancement of General Systems Theory

### Medical Sciences

Alpha Epsilon Delta, National Premedical Honor Society  
American Association of Hospital Consultants  
American Physiological Society  
American Psychiatric Association

### Dentistry

American College of Dentists  
American Dental Association  
International Association for Dental Research, North American Division

### Pharmacy

American Association of Colleges of Pharmacy  
American College of Apothecaries  
American Pharmaceutical Association, Scientific Section  
American Society of Hospital Pharmacists

### Industrial Science

Southern Association of Science and Industry

### Education

AAAS Cooperative Committee on the Teaching of Science and Mathematics  
American Educational Research Association  
Central Association of Science and Mathematics Teachers  
International Council for Exceptional Children  
National Association for Research in Science Teaching  
National Science Teachers Association

### Science in General

Academy Conference  
American Geophysical Union  
American Nature Study Society  
Conference on Scientific Editorial Problems

Conference on Scientific Manpower  
Georgia Academy of Science  
International Geophysical Year  
National Association of Science Writers  
National Academy of Sciences—National Research Council  
National Science Foundation  
Scientific Research Society of America  
Sigma Delta Epsilon  
Society of the Sigma Xi  
United Chapters of Phi Beta Kappa

## Atlanta Committees

As is rather generally recognized, it would be quite impossible successfully to arrange a large and complex meeting and to carry it through to a conclusion, successful in all respects, if it were not for the devoted services of many local scientists and other members and friends of the Association. They merit the unstinted appreciation of all who attend. It is noteworthy that James V. Carmichael accepted the general chairmanship of the Atlanta meeting in the spring of 1954, appointed the local committees early, and has kept in close touch with all phases of this year's meeting.

### General Chairman

James V. Carmichael, president, Scripto, Incorporated, Atlanta.

### General Vice Chairman

Robert S. Lynch, president, Atlantic Steel Co., Atlanta.

### Vice Chairmen

George C. Biggers, Sr., president, Atlanta Newspapers, Inc.

Fred J. Turner, president, Southern Bell Telephone and Telegraph Co., Atlanta.

D. J. Haughton, vice president and general manager, Georgia Division, Lockheed Aircraft Corp., Marietta.

### Executive Secretary

Bradford D. Ansley, public relations director, Emory University.

### General Committee

James V. Carmichael, president, Scripto, Incorporated, *chairman*.

Robert S. Lynch, president, Atlantic Steel Co., *vice chairman*.

O. C. Aderhold, president, University of Georgia.

Allen D. Albert, Jr., president, Atlanta Art Association.

Wallace M. Alston, president, Agnes Scott College.

Howard M. Barker, regional sales manager, Taylor Instrument Co.

George C. Biggers, Sr., president, Atlanta Newspapers, Inc.

Joseph Earle Birnie, president, Bank of Georgia.

William H. Bolte, plant manager, General Motors Assembly Plant.

Harllee Branch, Jr., president, Georgia Power Company.

Malcolm Bryan, president, Federal Reserve Bank of Atlanta.

Harmon Caldwell, chancellor, University System of Georgia.

C. Howard Candler, Jr., Asa G. Candler, Inc.

Clinton D. Castleberry, president, Atlantic Co.

Jim Cherry, superintendent, DeKalb County Schools.

Rufus E. Clement, president, Atlanta University.

Erle Cocke, Sr., vice chairman of the board, Fulton National Bank.

Richard W. Courts, partner, Courts and Company.

Norman E. Elsas, chairman of the board, Fulton Bag and Cotton Mills.

M. A. Ferst, president, M. A. Ferst, Ltd.

E. Smythe Gambrell, attorney; president, American Bar Association.

George E. Glenn, Jr., president, Exposition Cotton Mills.

Hix H. Green, president, Hix Green Buick Company.

Marvin Griffin, Governor of Georgia.

William B. Hartsfield, mayor, City of Atlanta.

D. J. Haughton, vice president and general manager, Georgia Division, Lockheed Aircraft Corp.

Marion Hines, professor of experimental anatomy, Emory University.

Charles H. Jagels, president, Davison-Paxon Co.

Ira Jarrell, superintendent, Atlanta School System.

Charles H. Kellstadt, vice president, Sears Roebuck and Co.

Mills B. Lane, Jr., president, Citizens and Southern National Bank.

Albert E. Manley, president, Spelman College.

Evangeline Papageorge, associate professor of biochemistry, Emory University.

William L. Pressly, president, Westminster Schools.

Richard H. Rich, president, Rich's, Inc.

Arthur P. Richardson, director, division of basic sciences in the health services, Emory University.

L. W. Robert, Jr., chairman of the board, Robert and Company Associates.

James D. Robinson, Jr., chairman of the board, First National Bank of Atlanta.

Jane Russell, associate professor of biochemistry, Emory University.

Randall G. Satterwhite, general manager, Eastman Kodak Co.

Joseph Seitz, president, Colonial Stores, Inc.

George Seward, acting president, Oglethorpe University.

B. L. Shackelford, president, Fulton County Medical Society.

John A. Sibley, chairman of the board, Trust Company of Georgia.

George C. Sparks, president, Georgia State College of Business Administration.

Herman Talmadge, attorney.

Fred J. Turner, president, Southern Bell Telephone and Telegraph Co., Atlanta.

Blake R. Van Leer, president, Georgia Institute of Technology.

Paul West, superintendent, Fulton County Schools.

Goodrich C. White, president, Emory University.

R. Hugh Wood, dean, School of Medicine, Emory University.

George W. Woodruff, chairman of the board, Continental Gin Co.

Robert W. Woodruff, chairman, finance committee, Coca-Cola Co., Atlanta.

C. E. Woolman, president and general manager, Delta-Chicago and Southern Airlines.

S. R. Young, president, Atlanta-West Point and Georgia Railroad.

#### Committee on Exhibits

D. J. Haughton, vice president and general manager, Georgia Division, Lockheed Aircraft Corp., Marietta, *chairman*.

Thomas T. Dunn, vice president, Union Bag and Paper Corp., Savannah.

Theodore M. Forbes, executive vice president, Cotton Manufacturers Association of Georgia, Atlanta.

Edgar J. Forio, vice president, Coca-Cola Co., Atlanta.

Donald M. Hastings, Sr., president, H. G. Hastings Co., Atlanta, and president, Atlanta Chamber of Commerce.

Charles K. Lovejoy, executive vice president, Scripto, Inc., Atlanta, and president and chairman of the board, Associated Industries of Georgia.

Jack J. McDonough, executive vice president, Georgia Power Company, Atlanta, and president, Georgia State Chamber of Commerce.

R. R. Kearton, assistant general manager, Georgia Division, Lockheed Aircraft Corp., Marietta.

#### Committee on Finance

Fred J. Turner, president, Southern Bell Telephone and Telegraph Co., *chairman*.

Allen D. Albert, Jr., president, Atlanta Art Association.

Joseph Earle Birnie, president, Bank of Georgia.

Hix H. Green, president, Hix Green Buick Co.

Jack J. McDonough, executive vice president, Georgia Power Company, Atlanta, and president, Georgia State Chamber of Commerce.

William L. Pressly, president, Westminster Schools.

George C. Sparks, president, Georgia State College of Business Administration.

Paul West, superintendent, Fulton County Schools.

#### Committee on Physical Arrangements

Walter S. Bell, Department of Audio-Visual Education, Atlanta Board of Education, *chairman*.

Garland Bagley, Georgia State Department of Education.

Alice Bohannon, DeKalb County Public School System.

Woodrow Breeland, Georgia State College of Business Administration.

Albert Cox, teaching aids, Emory University.

Mrs. C. W. Dieckman, Decatur Public School System.

Edward Garrett, Georgia Institute of Technology.

Edward Kendrick, Cobb County Board of Education.

Kathleen Moon, Fulton County Public School System.

Katharine T. Omwake, Agnes Scott College.

Harry Sherrell, Communicable Disease Center, U.S. Public Health Service.

Bailey M. Wade, Georgia State College of Business Administration.

George Wheeler, Oglethorpe University.

#### Committee on Public Relations

George C. Biggers, Sr., president, Atlanta Newspapers, Inc., *chairman*.

Frank Ashmore, public relations, Emory University.

Harry Backer, public relations, General Electric Co.

James Saxon Childers, editor, *The Atlanta Journal*.

Odom Fanning, Midwest Research Institute, Kansas City, Mo.

Murray C. Fincher, public relations, Southern Bell Telephone and Telegraph Co.

Edgar J. Forio, vice president, Coca-Cola Co.

Ralph McGill, editor, *The Atlanta Constitution*.

Frank Palotta, Rich's, Inc.

Lee Rogers, public information, Lockheed Aircraft Corp., Marietta.

Philip G. Rozelle, public relations, General Motors Corp.

George M. Stenhouse, information officer, Communicable Disease Center, U.S. Public Health Service, Atlanta.

Julian Trivers, vice president, Davison-Paxon Co.

Robert B. Wallace, Jr., head of publication services, Engineering Experiment Station, Georgia Institute of Technology.

Winifred Lee Wilkinson, Candler Building, Atlanta.

Dick Young, public relations, Ford Motor Co.

#### Hotel Headquarters

The Hotel Dinkler Plaza is the official headquarters of the AAAS; it is where the council of the Association will meet

and where other business sessions will be held. The Press Room—for receipt of authors' abstracts and the only source of press releases—is in the Mahogany Room on the mezzanine floor, one flight above the lobby.

The Main Registration-Information Center, the Visible Directory of Registrants, the AAAS Office, the AAAS Science Theatre, and the Annual Exposition of Science and Industry are all in the Municipal Auditorium on Courtland St., between Edgewood Ave. and Gilmer St., within easy walking distance of the downtown hotels but also served by AAAS buses.

The headquarters of the 17 sections and participating societies follow (the societies are grouped in the same sequence as the letters of the sections with which they are affiliated or associated).

#### Downtown Zone

**Dinkler Plaza.** AAAS; Press; AAAS Sections F, I, Q; American Society of Parasitologists, American Society of Zoologists, Herpetologists League, Society of Systematic Zoology; American Society of Naturalists, Association of Southeastern Biologists, Ecological Society of America, Genetics Society of America, Mountain Lake Biological Station, National Association of Biology Teachers, Society of General Physiologists; Society for Research in Child Development, Southern Society for Philosophy and Psychology; AAAS Cooperative Committee on the Teaching of Science and Mathematics, American Educational Research Association, Central Association of Science and Mathematics Teachers, International Council for Exceptional Children, National Association for Research in Science Teaching, National Science Teachers Association; Academy Conference, American Nature Study Society, Conference on Scientific Editorial Problems, National Association of Science Writers, National Research Council, National Science Foundation, Scientific Research Society of America, Sigma Delta Epsilon, Society of the Sigma Xi, United Chapters of Phi Beta Kappa.

**Henry Grady.** AAAS Section C, N, Np; Alpha Chi Sigma, American Association of Clinical Chemists, American Chemical Society, Georgia Section; Alpha Epsilon Delta, American Association of Hospital Consultants, American Physiological Society, American Psychiatric Association; American Association of Colleges of Pharmacy, American College of Apothecaries, American Pharmaceutical Association, and American Society of Hospital Pharmacists.

**Peachtree on Peachtree.** AAAS Section E; Association of American Geographers, Geological Society of America, National Geographic Society.

**Piedmont.** National Speleological So-

ciety; Society of Marine Borer Chemists and Biologists.

**Georgia.** AAAS Section Nd; American College of Dentists, American Dental Association, International Association for Dental Research, American Division.

Other hotels in the downtown zone are the *Atlantan*, *Hampton*, *Imperial*, *Jefferson*, *Royal*, *Savoy*, and the *University Motel*.

#### Georgia Tech Zone

**Atlanta Biltmore.** AAAS Sections A, B, D, G, M, O; American Meteorological Society, Oak Ridge Institute of Nuclear Studies, Sigma Pi Sigma; Astronomical League; American Phytopathological Society, APS, Southern Division, American Society of Plant Physiologists, Southern Section, Botanical Society of America, Southeastern Section; visiting members Association of Southern Agricultural Workers; American Geophysical Union, International Geophysical Year, Conference on Scientific Manpower.

**Georgian Terrace.** AAAS Sections K, L, P; National Academy of Economics and Political Science, Pi Gamma Mu, Southern Political Science Association; History of Science Society, Philosophy of Science Association, Society for the Advancement of General Systems Theory; Southern Association of Science and Industry.

Other hotels in the Georgia Tech zone are the *Cox-Carlton* and the *Peachtree Manor*.

#### Registration

**Main registration-information center.** The Main Registration-Information Center will be located in the lobby of the Municipal Auditorium, the entrance to which is on Courtland St. It will be open daily, 26–30 Dec. 8 A.M. to 8 P.M. except Thursday evening, 29 Dec., when it will remain open until 11 P.M. to accommodate any nonregistrants who wish to attend the Biologists' smoker, which is for all registrants.

Badges and General Programs may also be obtained at the supplementary registration desks, but the Main Registration is the only place to receive supplementary literature, maps, and the like. Advance Registrants (who will have received programs and badges prior to the meeting) are urged to visit the Main Registration at any convenient time to receive these items.

**Supplementary registration desks.** For the convenience of those attending the meeting, there are two supplementary registration desks as follows: (i) Hotel Dinkler Plaza, open 26 Dec. from noon until 9 P.M. and open 27–29 Dec. from 8 A.M. until 8 P.M. (ii) Hotel Atlanta Biltmore, open 27 Dec. from 9 A.M. until

9 P.M., open 28 Dec. from 8 A.M. until 8 P.M., and open 29 Dec. from 8 A.M. until 1 P.M.

**Registration fee.** The AAAS registration fee for all persons is \$2.50. Each registrant receives a receipt, a convention badge, and the book-size General Program-Directory—the only publication with the programs of the 17 AAAS Sections and of the 68 participating organizations. Any person who purchases an advance copy of the General Program-Directory but does not register in advance and who then attends the meeting agrees to complete his registration—and is expected to do so—at the Main Registration Center or at one of the two supplementary registration desks, after which he will receive his convention badge and the privileges that go with it.

It is essential that each person who attends the meeting support it by paying the registration fee of \$2.50, which, intentionally, has been kept at a minimum. When the costs of the program and badge are deducted, the net contribution toward general expenses is less than \$1 per registrant.

**AAAS convention badge.** The AAAS convention badge indicates that you have paid your share of the expenses of the meeting and that you are a complete participant in this 122nd convention of the Association. The badge should be worn throughout the meeting because (i) it reminds others to register; (ii) it is needed for admission to the AAAS Science Theatre and the Biologists' smoker; and, not least, (iii) it helps your friends to find you.

**Visible Directory of Registrants.** The much-consulted Visible Directory of Registrants, for the maximum convenience of all, will be located in the Municipal Auditorium near the Annual Exposition of Science and Industry. The hours it will be open correspond exactly with the hours the Main Registration is open—daily 8 A.M. to 8 P.M. The registration cards of all registrants are placed in the Visible Directory as soon as possible after registration. The arrangement is alphabetical. The cards of advance registrants will be completely alphabetized and typed since they will have been posted in Washington prior to the meeting; all other registration cards are filed to the second or third letter of the surname (Ba, Be, and so forth). Members of the press, exhibitor personnel, and guests are included in the Visible Directory—on blue cards instead of yellow. Registrants will find the Visible Directory invaluable in determining the convention addresses of friends attending the meeting.

**Mail, telegrams, and messages.** Mail and telegrams addressed in care of the AAAS will be held at the AAAS Office in the Municipal Auditorium. Efforts

will be made to notify addressees listed in the Visible Directory, but the Association assumes no responsibility for the delivery of mail or of telegrams. Telephone and personal messages will be filed alphabetically in the AAAS Office and the names for whom they are intended will be posted on a bulletin board.

**Society meal function tickets.** Tickets to the dinners or luncheons of any participating society are obtainable only from representatives of that society, either during or preceding sessions of that society, or at the AAAS Information Center.

### Facilities for Eating

Throughout the meeting period, the food concession in the Municipal Auditorium will be open for light refreshments and the luncheon facilities of the State College of Business Administration, across the street, will also be available.

In addition to the hotel coffee shops and dining rooms, the restaurants and public eating places in Atlanta are so numerous and varied that it is not feasible to list them here. For those who are interested, however, data will be available at the AAAS Information Center in the Municipal Auditorium.

### Atlanta Municipal Auditorium

The attractive Municipal Auditorium, owned and operated by the City of Atlanta, is the usual site of all large conventions and expositions in the city. Located on Courtland St. between Gilmer St. and Edgewood Ave., six or seven short blocks from the downtown hotels, it faces Joel Hurt Park, a triangular-shaped half-block with an ornamental fountain and planting. Only the front entrance in the center of the auditorium will be used. Immediately inside this entrance is the Main Registration-Information Center, the Visible Directory of Registrants at the right, and the Exposition and Science Theatre straight ahead. The session room on the main floor is at the left; those downstairs and upstairs are reached by ramps.

**AAAS Chartered Buses Shuttle Service.** During the meeting period, the Association will operate regular Atlanta Transit Co. buses marked "AAAS" back and forth between the Atlanta Biltmore and the downtown hotels—and to and from the Municipal Auditorium and adjacent State College of Business Administration (formerly the Atlanta Division of the University of Georgia).

Immediately preceding the session periods, mornings and afternoons, these shuttle buses will leave the Atlanta Biltmore for downtown and Municipal Au-

ditorium-State College at 20 minute intervals. These and other buses will load and discharge passengers at the principal downtown hotels—in particular, with scheduled stops at the Henry Grady-Peachtree on Peachtree, and the Dinkler Plaza-Piedmont hotels—at 10 minute intervals.

On return, immediately following the session periods, this service will observe the same pattern and time intervals. During the session periods, the operating frequency will be approximately 40 minutes (Biltmore) and 20 minutes (downtown hotels), respectively. Fare 15 cents each way.

Extra buses will carry passengers between all hotels and the AAAS Address and Reception at Spelman College, Atlanta University, on the evening of 28 Dec. and to and from the Municipal Auditorium on the evening of the Biologists' smoker, 29 Dec., at the same 15-cent fare.

### Tours and Points of Interest

At this meeting there will be no formal tours sponsored by the AAAS as a whole, but certain participating societies have planned biological and geological field trips to Stone Mountain and vicinity, visits to the U.S. Public Health Service's Communicable Disease Center at Chamblee, to industrial plants, to Bradley Observatory at Agnes Scott College, and to events on other campuses in the city. It is anticipated however, that a number of those attending this second Atlanta meeting may wish to visit one or more of the other points of interest for which this metropolis is noted. Data will be available at the Main Registration-Information Center in the auditorium and various maps and booklets will be distributed to all registrants. Advance registrants should call for this material. Among the points of interest are the following:

Agnes Scott College; Atlanta Public Library; Atlanta University; Communicable Disease Center, U.S. Public Health Service; Cyclorama (Battle of Atlanta); Emory University; Emory University School of Dentistry; Georgia Institute of Technology; Grant Park; High Museum of Art; Historic Lamp Post; Kennesaw Mountain; Oglethorpe University; Park Forest Botanical Gardens; Southern College of Pharmacy; State Capitol and State Museum; State College of Business Administration; Zoo.

### AAAS Public Information Service

Each person who will deliver an address or present a paper at the Atlanta meeting is requested to provide the Association's Public Information Service with

100 copies of a nontechnical abstract of his paper. One hundred copies of *complete* manuscripts are also required of papers presented by (i) officers of the Association; (ii) officers and invited speakers who appear on the programs of the participating societies; and (iii) authors whose papers are particularly newsworthy. Most authors already have recognized the necessity of this procedure and have sent their material to the Association's Director of Public Information, Sidney S. Negus, Medical College of Virginia, Richmond. If you are an author of an address or paper and have not done this, please send to Dr. Negus, *to arrive in Richmond on or before 15 Dec.*, 100 copies of your nontechnical abstract. If it is impossible for you to send this material to Richmond to arrive by 15 Dec. (*and mails are much slower in the pre-Christmas period*), then mail all your material to Dr. Negus—or deliver it to him in person—at the AAAS Press Room, Mahogany Room, on the mezzanine of the Hotel Dinkler Plaza, before or during the convention. As an aid to the Association's Public Information Service, please send copies of your abstract to your local newspapers with the time indicated when it is to be presented in Atlanta.

The necessity for the general public to be kept informed of the results of the scientific research which it supports, directly and indirectly, is quite evident. Organized science and the individual scientist must have the understanding and support of all. It is, of course, equally important that the advances of science be publicized with accuracy and clarity without sensationalism. Progress in this direction in recent years has been most gratifying, thanks largely to members of the National Association of Science Writers, other accredited science reporters, managing editors of American newspapers, and program managers of radio and television stations.

It is in the interest of accuracy and completeness that science writers frequently wish to discuss various research results with investigators. If you are asked to cooperate in this respect or to participate in a press conference, please do so not only for your own protection but for the benefit of science in general. Scores of science writers will be covering this meeting. News stories filed by the representatives of all the wire services will be published and broadcast throughout the entire civilized world. At no other scientific meeting are the facilities for the dissemination of the most recent findings in all branches of science so complete as they are at the great, diversified meetings of the AAAS.

This year, not only is the Association fortunate in the continued services of Dr. Negus, chairman of the department



of biochemistry, Medical College of Virginia, Richmond, but also in its Local Committee on Public Information, headed by George C. Biggers, Sr., president, Atlanta Newspapers, Inc.

### **AAAS Annual Exposition of Science and Industry**

The AAAS Annual Exposition of Science and Industry, which dates back to 1924 (still earlier with certain pioneer exhibitors), has long been an important and integral part of the Association's annual meeting. It provides an outstanding opportunity for those who use the tools and materials of science to meet those who produce and distribute the same. The 1955 edition of the Exposition, housed in the Atlanta Municipal Auditorium, is up to the same high standard of previous years.

The exhibits include the latest and best in scientific books, instruments, and materials; they are on a scale, and with a diversity, not usually possible at the meeting of an individual society or group of societies in a single field of science. In addition to this "core" of the Exposition, a variety of organizations have special exhibits, and there are *technical* exhibits by large firms representative of the basic industries of the nation. Prominent concerns in the chemical, pharmaceutical, and other industries are sharing with the attending scientists some of their impressive technological accomplishments. The Exposition should not be missed by anyone who attends this 122nd meeting.

The Exposition is open to (i) all registrants attending the meeting; (ii) adults who have applied for, and received, complimentary tickets of admission.

The hours of the exposition are as follows: Tuesday, 27 Dec., 2 P.M. to 6 P.M.; Wednesday, 28 Dec., 9 A.M. to 5:30 P.M.; Thursday, 29 Dec., 9 A.M. to 5 P.M. and 7 P.M. to 9 P.M.; Friday, 30 Dec., 9 A.M. to 4 P.M.

#### **AAAS New Member Service— Science—The Scientific Monthly**

Booth 94. Whether or not one is a member of the American Association for the Advancement of Science, every person attending this meeting is cordially invited to visit the AAAS booth for information concerning the Association and its activities. Beyond the satisfaction of strengthening its work for science, for scientists, and for society by one's membership, there are demonstrable personal advantages in joining the Association.

Since its founding, in 1848, the Association has admitted to membership not only professional scientists but also other men and women who have a general interest in science, who wish to keep informed of the progress of science, and who would like to support the high pur-

poses of the one organization that represents *all* science. The New Member Service will be pleased to accommodate those who wish to join the Association as of January 1. Members conveniently can nominate others for membership.

Included in the annual dues of \$6.50 (for 1956), each member has a choice of a year of *Science*, the professional scientist's newsweekly, or *The Scientific Monthly* (or *both* for an additional \$3.50). Free sample copies of these two publications will be distributed and all not familiar with both magazines should visit this booth where Symposium Volumes and AAAS membership insignia are also on display. Prospective advertisers may obtain sample copies of the magazines and rate cards.

#### **AAAS Traveling High School Science Libraries**

Booth 95.

**Academy Conference and  
Georgia Academy of Science**  
Booths 79, 80, and 81.

**American Optical Company,  
Instrument Division**  
Booth 7.

**American Tobacco Company, Inc.**  
Booths 73 and 74. The Research Laboratory of the American Tobacco Company will demonstrate a completely automatic cigarette airflow meter. This is another in the line of unique quality control devices developed by its Instrument Division. This meter utilizes standard type slack diaphragm gages insensitive to temperature changes and is designed so that the vacuum applied to the cigarette is automatically controlled and the volume of air passing through it is read directly. Errors encountered in manually adjusted instruments are eliminated, resulting in ever closer control of quality in Lucky Strike, Pall Mall, and Herbert Tareyton cigarettes.

**American Veterinary Medical Association**  
Booths 38 and 39. The exhibit entitled "The care of laboratory animals" emphasizes the need for informing the public about the complex nature of laboratory animal care. It stresses the importance of budgeting for individuals with specialized training as managers of animal quarters. It relates the interest that the veterinary profession has in this type of endeavor, the formation of the AVMA Committee on Laboratory Animals, and the readiness on the part of the AVMA to cooperate in the solution of problems presented.

The exhibit lists some of the organizations interested in problems of animal care and some of their publications. It presents colored panoramas of some of the problem diseases found in laboratory animals and some exemplary cages.

#### **Animal Welfare Institute**

Booth 51. The Animal Welfare Institute booth exhibit will feature a new pub-

lication by the institute designed for use by science teachers in elementary schools and biology teachers in secondary schools. It is entitled "First aid and care of small animals" and is profusely illustrated with photographs by the author, Ernest P. Walker of the Smithsonian Institution and others. Copies will be distributed free to teachers. The exhibit will also include photographs of the ceremony at which the first Albert Schweitzer medal was awarded to Robert C. Bay for his outstanding efforts to advance the welfare of laboratory animals. Biologists may obtain free copies of the institute's manuals, "Basic care of experimental animals" and "Comfortable quarters for laboratory animals" at the booth.

#### **Association of American University Presses**

Booth 76. The university presses, leaders in the field of nonfiction, each year publish a large number of important titles. Many of these gain lasting recognition as reference books and college texts. Each press represented in the Association of American University Presses' exhibit at the 1955 AAAS Annual Exposition of Science and Industry is a separate publishing company producing technical, medical, and scholarly works as well as general books of vital interest to all Americans. This exhibit offers an opportunity to see the new books from various university presses.

#### **Atlanta Chamber of Commerce**

Booth 4. The exhibit of the Atlanta Chamber of Commerce will contain a selection of photographs of the various things and scenes in the Atlanta area that would interest visitors. In addition, there will be a tabulation and current information on the 22 technical and professional societies that have active chapters here.

#### **C. A. Brinkmann & Co.**

Booth 66. The Brinkmann exhibit at this year's AAAS meeting will feature a number of new developments that have not been shown before. Outstanding among these will be a newly introduced line of line-operated research pH meters, some of which will be suitable for connecting to a recorder. Also on display will be a coulometer, a rather novel analytic instrument that produces the necessary amount of reagent electrolytically while a determination is being made. Also on display will be a complete line of electrophoresis equipment including paper strip chambers, a device for continuous separation by paper electrophoresis, an automatic scanner, and a fraction collector. Furthermore, new developments in balances will be shown such as a high speed two-pan balance and riderless microbalances. Also on display will be a newly developed rotary Microtome that can be used for making sections from 0.1 micron thick to standard thicknesses be-

tween 1 and 40 microns. Thus, this Microtome for the first time will be suitable for the preparation of samples for either electron or light microscopy. Other items on display are new photoelectric exposure meters for photomicrography and improved low-gear micro-manipulators that are made by Brinkmann Instruments, Inc., a manufacturing subsidiary of C. A. Brinkmann & Co.

#### **Carolina Biological Supply Company**

Booths 92 and 93. The Carolina Biological Supply Company cordially invites you and your friends to see the latest improvements and developments in biological materials and supplies. Special emphasis is being given this year to botanical preparations. Fred W. Emerson, author of *Basic Botany*, is now coordinator for all phases of botany; much has been done, under his capable supervision, to improve commercial offerings in this field. Our Plast-O-Mounts, biological specimens embedded in clear plastic, received international acclaim at the last convention of the American Medical Association. These will be displayed by a professional biologist who will be happy to assist you with any of your technical problems. Jumbo frogs from our Delta unit, Waubun Laboratories, will be shown along with other preserved and injected specimens.

#### **Central Scientific Company**

Booths 61 and 62. Cenco's exhibit features new apparatus and instruments for all types of laboratory research and testing. Among the items will be Cenco's new quiet operating Hyvac pumps; a new line of ovens and incubators; the Cenco Lab-Jack and Lab-Blocks for facilitating support of laboratory devices and glassware; the 5-quart Waring Blendor; Blendor accessory items; new Tube-On, safety device for inserting glass tubing in stoppers; new bottle stopper clamps; radioactivity demonstrator for study of tracer elements; concentrated arc lamps, and many other items. Cenco's representatives will be J. F. Green, Laird M. Boles, and Gordon C. Godejahn.

#### **Champion Paper and Fibre Company**

Booths 23 and 24. The exhibit of the Champion Paper and Fibre Company features an illuminated pictorial presentation of some of their forest conservation practices, manufacturing processes, and products. This company produces bleached and unbleached wood pulp from southern pines and hardwoods and manufactures a wide variety of business papers, fine coated papers, specialty papers and paperboards, and milk-carton and food-container paperboards. The general offices and parent mill of the Champion Paper and Fibre Company are at Hamilton, Ohio. Mills are also operated at Canton, N. C., and Pasa-

dena, Tex.; sales offices are maintained in New York, Philadelphia, Detroit, Chicago, Cincinnati, Atlanta, St. Louis, Dallas, and San Francisco; 9,300 employees are engaged in the annual production and sale of 565,000 tons of paper and paperboard. The company was founded in 1893.

#### **Chemstrand Corporation**

Booths 30 and 31. The Chemstrand Corporation, manufacturer of chemical textile fibers named Acrilan acrylic fiber and Chemstrand nylon, will have an exhibit that shows the flow from research and development through production at the two plant site locations at Decatur, Ala., and Pensacola, Fla. End products of wearing apparel and industrial products made from Acrilan acrylic fiber and Chemstrand nylon also will be on display. Literature will be available at the exhibit and representatives of Chemstrand also will be present to answer any questions.

#### **Coca-Cola Company**

Booths 17 and 18. Ice-cold Coca-Cola will be served through the courtesy and cooperation of the Atlanta Coca-Cola Bottling Company and the Coca-Cola Company.

#### **Denoyer-Geppert Company**

Booth 20. The Denoyer-Geppert Company will exhibit its line of visual teaching aids to the biological sciences and related subjects, featuring unbreakable plastic models and a wide variety of large colored wall charts. Skeletal preparations, museum mounts, corrosion specimens, and other nonprojective visual aids will also be shown. Plastic models by Denoyer-Geppert Company are the product of much research and long experience in model making. Denoyer-Geppert researchers have solved the problem of finding permanently durable substances that are also completely suitable for reproduction of the third-dimensional relief and detail that have characterized D-G models for so many years. The best elements of both design and construction have been combined in D-G models, and prices are nevertheless quite attractive. With models and other three-dimensional teaching devices displayed against a background of colorful charts, this exhibit will attract the eye and stimulate the interest of anyone engaged in instructional activities in the field of biology. Experienced representatives will be on hand to demonstrate D-G products, answer questions, and discuss visual teaching aids problems.

#### **E-C Apparatus Company**

Booths 41 and 42. EC510 countercurrent extraction apparatus will be exhibited for the first time at any national meeting. This apparatus separates and analyzes mixtures of compounds by repeated extractions in a two-phase liquid system. The 100-tube extraction train

with fully automatic recycle controls is only 24 inches long and 24 inches wide. Each tube is Pyrex with Teflon-lined screw cap for filling, cleaning, and emptying. A special attachment enables all samples to be withdrawn simultaneously into test-tube racks at the conclusion of the run. Countercurrent extraction has been used for separation and purification of mixtures in milligram to gram amounts. Components of molecular weight as high as insulin have been treated successfully. For higher molecular weight compounds, including proteins, polysaccharides, and nucleic acids, we exhibit for analytic and preparative purposes the following: EC135 electroconvection apparatus and EC405 electrophoresis apparatus. Electroconvection, by a combined electrophoretic and convective transport, fractionates colloid mixtures in volumes of 20 to 200 milliliters. Separations are achieved that cannot be obtained by any other fractionation method. The EC405 electrophoresis apparatus can be used for either starch or paper media. With direct pressure cooling of the migration bed, buffer evaporation is totally prevented and much higher field strengths are usable, enabling serum protein patterns to be obtained in less than 2 hours. Simultaneous runs at three different pH values can be made under identical conditions of temperature and voltage.

#### **Educational Testing Service**

Booth 19. The services of the Educational Testing Service include tests, testing programs, research, and services for selection, guidance, scholarship competitions, placement, and educational evaluation. ETS develops tests for direct sale to qualified users in schools, colleges, business, governmental agencies, and professional associations; administers nationwide testing programs; builds programs tailored to special needs; and conducts fundamental research in measurement.

#### **Embassy of Israel**

Taft Hall. The exhibition of the Embassy of Israel consists of about 3000 papers and other publications dealing with research in the field of agriculture, engineering, medicine, and the natural sciences. The papers cover a very wide field of scientific research ranging from an investigation into the possibility of using citrus peel for animal fodder to work on the separation of isotopes. The research work described in these papers has been carried on in Israel's leading scientific institutions, the Hebrew University in Jerusalem, the Israel Institute of Technology, the Weizmann Institute of Science, the Agricultural Experimental Station, and other research institutions. The exhibition, initiated and arranged by the Research Council of Israel, was first shown in London in December 1954 and was opened by

Robert Robertson, the famous Nobel prize winner. It has since been shown in Paris and Belgrade, and this is the exhibit's first showing in the United States.

**Emory University**

Booth 45.

**Encyclopaedia Britannica, Inc.**

Booth 78. The first Encyclopaedia Britannica was published in 1768. George Washington bought the third edition (printed in the United States) and liked it so well that he urged Alexander Hamilton to buy one, which he did—shortly before Burr killed him. Encyclopaedia Britannica has always been regarded as an educational institution rather than a business venture; therefore, it is fitting that today the University of Chicago owns Encyclopaedia Britannica. Encyclopaedia Britannica will exhibit the 1955 Encyclopaedia Britannica.

**Ercona Corporation**

Booth 36. The Ercona Corporation of New York, exclusive American representatives for the world-renowned Carl Zeiss Jena Optical Works, will place on exhibit the most recent developments in the microscope and optical measuring instrument departments. The exhibit will feature the unique Lumipan research microscope with pancratic illuminating system, permitting the employment of all phase-contrast objectives with only one annular stop; the new Citoplast stereomicroscope with built-in quintuple magnification changer, unusually long working distance, and parfocality of all five objectives; the laboratory interferometer for gas and liquid analysis with considerably higher measuring accuracy than the most exacting refractometers; the new model Abbé refractometer with scale fully protected in a dust-proof casing; and a number of other outstanding instruments. Inquiries are invited concerning the latest developments in Zeiss astronomical equipment.

**Folkways Records & Service Corporation**

Booth 25.

**A. French Textile School, Georgia Institute of Technology**

Booth 6. "Opportunities unlimited in textiles" will be the theme of the A. French Textile School of Georgia Institute of Technology. The central background feature of the exhibit will be a large photograph of the Harrison High-tower Textile Engineering Building at Georgia Tech, one of the most completely equipped buildings of its type in the country. On both sides of it will be draped a selection of fabrics, dyed in a wide range of colors and made from synthetic and natural fibers. Underneath the photograph is to be a display stand containing the major chemicals used in the textile industry. At the left side of the booth is to be an exhibit stand containing photographs and descriptions of

courses available in textile education. On the right side, another stand will feature photographs and listings of the many opportunities available in textile production, research, management, design, and sales. The booth will be completed with a table and chairs for visitors at the exhibition. This exhibit was made possible through the kindness of the Chicopee Mills, Inc.

**Gaumard Company, Inc.**

Booth 67. The Gaumard Company will exhibit flexible and plastic teaching models. The models shown have been designed by George Blaine, well known in England and Europe in this field of work as one of the pioneers of using plastic materials in model development. The models shown by Gaumard fall into two classes: biological teaching and clinical teaching. Some of the models are unique, not made by any other model house; thus, for instance, the miniature plastic skeleton with muscular markings (official teaching model in many European education departments—for example, department of education, London County Council, England); the transparent obstetric phantom, widely used in United Nations programs, (as are most other models shown). There are many publications in the world scientific press dealing with these models (*American Journal of Obstetrics and Gynecology*; *British Medical Journal*; *The Lancet*; *British Plastics*; *Rubber Age*; and others), which go a long way toward simplification of teaching by full use of a practical three-dimensional approach. The models reflect the approach of a practised teacher—aiming at the presentation of basic essentials. Physiological data are given with most models in order to round off the biological teaching program.

**General Electric Company, Research Laboratory**

Booths 1 and 2. The Research Laboratory of the General Electric Company will exhibit man-made diamonds; high-strength whisker crystals; 4-Mev x-ray tube (and other x-ray tubes); an ionic pump; a new light amplifier; and a new kind of electronic tube destined to play an important role in the future of electronics.

**Georgia Academy of Science and the Academy Conference**

Booths 79, 80 and 81. In view of the numerous sessions and functions at this year's AAAS meeting, the Georgia Academy of Science—which appreciates the honor of serving as host academy of the Academy Conference—will maintain a hospitality lounge in the Municipal Auditorium where chairs will be available for delegates and where they may arrange to meet their friends.

**Georgia State Department of Commerce**  
Booth 32.

**Graf-Apsco Company**

Booth 96. If you have any microscope troubles, it would be well to stop at booth No. 96 of the Graf-Apsco Company, "America's leading microscope repair house." Also exhibited are new Graf-Apsco microscopes with exclusive features designed into the stand to keep the instrument in good working order indefinitely. If you do not know what to do with your obsolete microscope, the Graf-Apsco Co. will buy it for cash or accept it in trade.

**Halco Scientific Instrument Company**

Booth 65. Halco Scientific Instrument Company will have on display Leitz, Zeiss, and Reichert microscopes and other optical instruments. The Graf-Apsco low-priced but sturdily built microscope especially designed for high-school laboratories will be available for examination. Sartorius balances and various instruments manufactured by Brinkmann Instruments, Inc., will also be exhibited.

**Linguaphone Institute**

Booth 55. Scientists the world over, without a knowledge of each other's language, are at a great disadvantage in effective communication. Yet, the need in this field is greater than it is in foreign trade, tourist travel, or even in cultural associations. Linguaphone has served scientists and the linguistic need of scientists consistently for the past 30 years. Linguaphone's exhibit will include language-learning recordings, textbooks, and related equipment.

**Lockheed Aircraft Corporation, Georgia Division**

Booth 13. The Lockheed Aircraft Corporation, Georgia Division, presents an exhibit of nuclear radiation shielding, a vital part of the process of putting the atom to work for modern industry. This display illustrates the effectiveness of a number of commonly recognized industrial materials as shielding for gamma radiation. A source of radiation, cobalt-60, a widely used radioisotope useful in many industrial processes, is mounted in a stationary position. A slowly revolving wheel causes several materials, such as steel, lead, plastic, water, and others, to pass between the source of radiation and a Geiger counter mounted in a box below the source. A specially adapted television receiver and amplifier indicate the relative amounts of radiation passing through the various shields. The varying intensities of radiation shown compare the usefulness of the materials in the shielding of the human being from the effects of gamma radiation.

**Lockheed Aircraft Corporation, Georgia Division**

Booth 91. Lockheed Aircraft Corporation's Georgia Division is cooperating with Georgia Institute of Technology in the improvement of their 9-foot wind

tunnel. This spirit of cooperation is the basic theme behind this exhibit. The display shows a scale model of this wind tunnel as it will appear after all remodeling is completed. The model is partially cut away in order to show, in greater detail, the more involved sections of the wind tunnel, such as the tunnel drive equipment, turning vanes, and test section. A model airplane is mounted in the test section just as it would be located under normal testing conditions. In addition to the model of the 9-foot wind tunnel, a small working wind tunnel will be demonstrated. This wind tunnel includes a visual means of illustrating the air flow behind an airplane model. The attitude of the airplane model with respect to air-stream may be varied and the effect observed.

#### **Lourdes Instrument Corporation**

Booth 87. The Lourdes Instrument Corporation has for 10 years manufactured the highest quality laboratory centrifuges and mixers. It is our pleasure at this 122nd meeting of the American Association for the Advancement of Science to present in the Exposition of Science and Industry four machines of the latest design, engineered for the most forward research problems and to meet the most limited budgetary requirements. Two of these units are high-speed angle centrifuges with 16,500 rev/min (max.), RCF—34,000 × gravity (max.), and 400-cc volume. The third unit is a new design high-speed swinging cup centrifuge for improved and faster horizontal sedimentation with more accurate quantity determination. The fourth machine is the Lourdes multi-mixer featuring sealed mixing in 50- or 200-cc stainless steel containers—excellent for homogenizing, emulsifying, fine chopping and organism disintegration. All machines offer the finest in safety design.

#### **F. G. Ludwig, Inc.**

Booth 89.

#### **Josiah Macy, Jr. Foundation**

Booth 46. You are cordially invited to stop at booth No. 46 and peruse the "Transactions of the conference program," which are the nearly verbatim reports of multidiscipline 2-day conferences in the medical and biological sciences. These books offer an interesting insight into the broad problems of communication and integration between disciplines. We will have on display the new and stimulating volume on the patterns of animal and human behavior, the "Transactions of the first conference on group processes."

#### **G. & C. Merriam Company**

Booth 63. Our exhibit will display copies of the Merriam-Webster publications listed as follows: *Webster's New International Dictionary*, Second Edition—the unabridged work containing 600,-

000 entries including thousands of encyclopedic articles, many of them recording a wealth of information in the field of science. *Webster's New Collegiate Dictionary*—our largest abridged work, completely up to date (copyright 1953). *Webster's Dictionary of Synonyms*—listing synonyms, antonyms, and analogous and contrasted words, explaining the difference in their shades of meaning and illustrating their use. *Webster's Biographical Dictionary*—recording 40,000 biographies of noted men and women of all countries, with name pronunciations. *Webster's Geographical Dictionary*, Revised Edition—information on all the world's important places with name pronunciations. There will also be shown pamphlet material illustrating and explaining the use of these publications.

#### **National Geographic Society**

Booth 75. The exhibit of the National Geographic Society will feature the *National Geographic Magazine* and the *Geographic School Bulletins*. Also on display will be maps, books, pictures, and other special educational materials of the society. An automatic projector will screen a continuous selection of natural color slides. The slides cover National Geographic field assignments and expeditions and were selected from illustrations by staff photographers of the *National Geographic Magazine*.

#### **North American Aviation, Inc**

Booths 53 and 54.

#### **Nuclear Instrument & Chemical Corp.**

Booth 52.

#### **Office of Naval Research**

Booth 90. Since its establishment in 1946, the Office of Naval Research has been engaged in supporting the very basic research that unearths new knowledge—the starting point for every major new material development. This concern with basic research has necessarily included development of the research tools needed to make new advances. The upper atmosphere is one area of research in which ONR has pioneered. Its strong upper atmosphere research program has led to the accumulation of important scientific data. This information has been obtained from research aircraft, from rockets, and from Skyhook balloons that carried scientific instruments to great heights to record meteorological and cosmic-ray data. To reach even higher altitudes a new system—Rockoon—was developed. Deacon rockets are borne to 70,000 feet, then fired into the stratosphere where they often reach heights of 300,000 feet to telemeter back upper atmosphere information. Recently another method was initiated—Rockair—firing of small rockets from planes. But more important than the tools used are the scientists who interpret the findings and use them as steps toward even more

advanced developments. Research in geophysics, metallurgy, chemistry, power, physics, electronics, mathematics, mechanics, and the biological and psychological sciences have led to developments in such fields as materials, aerodynamics, aeromedicine, design, propulsion, communications, flight, instrumentation and meteorology. These continuing advances permit exploration of the upper atmosphere at progressively higher altitudes.

#### **Phipps & Bird, Inc.**

Booth 37. Phipps and Bird will have an exhibit composed of a representative selection of instruments used in the basic sciences. Our representative will be pleased to demonstrate the equipment to you and to give you any technical assistance you might desire.

#### **Planned Parenthood Federation of America, Inc.**

Booth 77. In Rome, in 1954, the president of the World Population Congress said, "The great problem that today haunts the minds of men . . . is the extraordinarily rapid growth of population in underdeveloped countries." Where death rates fall through the application of preventive medicine, and birth rates remain high, population growth outruns the most vigorous efforts to raise living standards. Political leaders in many underdeveloped countries are urging the need for methods acceptable to their people. The Planned Parenthood Federation of America, through its research branch, the Dickinson Research Memorial, has taken up the challenge of these leaders. Since 1948 more than \$300,000 has been spent, all from voluntary contributions. Operating through grants-in-aid for the support of specific projects in established institutions, the memorial's research program is aimed at finding points where the human reproductive process is safely susceptible to interruption. This program contributes equally to possible treatment of infertility. The memorial calls occasional scientific conferences to chart developments in this double quest for fertility control.

#### **Potomac River Naval Command**

Booth B. The Board of Examiners for Scientific and Technical Personnel of the Potomac River Naval Command coordinates recruiting for all scientific and technical personnel for the 40 or more naval activities located in the area around and adjacent to Washington, D.C., the Potomac River, and Chesapeake Bay. The board will maintain an automatic sound slide projector depicting some of the scientific programs of the major naval laboratories of the command. Activities to be illustrated include the David Taylor Model Basin, Naval Air Test Center, Naval Gun Factory, Naval Observatory, Naval Ordnance Laboratory, Naval Photographic Center, Naval Powder Factory,

Naval Proving Ground, and the Naval Research Laboratory. Two of the laboratories are maintaining special exhibits at the exposition.

#### **Precision Scientific Company**

Booths 8 and 9. The Precision Scientific Company presents a daring innovation in industrial shows at this year's AAAS meeting in Atlanta. For the first time, it will have a display booth that allows exhibit visitors to view, in color, a manufacturer's entire line. More than 300 5-by-7-inch Ektachrome transparencies of laboratory research apparatus for such diverse fields as chemistry, medicine, petroleum, nucleonics, biochemistry, bacteriology and agriculture are contained in this specially designed booth.

#### **Rayoscope Company**

Booth A. The Rayoscope is a rather new and efficient microprojector and its many uses will be demonstrated. Special emphasis will be placed on projection of living specimens for long periods of time on a screen at a distance so that groups of observers can see simultaneously. Customers are urged to bring their own specimen slides which they would like to project to large classes. You will thus be given an opportunity to make your own test with regard to effectiveness of microprojection.

#### **Albert Schweitzer Honor Exhibit**

Booths 71 and 72 This exhibit, set up in honor of his 80th birthday, shows retrospective work of Schweitzer over a period of 42 years, built up by his own hands. This is the only hospital in the world where all patients and their relatives, in the middle of the jungle, are fed, housed, clothed, nursed, and medicated. The Albert Schweitzer bust on display is the work of Leo Cherne, president of the Research Institute of America; it captures the spirit of the greatest living doctor, the only M.D. who has received the Nobel peace prize. The bust was unveiled 12 Oct. 1955 at the Smithsonian Institution in Washington, D.C. The exhibit also shows a part of the new leper colony which is in the process of being built by Schweitzer this year. There is also a panel demonstrating the tolerance and nontolerance of the new antibiotics administered in the Hansen Syndrome.

#### **Science Library**

Booths 47, 48, and 49. The Science Library is administered by the AAAS as an additional service to publishers of books, both exhibitors and nonexhibitors. It has become an integral part of each year's Annual Exposition of Science and Industry. In the Science Library, books of all publishers participating are grouped by fields of science—a convenience both to the visitor who is restricting his inspection of books to a single category, and to the one who wishes to browse.

Among the publishers in the Science Library are American Association for the Advancement of Science, Academic Press, Inc., Addison-Wesley Publishing Company, Inc., Annual Reviews, Inc., R. R. Bowker Company, Cambridge University Press, Columbia University Press, Thomas Y. Crowell Company, Crown Publishers, Inc., E. P. Dutton & Co., Inc., Emerson Books, Inc., John de Graff, Inc., Harvard University Press, D. C. Heath and Company, Henry Holt and Company, Inc., Houghton Mifflin Company, Iowa State College Press, Johns Hopkins Press, Lantern Press, Inc., Lea & Febiger, Lothrop, Lee & Shepard Co., The Macmillan Company, Josiah Macy, Jr. Foundation, Merck & Co., Inc., Prentice-Hall, Inc., Reinhold Publishing Corporation, W. B. Saunders Company, Charles Scribner's Sons, University of Michigan Press, University of Toronto Press, University of Wisconsin Press, D. Van Nostrand Company, Inc., John Wiley & Sons, Inc., Yale University Press.

#### **Scripto, Incorporated**

Booth 3. Scripto, Inc. has available an interesting and educational motion picture sound and color film tracing the history of writing instruments from the dawn of history to the present time. Because of space and time limitations, it is not possible to show this film in its entirety, but selected scenes will be presented to illustrate the subject matter. Information concerning the availability of this film for the use of interested groups all over the country will also be presented. In addition, some of the more recent chapters of this history will be shown by displays that show how, as sci-

ence has developed new materials and techniques, they have been used in modern writing devices to simplify construction and improve quality and appearance.

#### **Southern Technical Institute**

Booth 35.

#### **Special Libraries Association, Georgia Chapter**

Booth 50. The Georgia Chapter of the Special Libraries Association will exhibit materials to show what a special library is, what it does, and how it can assist scientists.

#### **E. R. Squibb & Sons**

Booths 15 and 16.

#### **Trans-Pacific Import and Export Company**

Booth 56. Olympus microscopes are manufactured by the Olympus Optical Company of Japan, who are the pioneers of the microscope industry in that country. With about 40 years of experience and much valuable assistance given them by German precision instrument engineers and other available information, they are in a position to build the finest of microscopes. You are cordially invited to examine these excellent microscopes in exhibition booth No. 56. We will be in a position to show you most any type of microscope you may need, and also give you more microscope or microscopes for your money. Olympus microscopes cost about one third or more less than their equivalent in domestically made instruments.

#### **Veterans Administration Prosthetics and Sensory Aids Program**

Booths 82 and 83.

#### **W. M. Welch Manufacturing Company**

Booths 33 and 34. The W. M. Welch Manufacturing Company will exhibit laboratory instruments for physics, chemistry, and biology departments, including stainless steel balances, high vacuum pumps, electric measuring instruments, electronics teaching devices, Densichron for measuring optical density, color saturation, paper chromatograms, and so forth. Several additional pieces will be shown—mathematics teaching aids, microscopes, biological models, and preserved specimens. Several charts and sets of charts will be shown for teaching physics, physiology, and biology.

*But nothing has been done conducing directly to the encouragement of science in general. . . . The protection and favour of the Crown is still bestowed only upon those pursuits which are immediately connected with the defence or government of the country, or with the promotion of wealth or luxury, without reference to intellectual cultivation or the advancement of knowledge. Science, however, ever has been, and ever will be, of too elastic a nature not to make progress under every discouragement.—F. R. S., "Thoughts on the Degradation of Science in England" (1847). Quoted by George A. Foote, *Isis* 42, 206 (1951).*