



*When scholars hold meetings for the advancement of knowledge they can do better without a listening public . . . but when scholars and men of affairs meet to exchange views on existing situations, it is better that their views be aired in public.*

# PROGRAM

## AAAS ANNUAL MEETING, BOSTON, MASSACHUSETTS

26–31 December 1969

General Chairman: Dr. Howard O. McMahon (President, Arthur D. Little, Inc.)

### AAAS INVITED LECTURES, DISCUSSIONS AND SPECIAL FILM LECTURES

- ☐ **Special Lecture (26 Dec.)**  
Thomas O. Paine (Administrator, National Aeronautics and Space Administration).
- ☐ **Distinguished Lecture (27 Dec.)**  
Emilio Q. Daddario (House of Representatives).
- ☐ **Address of the Retiring AAAS President (28 Dec.)**  
"After the Moon, the Earth!," Walter Orr Roberts (President, University Corporation for Atmospheric Research, Boulder).
- ☐ **RESA Annual Address and Panel Discussion (29 Dec.)**  
Margaret Mead (American Museum of Natural History).
- ☐ **Sigma Xi–Phi Beta Kappa Lecture (29 Dec.)**  
Kingman Brewster (President, Yale University).
- ☐ **British Association for the Advancement of Science Lecture (30 Dec.)**  
Sir Alexander Cairncross (President-Elect, British Association for the Advancement of Science).
- ☐ **Special Film Lectures**  
"Galápagos—Wild Eden" (26 Dec.). Roger T. Peterson (Old Lyme, Connecticut).  
"Apollo and the Future" (27 Dec.). Michael Aldrin (Astronaut, NASA).  
"The Footsteps of John Wesley Powell: A Trail Grown Cold Recovered" (28 Dec.). Eugene M. Shoemaker (California Institute of Technology).  
"Communal Child Rearing in Israeli Kibbutzim" (29 Dec.). Bruno Bettelheim (University of Chicago).  
"Ethnographic Filming and the Netsilik Eskimos" (30 Dec.). Asen Balikci (University of Montreal).

### AAAS COMMITTEE SYMPOSIA

- ☐ **Committee on Environmental Alteration (28 Dec.)**  
Power Generation and Environmental Change: Recon-

cing Man's Desire for Power with the Needs of His Environment. Arranged by David A. Berkowitz (Mitre Corporation, Bedford, Massachusetts) and Arthur M. Squires (City College of the City University of New York).

- ☐ **Committee on Science in the Promotion of Human Welfare (29–30 Dec.)**  
Academic Research and the Military. Arranged by Walter Modell (Cornell University Medical College, New York City).

### GENERAL SYMPOSIA

- ☐ **Arms Control and Disarmament (26–27 Dec.)**  
Arranged by Daniel M. Singer (Federation of American Scientists, Washington, D.C.) and Herman Feshbach (Massachusetts Institute of Technology).
- ☐ **Technology Assessment and Human Possibilities (26–27 Dec.)**  
Arranged by a Committee. Richard A. Carpenter (Library of Congress, Washington, D.C.), *chairman*.
- ☐ **Unidentified Flying Objects (26–27 Dec.)**  
Arranged by Thornton Page (NASA Manned Spacecraft Center, Houston), Philip Morrison (M.I.T.), Walter Orr Roberts (University Corporation for Atmospheric Research, Boulder), and Carl Sagan (Cornell University).
- ☐ **Hunger and Malnutrition (26–29 Dec.)**  
Arranged by Jean Mayer (Harvard University School of Public Health).
- ☐ **Science and Music: Technological Issues and the Music of the Future (27 Dec.)**  
Arranged by Alan A. Smith (Arthur D. Little, Inc., Cambridge) and Milton Babbitt (Princeton University).
- ☐ **Manned Lunar Space Program**  
The Space Program for the Next Decade (27 Dec.).  
Science and Man in Space (28 Dec.).



Engineering and Management Skill (Including Safety and Reliability) Developed by the Space Programs (29 Dec.).

Arranged by Paul Rosenberg (Paul Rosenberg Associates).

- ☐ Science and the Future of Man (28–29 Dec.)  
Arranged by R. L. Carovillano and James W. Skehan, S.J. (Boston College).

- ☐ The Sorry State of Science—A Student Critique (28–29 Dec.)  
Arranged by students from Harvard University and M.I.T.

- ☐ Human Settlements and Environmental Design (28–30 Dec.)  
Arranged by Aristide H. Esser (Rockland State Hospital, Orangeburg, New York), Raymond G. Studer (Pennsylvania State University), David Lowenthal (American Geographical Society), and Gyorgy Kepes (M.I.T.).

- ☐ The Identity and Dignity of Man: A Scientific and Theological Dialogue on Issues Emerging From Behavioral, Surgical, and Genetic Interventions (28–30 Dec.)  
Arranged by George P. Fulton and Preston Williams (Boston University).

- ☐ The Behavioral and Social Sciences: Outlook and Needs (29 Dec.)  
Arranged by Stephen Viederman (National Academy of Sciences).

- ☐ Innovation (29 Dec.)  
Arranged by Howard O. McMahon (Arthur D. Little, Inc., Cambridge).

- ☐ Is There an Optimum Level of Population? (29–30 Dec.)  
Arranged by S. Fred Singer (U.S. Department of the Interior).

- ☐ Rational Use of Water (30 Dec.)  
Arranged by Chauncey Starr (University of California, Los Angeles).

## SYMPOSIA OF AAAS SECTIONS AND AFFILIATED SOCIETIES

### Mathematics (A)

- ☐ Section Program
  - Vice Presidential Address (28 Dec.). “Is the Computer Merely a Tool?” by Mark Kac, and Computers in Mathematics and Science. Arranged by Mark Kac (The Rockefeller University, New York).
- ☐ American Mathematical Society
  - Some Mathematical Questions in Biology (27 Dec.). Arranged by Murray Gerstenhaber (University of Pennsylvania).

- ☐ Association for Computing Machinery
  - Electronic Computers—Today and Tomorrow (28 Dec.). Arranged by Carl Hammer (Univac, Washington, D.C.).

- ☐ Association for Symbolic Logic
  - Mathematical Logic (30 Dec.). Arranged by Hartley Rogers, Jr. (M.I.T.).

- ☐ National Council of Teachers of Mathematics
  - Mathematical Education (30 Dec.). Arranged by John C. Egsgard (Toronto, Ontario).

- ☐ Operations Research Society of America
  - Quantitative Studies of Urban Problems: Part I. Operations Research Contributions (27 Dec.). Arranged by David M. Boodman (Arthur D. Little, Inc.).

- ☐ Society for Industrial and Applied Mathematics
  - Quantitative Studies of Urban Problems: Part II. Mathematical Contributions (27 Dec.). Arranged by Hirsh Cohen and Denos Gazis (IBM Research Division, Yorktown Heights, New York).

### Physics (B)

- ☐ Section Program
  - Vice Presidential Address (29 Dec.). “The Learning of Physics in Professional, Vocational, and General Education” by Nathaniel H. Frank (Massachusetts Institute of Technology).

- Some Problems in Physics of Fluids (28 Dec.). Arranged by Francois Frenkiel (Naval Ship Research and Development Center, Washington, D.C.).

- X-ray Galaxies (29 Dec.). Arranged by Herbert Friedman (Naval Research Laboratory, Washington, D.C.).

- ☐ American Astronautical Society
  - Whither Lunar and Planetary Exploration in the 1970's? (26–28 Dec.). Arranged by Donald G. Rea (NASA, Washington, D.C.) and Donald U. Wise (University of Massachusetts).

- ☐ American Institute of Aeronautics and Astronautics
  - Engineering and Systems for Astronomy Satellites (30 Dec.). Arranged by William N. Gardner (NASA Langley Research Center).

### Chemistry (C)

- ☐ Section Program
  - The Total Synthesis of Food (27–28 Dec.). Arranged by Leo Schubert (American University).
- Mendeleyev Centennial (29 Dec.). Arranged by Leo Schubert.
- Biomedical Materials (29 Dec.). Arranged by Fred Leonard (Walter Reed Army Medical Center, Washington, D.C.).

- ☐ American Association of Clinical Chemists
  - Recent Advances in Clinical Chemistry (26 Dec.). Arranged by Sidney Green (New England Medical Center Hospitals, Boston).

#### Astronomy (D)

- ☐ Section Program
  - Space Astronomy (29 Dec.). Arranged by Michael Papagiannis (Boston University).
  - Recent Developments in the Field of Pulsars (30 Dec.). Arranged by Michael Papagiannis.

#### Geology and Geography (E)

- ☐ Section Program
  - Deep Sea Drilling Project (JOIDES)—Science and Resources (28 Dec.). Arranged by Melvin N. A. Peterson (Scripps Institution of Oceanography).
- ☐ Association of American Geographers
  - Trading Areas, Tributary Areas, and Urban Regions (30 Dec.). Arranged by John George (Salem State College, Salem, Mass.).
- ☐ National Speleological Society, Inc.
  - Panel Discussion on Biology of Cave and Deep Sea Organisms: A Comparison (27 Dec.). Arranged by Thomas L. Poulson (Yale University).
  - Contributed Papers in Cave Geology (27 Dec.). Arranged by William B. White (Pennsylvania State University).

#### Zoological Sciences (F)

- ☐ American Fisheries Society
  - Living Marine Resources of the Northeast (28–29 Dec.). Arranged by Robert L. Edwards (Bureau of Commercial Fisheries, Woods Hole).
- ☐ American Society of Zoologists/Division of Comparative Endocrinology
  - Contributed Papers on Comparative Endocrinology (27, 29–30 Dec.). Arranged by R. D. Lisk (Princeton University).
  - Comparative Endocrinology of the Pineal (27 Dec.). Arranged by Russel J. Reiter (University of Rochester School of Medicine and Dentistry).
  - Aspects of Insect Endocrinology (28 Dec.). Arranged by Franz Engelmann (University of California, Los Angeles).
- ☐ ASZ/Division of Comparative Physiology and Biochemistry
  - Contributed Papers on Comparative Physiology and Biochemistry (27–30 Dec.). Arranged by Michael J. Greenberg (Florida State University).
  - Physiology of Annelids (28–29 Dec.). Arranged by C. P. Mangum (College of William and Mary).

- Biochemical Adaptations (29–31 Dec.). Arranged by Frank P. Conte (Oregon State University).

- ☐ ASZ/Division of Developmental Biology
  - Contributed Papers on Developmental Biology (26–28, 30 Dec.). Arranged by Hans Laufer (University of Connecticut).

- Hormonal Controls in Gonadal Function (29 Dec.). Arranged by David Bishop (Medical College of Ohio, Toledo) and Hans Laufer.

- ☐ ASZ/Division of Ecology
  - The Stream Ecosystem (29 Dec.). Arranged by Kenneth W. Cummins (Michigan State University).

- Ecology and the Undergraduate Curriculum (30 Dec.). Arranged by Reznat M. Darnell (Texas A&M University).

- Contributed Papers on Ecology (30 Dec.). Arranged by David Grant (Davidson College).

- ☐ ASZ/Division of Invertebrate Zoology
  - Contributed Papers on Invertebrate Zoology (26–28 Dec.). Arranged by Peter E. Pickens (University of Arizona).

- The Biology of Symbiosis (28–29 Dec.). Arranged by Sidney Townsley (University of Hawaii) and Thomas Cheng (Lehigh University).

- Integrated Control of Disease Vectors (29 Dec.). Arranged by Norman Levine (University of Illinois).

- ☐ ASZ/Division of Systematic Zoology  
(See Society of Systematic Zoology Program).

- ☐ ASZ/Division of Vertebrate Morphology
  - Aspects of Lower Tetrapod Evolution (28–29 Dec.). Arranged by Keith Thomson (Yale University) and Thomas Parsons (University of Toronto).

- Contributed Papers on Vertebrate Morphology (29–30 Dec.). Arranged by Thomas S. Parsons.

- ☐ Animal Behavior Society
  - Contributed Papers (27–30 Dec.). Arranged by John C. Vandenberg (North Carolina Department of Mental Health, Raleigh).

- Educational Films (27 Dec.).

- Recent Developments in Animal Communication (28 Dec.). Arranged by Peter Marler (The Rockefeller University).

- Open Discussion on Animal Communication (28 Dec.).

- ☐ Herpetologists' League
  - Contributed Papers (28–29 Dec.). Arranged by Wilmer W. Tanner (Brigham Young University).



- ☐ **Society of Protozoologists**
  - Contributed Papers (27–29 Dec.). Arranged by Datus M. Hammond (Utah State University).

- ☐ **Society of Systematic Zoology**
  - Contributed Papers (27–28 Dec.). Arranged by Joseph Simon (University of South Florida, Tampa).
  - Sea-Level Panama Canal: Marine Biological Effects (30 Dec.). Arranged by J. C. Briggs (University of South Florida, Tampa).

#### Biological Sciences (FG)

- ☐ **American Society of Naturalists**
  - Presidential Address (28 Dec.). “The Natural History and Evolutionary Future of Mankind” by G. L. Stebbins.
  - Newer Trends in Population Biology (28 Dec.). Arranged by Robert H. MacArthur (Princeton University).

- ☐ **Ecological Society of America**
  - Contributed Papers (26, 29, 31 Dec.). Arranged by William Osburn (U.S. Atomic Energy Commission, Washington, D.C.).
  - Ecological Data for Environmental Quality (28 Dec.). Arranged by Charles F. Cooper (University of Michigan).
  - Inshore Mollusks: Species under Stress (30 Dec.). Arranged by Perry Jeffries (University of Rhode Island).
  - Water Resource Management and Future Planning (30 Dec.). Arranged by William S. Osburn.
  - The Theory and Practice of Biological Control (30–31 Dec.). Arranged by Carl Huffaker (University of California, Berkeley).

- ☐ **Society for the Study of Evolution**
  - Presidential Address (30 Dec.). “Evolution in the Tropics” by Herbert G. Baker (University of California, Berkeley).
  - Contributed Papers (27–30 Dec.). Arranged by David L. Jameson (University of Houston).

#### Botanical Sciences (G)

- ☐ **Section Program**
  - Photosynthetic Organisms: Origin and Evolution on Early Earth (26 Dec.). Arranged by Lynn Margulis (Boston University).
  - Organization and Developments of Plants (30 Dec.). Arranged by A. E. DeMaggio (Dartmouth College).
  - Cell Division (30 Dec.). Arranged by John Torrey (Harvard University).

#### Anthropology (H)

- ☐ **Section Program**
  - The International Study of Eskimos (27 Dec.). Arranged by David R. Hughes (University of Toronto).
  - Field Studies of Nutrition and Behavior (27 Dec.). Arranged by Andrew P. Vayda (Columbia University).
  - Land Use, Population, and Settlement in Ancient Mexico and Guatemala (28 Dec.). Arranged by Pedro Armillas (State University of New York, Stony Brook).
  - The City as a Social System: Perspectives on Urban Social Organization (28 Dec.). Arranged by Helen Safa (Livingston College, Rutgers University).
  - Sectoral Clashes and Development Policy (29 Dec.). Arranged by Markos Mamalakis (University of Wisconsin, Milwaukee).

#### Psychology (I)

- ☐ **Section Program**
  - Vice Presidential Address (29 Dec.). “Some Experiments on Temporal Pattern Perception” by Wendell R. Gardner (Yale University).
  - Tektite: A Behavioral Study in a Hostile Environment (27 Dec.). Arranged by Stanley Deutsch (Chief, Man-Systems Integration, National Aeronautics and Space Administration, Washington, D.C.).
  - Education of the Infant and Young Child: Empirical Data and Theoretical Issues (28 Dec.). Arranged by Victor H. Denenberg (University of Connecticut).
  - Malnutrition and Learning in Children within the U.S.A. (29 Dec.). Arranged by Bernard Brown (American University).
  - Pattern Perception (29–30 Dec.). Arranged by Paul Vitz (New York University).
  - The Effects of Nutrition on Behavior: Studies in Animal and Man (30 Dec.). Arranged by Judy Rosenblith (Wheaton College, Norton, Mass.).
  - Sensory-Specific Information in Human Memory (30 Dec.). Arranged by Robert G. Crowder (Yale University).

- ☐ **American Psychoanalytic Association**
  - Youth: Ego Ideals and the Impact of Culture (27 Dec.). Arranged by Herman Serota (University of Chicago).

- ☐ **American Speech and Hearing Association**
  - Speech Synthesis and Perception (28 Dec.). Arranged by James Curtis (University of Iowa).

## Social and Economic Sciences (K)

### ☐ Section Program

- Vice Presidential Address (28 Dec.). "White Delinquents in the City Slums: As Boys and Men" by Dr. and Mrs. Sheldon Glueck (Harvard University).
- Approaches to Policy Sciences (28 Dec.). Arranged by Yehezkel Dror (RAND Corporation).
- The Political Attitudes of Scientists (29 Dec.). Arranged by Harvey Sapolsky (Massachusetts Institute of Technology).
- Science and Public Policy Workshop (29 Dec.). Arranged by Harvey Sapolsky.
- The Organization of Urban Places (29–30 Dec.). Arranged by Leonard J. Fein (M.I.T.–Harvard Joint Center for Urban Studies).
- State Science Policy (30 Dec.). Arranged by Frank Hersman (National Science Foundation) and Thomas G. Fox (Governor's Science Adviser, Commonwealth of Pennsylvania).

### ☐ American Sociological Association

- Communication of Science (30 Dec.). Arranged by Linton Freeman (University of Hawaii).

### ☐ Association for the Study of Grants Economy

- The Grants Economy (26–27 Dec.). Arranged by Janos Horvath (Butler University, Indianapolis).

### ☐ Metric Association

- Inching Toward the Metric System (30 Dec.). Arranged by J. H. Howard (Air Force Cambridge Research Laboratory, Bedford, Mass.).

### ☐ National Institute of Social and Behavioral Science

- Mathematical Modeling in The Social Systems (26 Dec.). Arranged by Samuel J. Bernstein (Social Systems Technology, Inc., Buffalo and Yeshiva University).
- Contributed Papers (28 Dec.). Arranged by Donald P. Ray (National Institute of Social and Behavioral Science, Washington, D.C.).

### ☐ Population Association of America

- Differential Fertility and Family Planning (27 Dec.). Arranged by Edward Stockwell (University of Connecticut).

### ☐ Society for the Scientific Study of Religion

- Methodology for the Sociology of Religion (28 Dec.). Arranged by Robert J. McNamara (Fordham University).

## History and Philosophy of Sciences (L)

### ☐ Section Program

- George Sarton Memorial Lecture (27 Dec.). "Boltz-

mann, Monocycles and Mechanical Explanation" by Martin J. Klein (Yale University).

- Physics and the Explanation of Life (27 Dec.). Arranged by Robert Cohen (Boston University).
- Present Status of the Unity of Science Thesis (27 Dec.). Arranged by Robert Cohen.
- Brain and Language (28 Dec.). Arranged by Robert Cohen.
- The 450th Anniversary of the Death of Leonardo da Vinci (28 Dec.). Arranged by Raymond Seeger (National Science Foundation).
- Comparative History and Sociology of Science (29 Dec.). Arranged by Robert Cohen.
- Current Problems in Cosmology (29 Dec.). Arranged by Robert Cohen.
- Objectivity in Anthropology (29 Dec.). Arranged by Robert Cohen.

### ☐ Society for General Systems Research

- Presidential Address (30 Dec.). "Environmental Design in Response to the Population Crisis" by Lawrence Slobodkin (State University of New York, Stony Brook).
- Extension of the Structure of Mendeleyev's Periodic Table to Physical, Biological, and Social Sciences (27 Dec.). Arranged by Edward Haskell (Council for Unified Research and Education, New York).
- General Systems Education Programs for the Future (28 Dec.). Arranged by Jere Clark (Southern Connecticut State College).
- Systems Aspects of Social and Environmental Problems: Part I and II (28–29 Dec.). Arranged by Lawrence Slobodkin.
- Systems Models of Urban Systems (29 Dec.). Arranged by Britton Harris (University of Pennsylvania).
- Toward the Unification of Management and Organization Theory (30 Dec.). Arranged by Edwin Tonnason (University of Massachusetts).

## Engineering (M)

### ☐ Section Program

- Manned Lunar Space Program (27–29 Dec.). Arranged by Paul Rosenberg (See AAAS General Program).
- Should a National General Engineering Society be Established? (29 Dec.). Arranged by Charles F. Savage (General Electric Company, New York).

## Medical Sciences (N)

### ☐ Section Program

- Systematic Approaches to Learning and Memory (26–27 Dec.). Arranged by William L. Byrne (University of Tennessee, Memphis).
- Expanding Horizons in Medical Education (28 Dec.). Arranged by Robert M. Dowben (Brown University).
- Extra-auditory Physiological Effects of Audible Sound (28–30 Dec.). Arranged by a Committee. Bruce Welch (Friends of Psychiatric Research, Spring Grove Hospital, Baltimore), *chairman*.
- Neurobiological Substrates of Behavior (29 Dec.). Arranged by R. G. Grenell (University of Maryland School of Medicine) and H. D. Lerner (Gordon and Breach Science Publishers, Washington, D.C.).

### ☐ Alpha Epsilon Delta

- Impact of Current Medical Curriculum Changes on the Undergraduate College (29 Dec.). Arranged by Maurice L. Moore (Bronxville, New York).

### ☐ American Association of Bioanalysts

- Contributed Papers (26 Dec.). Arranged by Louis J. Michini (Kingswood Medical Laboratory, West Hartford, Connecticut).

### ☐ American Psychiatric Association

- The Biology and Sociology of Violence (30 Dec.). Arranged by Leston Havens (Harvard Medical School).

## Dentistry (Nd)

### ☐ Section Program

- Interface between Bioengineering and Oral Biology (27 Dec.). Arranged by John W. Hein (Forsyth Dental Center, Boston, Mass.).

## Pharmaceutical Sciences (Np)

### ☐ Section Program

- Vice Presidential Address (29 Dec.). "How Can the Pharmacist Better Interact as a Member of the Health Team?" by Joseph P. Buckley (University of Pittsburgh).
- Contributed Papers on Hospital Pharmacy (29 Dec.). Arranged by Joseph Oddis (American Society of Hospital Pharmacists, Washington, D.C.).
- Distinguished Lecture (30 Dec.). "How Good Are Our Drugs?" by Lloyd C. Miller (U.S. Pharmacopeia, Bethesda).
- Immunosuppressive Drugs for Tissue Acceptance of Natural and Synthetic Materials (30 Dec.). Arranged by Wallace L. Guess (University of Texas, Austin).
- Contributed Papers on Pharmaceutical Sciences (30 Dec.). Arranged by Joseph Oddis.

## Agriculture (O)

### ☐ Section Program

- Our Food Supply (28 Dec.). Arranged by T. C. Byerly (U.S. Department of Agriculture, Washington, D.C.) and M. A. Farrell (Pennsylvania State University).

### ☐ Sigma Delta Epsilon

- Food from the Sea (29 Dec.). Arranged by Marie Berg (Metropolitan State Junior College, Minneapolis) and Robert L. Edwards (U.S. Fish and Wildlife Service, Woods Hole).

## Industrial Sciences (P)

### ☐ Section Program

- Past Vice Presidential Address (29 Dec.) by Donald W. Collier (Borg-Warner Corp., Chicago).
- Managing the Growth of the Small Technical Company (29 Dec.). Arranged by J. D. Lewis (Battelle Development Corporation, Columbus).
- Methods in R & D Management in the Small Technical Company (29 Dec.). Arranged by Burton V. Dean (Case Western Reserve University, Cleveland).

## Education (Q)

### ☐ Section Program

- Vice Presidential Address (27 Dec.). "Is Relevance Irrelevant to Science Education?" by R. Will Burnett (University of Illinois).
- Undergraduate Studies in Environmental Sciences (27 Dec.). Arranged by E. M. Hafner (Hampshire College).
- Creativity: Divergent Viewpoints and Implications (29 Dec.). Arranged by I. A. Taylor (Smith Richardson Foundation, Greensboro, N.C.).
- Science Education and the Nation (30 Dec.). Arranged by Willard Jacobson (Columbia University).
- Basic Research Related to Education (30 Dec.). Arranged by Howard F. Hjelm and Laurence G. Goebel (U.S. Office of Education, Washington, D.C.).
- AAAS Commission on Science Education
  - Preservice Science Education of Elementary School Teachers (29 Dec.). Arranged by John Mayor and Arthur Livermore (AAAS, Washington, D.C.).
- American Nature Study Society
  - Presidential Address (29 Dec.). "The Role of American Nature Society in a Changing Society" by William B. Stapp (University of Michigan).
  - Nature Study and Conservation Education for Urban Communities (27–29 Dec.). Arranged by Crayton Jackson (Morehead State University).
  - Field Trips (28, 30 Dec.).

☐ **Cooperative Committee on the Teaching of Science and Mathematics**

- School Science—Past and Future (30 Dec.). Arranged by A. A. Strassenburg (American Institute of Physics, New York).

☐ **Joint Science Teachers Societies**

- Science Education—Two Views (27 Dec.). Arranged by Stanley Wachs and George E. Hein (Boston University).

☐ **National Science Teachers Association**

- Questionable Assumptions Underlying Science Education in the United States (28 Dec.). Arranged by David E. Newton (Salem State College, Salem, Mass.).
- Education Technology and Science Education (28 Dec.). Arranged by Albert F. Eiss (Washington, D.C.).
- Learning—A Lifetime Process, joint with AAAS Vice Presidential Address (Section B) (29 Dec.) by Nathaniel H. Frank. Arranged by Albert F. Eiss.

Information and Communication (T)

☐ **Section Program**

- Vice Presidential Address (29 Dec.). "Communications or Chaos" by Dale Baker (Ohio State University).
- Specialization versus Integration of Knowledge in an Expanding Universe of Facts (28 Dec.). Arranged by Joachim Wohlwill (Clark University).

- SATCOM Report, Its Implications and Impact (28 Dec.). Arranged by Dale Baker.

- Economics of Scientific Publication (29 Dec.). Arranged by Burton Adkinson (National Science Foundation, Washington, D.C.).

☐ **National Association of Science Writers and American Medical Writers' Association**

- Science Fiction and Science (27 Dec.). Arranged by Eugene Kone (American Institute of Physics) and Shirley M. Linde (American Medical Writers Association).

☐ **Society of Technical Writers and Publishers**

- Technical Communication (27 Dec.). Arranged by Paul Flint (Tufts University).

Statistics (U)

☐ **Section Program**

- Vice Presidential Address and Statistics, Governments, and the Analysis of Social Problems (27 Dec.). Arranged by Ezra Glaser (U.S. Office of Education) and Rand Rosenblatt (George Washington University).

- Methodological Problems in Studying the Development of Ability (28 Dec.). Arranged by Rosedith Sitgreaves (Teachers College, Columbia University).

- Methodological Problems in Studying Crime (28 Dec.). Arranged by Rosedith Sitgreaves.

☐ **Biometric Society**

- Population Mathematics (29 Dec.). Arranged by Zenas M. Sykes (Johns Hopkins University).

- Evaluating Family Planning Programs (29 Dec.). Arranged by Zenas M. Sykes.

Atmospheric and Hydrospheric Sciences (W)

☐ **Section Program**

- Climate and Man (29 Dec.). Arranged by Louis Battan (University of Arizona, Tucson).

☐ **American Meteorological Society**

- Special Reports on the Atmospheric Sciences (30 Dec.). Arranged by Kenneth Spengler (Boston, Mass.).

General Sciences (X)

☐ **Academy Conference**

- Presidential Address and Dinner (27 Dec.). "The Academy Conference and Our Future Environment" by Wilmer W. Tanner (Brigham Young University).

- The Role of State Academies in Providing Scientific Assistance to State Government (27 Dec.). Arranged by John H. Melvin (Ohio Academy of Science, Columbus).

- Academies and Technical Education (27 Dec.). Arranged by John H. Melvin.

☐ **American Junior Academy**

- Contributed Papers on Physical and Biological Sciences (28 Dec.). Arranged by Frank Starr (Waterloo Community Schools, Waterloo, Iowa).



# AAAS ANNUAL MEETING

26-31 December 1969, Boston

Registration badges will be required for admission to all sessions,  
except for a few special programs to which the public will be invited.

## ADVANCE REGISTRATION FORM

Mail to: American Association for the Advancement of Science, Dept. R  
1515 Massachusetts Ave., N.W., Washington, D.C. 20005

- ☐ Enclosed is \$10 Registration Fee (*Program* and Convention Badge)
- ☐ Enclosed is \$15 Registration Fee (including spouse) (*Program* and Convention Badges)
- ☐ Enclosed is \$5 Student Registration Fee (16 years and older) (*Program* and Convention Badge)
- ☐ Enclosed is \$5 for the *Program* only
- ☐ Enclosed is \$..... for tours.

(Mailing date of program and badge will be 1 Dec.)

NAME: \_\_\_\_\_  
(Last) (First) (Middle Initial)

MULTIPLE REGISTRATION: \_\_\_\_\_  
(List full name for spouse and each student.)

MAILING ADDRESS: \_\_\_\_\_  
(For receipt of *Program*) (Street) (City/State) (Zip Code)

INSTITUTION OR  
COMPANY AFFILIATION: \_\_\_\_\_  
(City) (State) (Zip Code)

CONVENTION ADDRESS: \_\_\_\_\_

## TOURS AND SPECIAL EVENTS

The AAAS is pleased to offer tours and special events for registrants (only) at the Association's Annual Meeting. Chartered buses will provide transportation. The only fee involved, except in the case of the concert, is for transportation. Please use this form to register. Indicate the number of tickets you wish to order. Enclose payment. Attendance is limited; early registration is recommended. **No refunds after 15 Dec.** Tour participants will visit "behind-the-scenes" of the establishments and hear about work in progress.

Number of Tickets	Tour or Special Event
_____	Worcester Foundation for Experimental Biology, 27 Dec., 9:00 a.m.-3:00 p.m. (\$3.00)
_____	New England Aquarium, 8:30-11:30 a.m. (\$3.00; includes \$1.00 admission fee)
_____	27 Dec.
_____	29 Dec.
_____	Boston Symphony Orchestra Concert, 29 Dec., 8:30 p.m., Symphony Hall (Tickets \$5.00 each; no transportation is provided.)
_____	Cambridge Electron Accelerator, 29 Dec., 9:00-11:30 a.m. (\$2.00)
_____	Massachusetts General Hospital, 9:00 a.m.-12:15 p.m. (\$2.00)
_____	29 Dec.
_____	30 Dec.
_____	M.I.T., 29 Dec., 8:30 a.m.-noon (\$2.00)
_____	M.I.T. Educational Presentation, 29 Dec., 1:30-4:30 p.m. (\$2.00)
_____	Isabella Stewart Gardner Museum, 30 Dec., 2:00-5:00 p.m. (\$2.00)
_____	Museum of Fine Arts, 30 Dec., 9:30 a.m.-1:00 p.m. (\$3.00; includes \$1.00 admission fee)
_____	Museum of Science, 30 Dec., 10:00 a.m.-12:30 p.m. (\$2.00) (luncheon included)
_____	Woods Hole Oceanographic Institution, Marine Biological Laboratories, and U.S. Bureau of Commercial Fisheries, 30 Dec., 9:30 a.m.-5:00 p.m. (\$4.00)
_____	Harvard University, 30 Dec., 1:30-4:30 p.m. (\$2.00)
_____	Total number of tickets. \$_____ total amount remitted for tours.

No fee is involved for the following events, but tickets are required. Please indicate the number of tickets you require. No transportation is provided.

\_\_\_\_\_ Science/Music Symposium, 27 Dec., 8:30 p.m., Jordan Hall of New England Conservatory.  
\_\_\_\_\_ Tea at the headquarters of the American Meteorological Society, 28 Dec., 3:00-5:00 p.m. (Ladies only)



## HOTEL REGISTRATION

The American Association for the Advancement of Science will hold its 1969 Annual Meeting in Boston, Mass., 26-31 December 1969. The following hotels will be used for housing. Registration desks will be located at the Sheraton Boston Hotel, Statler Hilton Hotel, and the War Memorial Auditorium. For location of offices and sessions, see page 1158 of the 12 September issue of *Science*.



### HOTEL RATES\* (Per Day)

HOTEL	SINGLE	DOUBLE	TWIN	SUITES
Cambridge Charterhouse** 5 Cambridge Parkway	\$16.00	\$22.00	\$22.00	—
1 Copley Square Hotel 47 Huntington Avenue	13.50-15.50	18.50-19.50	19.50-20.50	\$25.00-up
Essex Hotel** 695 Atlantic Avenue	11.50-12.50	17.50	18.50	—
Holiday Inn-Charles River** 5 Blossom Street	—	18.00	23.00	—
2 Lenox Hotel 710 Boylston Street	15.50-19.50	18.50-24.50	21.50-26.50	21.00-up
Madison Hotel** 25 Nashua Street	10.75-14.75	14.75-18.75	16.75-19.75	29.75-up
3 Midtown Motor Inn 220 Huntington Avenue	16.00-18.00	—	22.00-24.00	—
Parker House Hotel** 60 School Street	13.00	17.00	21.00	37.50-up
4 Sheraton Boston Hotel Prudential Center	14.00-23.00	24.00-26.00	24.00-29.00	39.00-up
5 Sheraton Plaza Hotel Copley Square	17.00-20.00	23.00-26.00	23.00-26.00	45.00-up
6 Somerset Hotel 400 Commonwealth Avenue	17.00	—	21.00	—
7 Statler Hilton Hotel Park Square	16.00-20.00	23.00-25.00	25.00-27.00	61.00-up

\* Massachusetts Room Tax, 5.7%; rates for suites: parlor plus one-, two-, three-bedroom; \$4.00-5.00 additional charge for cots.  
 \*\* Not shown on map, page 1158 of the 12 September issue of *Science*.

### HOTEL RESERVATIONS FORM

Mail To: AAAS Housing Bureau, Greater Boston Chamber of Commerce, 125 High Street, Boston, Massachusetts 02110

(Reservations received after 13 December cannot be assured.)

CHOICE OF HOTEL: First \_\_\_\_\_ Second \_\_\_\_\_ Third \_\_\_\_\_

ROOM: ☐ Single ☐ Double ☐ Twin ☐ Suite Preferred rate \$ \_\_\_\_\_

Number in party \_\_\_\_\_ sharing this room will be (list name and address of each person, including your own):

\_\_\_\_\_  
 \_\_\_\_\_

ARRIVAL: Date \_\_\_\_\_; \_\_\_\_\_ a.m. \_\_\_\_\_ p.m.

DEPARTURE: Date \_\_\_\_\_; \_\_\_\_\_ a.m. \_\_\_\_\_ p.m.

Be sure to list definite arrival and departure date and time. Hotel reservations will be held *only* until 6 p.m. unless otherwise specified.

NAME: \_\_\_\_\_

(Individual requesting reservation)

ADDRESS: \_\_\_\_\_

(Street)

(City and State)

(Zip Code)