

The unique opportunity is to bring before those who seek to understand, those who understand deeply

PRELIMINARY PROGRAM

AAAS ANNUAL MEETING,

BOSTON, MASSACHUSETTS

26–31 December 1969

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

AAAS INVITED LECTURES AND PANELS

- ☐ Distinguished Lecture (27 Dec.).
Emilio Q. Daddario (House of Representatives).
- ☐ Address of the Retiring AAAS President (28 Dec.).
W. O. Roberts (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.).
To be selected.
- ☐ British Association for the Advancement of Science Lecture (30 Dec.).
To be announced.
- ☐ Film Lectures (27–30 Dec.).
Galápagos—Wild Eden, Roger T. Peterson (Old Lyme, Conn.).
John Wesley Powell and the Exploration of the Colorado River, Eugene M. Shoemaker (California Institute of Technology).
Communal Child Rearing in Israeli Kibbutzim, Bruno Bettelheim (University of Chicago).
Eskimo Anthropology, Educational Services, Inc. (Newton, Mass.).

AAAS COMMITTEE SYMPOSIA

- ☐ Committee on Environmental Alteration (28 Dec.).
Arranged by David A. Berkowitz (Mitre Corporation, Bedford, Mass.) and J. P. Ruina (Massachusetts Institute of Technology).
- ☐ Committee on Science in the Promotion of Human Welfare (29–30 Dec.).
Is Military Support of Academic Research Justified?
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).
- ☐ Science and the Future of Man (28–29 Dec.).
Arranged by R. L. Carovillano and James W. Skehan, S.J. (Boston College).
- ☐ World Order and the Technological Revolution (28 Dec.).
Arranged by Robert H. Reno (Concord, N.H.).
- ☐ The 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 Hos-





pital, 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 Alan A. Smith (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 and Computers in Mathematics and Science (28 Dec.). Arranged by Mark Kac (Rockefeller University, New York).

- ☐ **American Mathematical Society**

- Fourth Annual Symposium on Some Mathematical Questions in Biology (27 Dec.). Arranged by J. D. Cowan (University of Chicago) and 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 H. Rogers, Jr. (M.I.T.).

- ☐ **National Council of Teachers of Mathematics**

- Mathematical Education (30 Dec.). Arranged by John C. Eggsgard (Toronto, Ontario).

- ☐ **Operations Research Society of America**

- Quantitative Studies of Urban Problems: Part II, 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 I, 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
Nathaniel H. Frank (Massachusetts Institute of Technology).

- 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? (26–27 Dec.). Arranged by Donald G. Rea (NASA, Washington, D.C.).

- ☐ **American Institute of Aeronautics and Astronautics**

- Space Astronomy (30 Dec.). Arranged by Francis W. French (Avco Everett Research Laboratory, Everett, Massachusetts).

Chemistry (C)

- ☐ **Section Program**

- The Total Synthesis of Food (27–28 Dec.). Arranged by Leo Schubert (American University).

- Mendeleyev Centennial Symposium (29 Dec.). Arranged by Leo Schubert.

- Biomedical Materials (29 Dec.). Arranged by Fred Leonard (Walter Reed Army Medical Center, Washington, D.C.).

Astronomy (D)

- ☐ **Section Program**

- The Distribution of Clusters of Galaxies (28 Dec.). Arranged by Gibson Reaves (University of Southern California).

- 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 (JOIDES)—A Progress Report (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 (Massachusetts State College at Salem).

- ☐ National Speleological Society, Inc.
 - Contributed Papers in Cave Biology and Cave Geology and Geography (27 Dec.). Arranged by Thomas L. Poulson (Yale University) and 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).

- ☐ American Society of Zoologists
 - Past Presidents' Symposium.
 - Contributed Papers on Miscellaneous Subjects (26–28 Dec.). Arranged by E. Peter Volpe (Tulane University).

- ☐ ASZ/Division of Comparative Endocrinology
 - Recent Developments in Insect Endocrinology (26–27 Dec.). Arranged by Franz Engelman (University of California, Los Angeles).
 - Comparative Endocrinology of the Pineal (27 Dec.). Arranged by Russel J. Reiter (University of Rochester School of Medicine and Dentistry).
 - Contributed Papers on Comparative Endocrinology (28–30 Dec.). Arranged by R. D. Lisk (Princeton University).

- ☐ ASZ/Division of Comparative Physiology and Biochemistry
 - Biochemical Adaptations (29–31 Dec.). Arranged by Frank Conte (Oregon State University).

- Physiology of Annelids (28–29 Dec.). Arranged by C. P. Mangum (College of William and Mary).

- Contributed Papers on Comparative Physiology and Biochemistry (27–31 Dec.). Arranged by Michael J. Greenberg (Florida State University).

- ☐ ASZ/Division of Developmental Biology
 - Hormonal Mechanisms in the Control of Development and Reproduction (29 Dec.). Arranged by David Bishop (Medical College of Ohio, Toledo).
 - Contributed Papers on Developmental Biology (26–28, 30–31 Dec.). Arranged by Hans Laufer (University of Connecticut).

- ☐ ASZ/Division of Ecology
 - To be announced (29–30 Dec.).

- ☐ ASZ/Division of Invertebrate Zoology
 - 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).

- Contributed Papers on Invertebrate Zoology (26–27 Dec.). Arranged by Peter E. Pickens (University of Arizona).

- ☐ 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).

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

- ☐ Society of Protozoologists
 - Contributed Papers (26–30 Dec.). Arranged by Datus M. Hammond (Utah State University).

- ☐ Society of Systematic Zoology
 - Sea-Level Panama Canal: Marine Biological Effects (30 Dec.). Arranged by J. C. Briggs (University of South Florida, Tampa).

- Contributed Papers (27–28 Dec.). Arranged by Joseph Simon (University of South Florida, Tampa).

Biological Sciences (FG)

- ☐ American Society of Naturalists
 - Presidential Address by G. L. Stebbins, The Natural History and Evolutionary Future of Mankind (28 Dec.).

- Newer Trends in Population Biology (28 Dec.). Arranged by Robert H. MacArthur (Princeton University).

- ☐ Ecological Society of America
 - Ecological Data for Environmental Quality (28 Dec.). Arranged by Charles F. Cooper (University of Michigan).
 - The Theory and Practice of Biological Control (27 Dec.). Arranged by Carl Huffaker (University of California, Berkeley).

- Inshore Mollusks: Species under Stress (30 Dec.). Arranged by Perry Jeffries (University of Rhode Island).
- Contributed Papers (26, 29, 31 Dec.). Arranged by William Osburn (U.S. Atomic Energy Commission, Washington, D.C.).

☐ Society for the Study of Evolution

- Contributed Papers (27, 29–30 Dec.). Arranged by David L. Jameson (University of Houston).

Botanical Sciences (G)

☐ Section Program

- Plant and Animal Cell Division (30 Dec.). Arranged by John Torrey (Harvard University).

Anthropology (H)

☐ Section Program

- Archeology and the Evolution of Social Structure (26 Dec.). Arranged by Christopher Peebles.
- International Studies of Eskimos (27 Dec.). Arranged by David R. Hughes (University of Toronto).
- Land Use, Population, and Settlement in Ancient Mexico and Guatemala (28 Dec.). Arranged by Pedro Armillas (State University of New York at Stony Brook).
- The City as a Social System (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).
- Field Studies of Nutrition and Behavior (30 Dec.). Arranged by Andrew P. Vayda (Columbia University).

Psychology (I)

☐ Section Program

- Vice Presidential Address, Some Experiments on Temporal Pattern Perception, Wendell R. Garner.
- Tektite: A Behavioral Study in a Hostile Environment (27 Dec.). Arranged by Stanley Deutsch (Chief, Man-Systems Integration, NASA, 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, Storrs).
- Malnutrition and Learning in Children within the U.S.A. (29 Dec.). Arranged by Bernard Brown (American University, Washington, D.C.).

- 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, Massachusetts).

- 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).

Social and Economic Sciences (K)

☐ Section Program

- Vice Presidential Address, White Delinquents in the City Slums: As Boys and Men, Dr. and Mrs. Sheldon Glueck (28 Dec.).
- Approaches to Policy Sciences (28 Dec.). Arranged by Yehezkel Dror (RAND Corporation, Santa Monica).
- 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).

☐ Association for the Study of Grants Economy

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

☐ National Institute of Social and Behavioral Science

- Social Systems and Mathematical Modeling (26 Dec.). Arranged by Donald P. Ray (National Institute of Social and Behavioral Science, Washington, D.C.).
- Contributed Papers (29 Dec.). Arranged by Donald P. Ray.

☐ Population Association of America

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

☐ Metric Association

- Inching Toward The Metric System (29 Dec.). Arranged by

ranged by D. V. Frost (President, Metric Association, Brattleboro, Vt.) and J. H. Howard (ACFRL, Bedford, Mass.).

History and Philosophy of Sciences (L)

☐ Section Program

- George Sarton Memorial Lecture (27 Dec.). Thomas S. 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.
- Symposium Commemorating the 450th Anniversary of the Death of Leonardo da Vinci (28 Dec.). Arranged by Raymond Seeger (National Science Foundation, Washington, D.C.).
- 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

- General Systems Education Programs for the Future (28 Dec.). Arranged by Lawrence Slobodkin (State University of New York at Stony Brook).
- Social and Legal Questions of Significance for General Systems Research (28 Dec.). Arranged by Lawrence Slobodkin.
- Systems Models of Urban Systems (29 Dec.). Arranged by Lawrence Slobodkin.
- Contributed Papers (29 Dec.). Arranged by Lawrence Slobodkin.
- Water Resource Management and Future Planning (30 Dec.). Arranged by Lawrence Slobodkin.

Engineering (M)

☐ Section 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, Providence).
- Nonauditory Effects of Noise (28-30 Dec.). Arranged by Bruce Welch (Friends of Psychiatric Research, Spring Grove Hospital, Baltimore).
- 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 the Current Medical Curriculum Changes on the Undergraduate College (29 Dec.). Arranged by Maurice L. Moore (Bronxville, New York).

☐ American Psychiatric Association

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

Pharmaceutical Sciences (Np)

☐ Section Program

- Vice Presidential Address, How Can the Pharmacist Better Interact as a Member of the Health Team? (29 Dec.). Joseph P. Buckley (University of Pittsburgh).
- Contributed Papers in Hospital Pharmacy (29 Dec.). Arranged by Joseph Oddis (American Society of Hospital Pharmacists, Washington, D.C.).
- Distinguished Lecture (30 Dec.). Lloyd C. Miller (New York City).
- Immunosuppressive Drugs for Tissue Acceptance of Natural and Synthetic Materials (30 Dec.). Arranged by Wallace L. Guess (University of Texas, Austin).
- Contributed Papers in 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, Massachusetts).



Nighttime view of Boston. [Mel Goldman Studios, Boston]

Industrial Sciences (P)

☐ Section Program

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

Education (Q)

☐ Section Program

- Undergraduate Studies in Environmental Sciences (27 Dec.). Arranged by E. M. Hafner (Hampshire College, School of Natural Science).
- Preservice Science Education of Elementary School Teachers (29 Dec.). Arranged by John Mayor and Arthur Livermore (AAAS, Washington, D.C.).

- Science Education and the Nation (30 Dec.). Arranged by Willard Jacobson (Columbia University).

☒ Joint Science Teachers Societies

Arranged by Stanley Wachs (Boston University) (27 Dec.).

☐ National Science Teachers Association

Arranged by Albert F. Eiss (National Education Association, Washington, D.C.) (28–29 Dec.).

☐ Cooperative Committee on the Teaching of Science and Mathematics

- School Science—Past and Future (30 Dec.). Arranged by A. A. Strassenburg (State University of New York at Stony Brook).

Information and Communication (T)

☐ Section Program

- Vice Presidential Address (30 Dec.). Dale Baker (Ohio State University).
- Knowledge Explosion and its Implications for the Progress of Science (28 Dec.). Arranged by Joachim



Wohlwill (Educational Testing Service, Princeton, New Jersey).

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

- SATCOM Report (28 Dec.). Arranged by Dale Baker.

- ☐ Society of Technical Writers and Publishers
Arranged by Paul Flint (Dean, Graduate School of Arts and Sciences, Tufts University). (27 Dec.).

- ☐ National Association of Science Writers and American Association of Medical Writers (27 Dec.).
Arranged by Eugene Kone (American Institute of Physics) (27 Dec.).

Statistics (U)

- ☐ Section Program
 - Vice Presidential Address, 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).

- ☐ 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

- Changes in the Environment of the Planet Earth (29 Dec.). Arranged by Louis Battan (Institute of Atmospheric Physics, University of Arizona, Tucson).

General Sciences (X)

☐ Academy Conference

- Dinner and Presidential Address (27 Dec.). Arranged by Wilmer J. Tanner.

- Science Advice by Academies (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 (28 Dec.). Arranged by Frank Starr (Waterloo Community Schools, Waterloo, Iowa).

TOURS

Harvard University
Massachusetts Institute of Technology
Massachusetts General Hospital
Woods Hole Oceanographic Institution
Worcester Foundation for Experimental Biology
Cambridge Electron Accelerator
New England Aquarium
Boston Museum of Fine Arts
American Meteorological Society Headquarters
Isabella Stewart Gardner Museum

SPECIAL EVENTS

Boston Symphony Orchestra Concert (29 Dec.).
Science-Music Seminar (27 Dec.).
Science Film Theatre (27-30 Dec.).
Education Exhibits—Health, Weather, Computers
Commercial Exhibits
Fogg Art Museum, Harvard—Ancient Scientific Instruments
Houghton Library, Harvard—Early Astronomical Documents
Boston Museum of Fine Arts—"The City as a Work of Art"

Further information, including housing, registration and tours forms, will appear in the 12 September issue of Science. Session dates and titles are preliminary and are subject to change. Additional programs are being planned.