

# PRELIMINARY PROGRAM AAAS ANNUAL MEETING CHICAGO, ILLINOIS

26-31 December 1970

Co-Chairmen: George W. Beadle (Professor of Biology, University of Chicago) and Thomas H. Coulter (Chief Executive Officer, Chicago Association of Commerce and Industry).

## AAAS INVITED LECTURES AND PANELS

- **Special Lecture (26 Dec.).**  
Phillip Handler (President, National Academy of Sciences).
- **Distinguished Lecture (27 Dec.).**  
Gunnar Myrdal (Director, Institute for International Economic Studies, Stockholm, Sweden).
- **Address of the Retiring AAAS President (28 Dec.).**  
H. Bentley Glass (Vice President for Academic Affairs, State University of New York, Stony Brook).
- **Sigma Xi-Phi Beta Kappa Lecture (29 Dec.).**  
Allan Cartter (Chancellor and Executive Vice President, New York University).
- **RESA Annual Address and Panel Discussion (29 Dec.).**  
Lloyd M. Cooke (Director of Urban Affairs, Union Carbide Corporation).
- **Frontiers of Science Lecture (30 Dec.).**  
Thomas Eisner (Professor of Biological Sciences, Cornell University).
- **Special Lectures**  
Natalia S. Kisljak (Presidium of the Committee of Soviet Women) (27 Dec.).  
Vadien S. Semanov (Presidium of the Soviet Sociology Association) (29 Dec.).
- **Demonstration Lecture (27 Dec.).**  
Eric M. Rogers (Professor of Physics, Princeton University).
- **Illustrated Lectures (26-30 Dec.).**  
Margaret Mead (Adjunct Professor of Anthropology, Columbia University; Curator Emeritus, American Museum of Natural History); Eugenia Clark (Associate Professor of Zoology, University of Maryland); Asen Balikci (Professor of Anthropology, University of Montreal); William Pickering (Director, Jet Propulsion Laboratory); Paul S. Bauer (Captain, U.S. Navy Reserve, retired); and Stanley Haas (Assistant Operations Manager of the Marine Department, Humble Oil and Refining Company).

## PHYSICAL UNIVERSE

- **Association of Academies of Science Presidential Address (27 Dec.).**  
Environmental Geology, by Glenn W. Stewart (University of New Hampshire).
- **Elementary Particles and Symmetry (27 Dec.).**  
Arranged by Albert M. Stone (Applied Physics Laboratory, Johns Hopkins University).
- **Results of the Apollo Program (29 Dec.).**  
Arranged by Louis Walter (Goddard Space Flight Center, Greenbelt, Maryland).
- **Lake Restoration (29 Dec.).**  
Arranged by Robert A. Ragotzkie (University of Wisconsin).
- **Recent Physical Science (29 Dec.).**  
Arranged by John L. Heilbron (University of California, Berkeley).
- **Interstellar Molecules and Chemistry (30 Dec.).**  
Arranged by Bertram D. Donn (Goddard Space Flight Center, Greenbelt, Maryland).
- **Water Supply and Water Management Problems in the Great Lakes (30 Dec.).**  
Arranged by Max A. Kohler (ESSA-Weather Bureau, Washington, D.C.); William C. Ackermann (Illinois Water Survey, Urbana); and L. A. Heindle (National Academy of Sciences, Washington).

## LIVING WORLD

- **Some Mathematical Questions in Biology (27 Dec.).**  
Arranged by J. D. Cowan (University of Chicago).
- **Parthenogenesis (27 Dec.).**  
Arranged by James Oliver (Georgia Southern University, Statesboro).
- **Plant Population Dynamics (27 Dec.).**  
Arranged by Jack McCormick (Devon, Pennsylvania).





- **Satellite DNA's (27 Dec.).**  
Arranged by Dorothy M. Skinner (Oak Ridge National Laboratory).
- **Water Quality and Fisheries in the Upper Great Lakes (28 Dec.).**  
Arranged by Clarence A. Carlson (Cornell University).
- **Human Ecology (28 Dec.).**  
Arranged by George B. Happ (Institute of Human Ecology) and Eduard C. Brandt, Jr. (Radford College, Radford, Virginia)
- **The Development of Cell Organelles (28 Dec.).**  
Arranged by Joel L. Rosenbaum (Yale University).
- **Biology of Immunity in Amphibians (28 Dec.).**  
Arranged by E. Peter Volpe (Tulane University).
- **Biologic Relativity (28 Dec.).**  
Arranged by E. R. N. Grigg (Chicago Medical School).
- **Lenses on Nature (28 Dec.).**  
Arranged by John I. Green (St. Lawrence University).
- **The U. S. Contribution to the International Biological Program (28-29 Dec.).**  
Arranged by the U.S. National Committee for the International Biological Program, National Academy of Sciences, Washington, D.C.
- **The Libbie H. Hyman Memorial Symposium on Biology of the Turbellaria (28-30 Dec.).**  
Arranged by M. Patricia Morse (Northeastern University); Nathan W. Riser (Northeastern University); and Horace W. Stunkard (American Museum of Natural History).
- **Comparative Studies of Calcitonin and Ultimobranchial Bodies (29 Dec.).**  
Arranged by Nancy B. Clark (University of Connecticut, Storrs).
- **Techniques of Investigation and Current Concepts in the Physiology and Biochemistry of Sex Steroid Action (29 Dec.).**  
Arranged by Robert D. Lisk (Princeton University).
- **Analytic Problems in the Study of Animal Behavior (29 Dec.).**  
Arranged by Stuart A. Altmann (University of Chicago).
- **Methods and Problems in Cladistic Research (29 Dec.).**  
Arranged by Joseph L. Simon (University of Southern Florida).
- **Marine Pharmacology and Toxicology (29 Dec.).**  
Arranged by Gary P. Carlson (University of Rhode Island).
- **Society for the Study of Evolution Presidential Address (30 Dec.).**  
Richard Lewontin (University of Chicago).

## HEALTH, DISEASE, BEHAVIOR

- **The Interface between Psychoanalysis and Education (27 Dec.).**  
Arranged by G. E. Blom (University of Colorado Medical Center).
- **Techniques and Status of Modern Parapsychology (27 Dec.).**  
Arranged by E. Douglas Dean (Newark College of Engineering).
- **The Importance of the Bioanalytical Laboratory in Health Care (27 Dec.).**  
Arranged by Edmond L. Morgan (Illinois Association of Clinical Laboratories, Des Plaines).
- **Mood, Behavior, and Drugs (27-28 Dec.).**  
Arranged by Chauncey Leake (San Francisco Medical Center, University of California).
- **Separation and Depression: Clinical and Research Aspects (27-28 Dec.).**  
Arranged by Edward C. Senay (University of Chicago) and John Paul Scott (Bowling Green University).
- **Advances in Human Genetics and Their Impact on Society (28 Dec.).**  
Arranged by Digamber S. Borgaonkar (Johns Hopkins University School of Medicine) and Saleem A. Shah (National Institute of Mental Health).
- **AAAS Vice Presidential Address (Pharmaceutical Sciences) (28 Dec.).**  
Don E. Francke (University of Cincinnati).
- **Distinguished Lecture of the AAAS Section on Pharmaceutical Sciences (28 Dec.).**  
Delivery of Health Care in the United States, by Ray E. Brown (Northwestern University McGaw Medical Center).
- **The Neuropsychology of Feeding (28-29 Dec.).**  
Arranged by Robert C. Likins (University of Chicago).
- **Sigma Delta Epsilon Address (29 Dec.).**  
Virus Vaccines, Past and Future, by Hope E. Hopps (National Institutes of Health).
- **Genetic Diseases and the Quality of Life (29 Dec.).**  
Arranged by Donald T. Forman (Evanston Hospital, Illinois) and Albert A. Dietz (Veterans Administration Hospital, Hines, Illinois).
- **Biocybernetics of the Dynamic Communication of Emotions and Qualities (29 Dec.).**  
Arranged by Manfred Clynes (Rockland State Hospital).
- **Mechanical Factors in Speech Production (29 Dec.).**  
Arranged by Fred Minifie (University of Wisconsin).
- **Minor Metals of the Geochemical Environment, Health and Disease (30 Dec.).**  
Arranged by Helen L. Cannon (U.S. Geological Survey,

Denver) and Howard C. Hopps (Armed Forces Institute of Pathology, Washington, D.C.).

- **Human Behavior and Its Control (30 Dec.).**  
Arranged by William A. Hunt (Loyola University, Chicago, Illinois).
- **Pharmaceuticals and the Skin (30 Dec.).**  
Arranged by Joseph Jerome (U.S. Adopted Names Council).
- **The Chemistry of Learning and Memory (30 Dec.).**  
Arranged by William Bryne (University of Tennessee, Knoxville).

## ENVIRONMENTAL PROBLEMS AND URBAN AFFAIRS

- **Urbanization in the Arid Lands (26-27 Dec.).**  
Arranged by Carle O. Hodge and Carl N. Hodges (University of Arizona).
- **Aleutian Ecosystem (26-27 Dec.).**  
Arranged by William S. Laughlin, R. F. Black, and J. S. Aigner (University of Connecticut).
- **Reducing the Environmental Impact of Population Growth (26, 28-30).**  
Arranged by S. Fred Singer (U.S. Department of the Interior).
- **World Cities of the Future (26-30 Dec.).**  
Arranged by Bertram Gross (Hunter College).
- **Is Population Growth Responsible for the Environmental Crisis in the United States? (27 Dec.).**  
Arranged by Barry Commoner (Washington University).
- **Systems Approach to Environmental Pollution (27-28 Dec.).**  
Arranged by George K. Chacko (Washington, D.C.).
- **Solutions to Environmental Problems (28 Dec.).**  
Arranged by Bruce Wallace (Cornell University) and David L. Jameson (University of Houston).
- **Industrial Approaches to Urban Problems (28 Dec.).**  
Arranged by Jordan D. Lewis (Battelle Development Corporation).
- **Man's Impact on the Global Environment (28 Dec.).**  
Arranged by Carroll L. Wilson (Massachusetts Institute of Technology).
- **Public Policy for the Environment (28 Dec.).**  
Arranged by Harold P. Green (George Washington University) and Walter G. Berl (AAAS, Washington, D.C.).
- **Agriculture and the Quality of the Environment in the Seventies (28-29 Dec.).**  
Arranged by Matthias Stelly (American Society of Agronomy).

- **Law-Science Interface (29 Dec.).**  
Arranged by Harold P. Green (George Washington University).
- **Large-Scale Use of Defoliant (29 Dec.).**  
Arranged by Walter G. Berl (AAAS, Washington, D.C.).
- **Land-Use Problems in Illinois (30 Dec.).**  
Arranged by Robert E. Bergstrom (Illinois State Geological Survey).
- **Urban Ecology Today (30 Dec.).**  
Arranged by Forest Stearns (University of Wisconsin); William S. Osburn (U.S. Atomic Energy Commission); Robert Brander (U.S. Forest Service); and Charles M. Kirkpatrick (Purdue University).
- **Statistical Problems of Resources Management (30 Dec.).**  
Arranged by Douglas Chapman (University of Washington).

## TECHNOLOGY

- **Computers and Society (26 Dec.).**  
Arranged by Robert Ashenurst (University of Chicago).
- **Automobile Pollution (26 Dec.).**  
Arranged by Paul Rosenberg (Paul Rosenberg Associates, New York).
- **Uses of Statistics in Operations Research (26 Dec.).**  
Arranged by John E. Walsh (Southern Methodist University).
- **Metric System—Status of Adoption by the United States (28 Dec.).**  
Arranged by Richard W. Mattoon (Abbott Laboratories, Chicago, Illinois).
- **Past AAAS Vice Presidential Address (Industrial Sciences and Presentation of Industrial Science Award (28 Dec.).**  
Gordon Teal (Texas Instruments).
- **How People React to Technology (28 Dec.).**  
Arranged by Emmanuel G. Mesthene (Harvard University).
- **Technology: Nuts and Bolts of Social Process (29-30 Dec.).**  
Arranged by Thomas R. DeGregori (University of Houston).
- **New Roles for Old Research and Development Laboratories (30 Dec.).**  
Arranged by James Carroll (Ohio State University).
- **The Economics and Politics of Large-Scale Technological Programs (30 Dec.).**  
Arranged by Daniel Rich (University of Delaware, Newark).





## SOCIAL, POLITICAL, ECONOMIC INTERACTIONS

- AAAS Vice Presidential Address (Anthropology) and AAAS Illustrated Lecture (26 Dec.).  
Primitive Life Styles: Once Lost, Irretrievably Lost, by Margaret Mead (American Museum of Natural History).
- Policy Sciences: A New Supradiscipline and Its Implications (26-27 Dec.).  
Arranged by Yehezkel Dror (The Rand Corporation, Santa Monica, California).
- The Grants Economy (26-27 Dec.).  
Arranged by Janos Horvath (Butler University).
- AAAS Vice Presidential Address (Social and Economic Sciences) (27 Dec.).  
Robert M. Solow (Massachusetts Institute of Technology).
- The Responsibilities of Science (27 Dec.).  
Arranged by Steven Orman (University of Chicago).
- Society for General Systems Research Presidential Address (27 Dec.).  
The Coming Era of Systemic Societal Change, by Bertram Gross (Hunter College).
- Simulation and the Science of Public Policy (27 Dec.).  
Arranged by Donald P. Ray (Washington, D.C.).
- Women in Science (27 Dec.).  
Arranged by Jean Simmons (Upsala College, East Orange, New Jersey).
- The Developmental Sciences: State and Fate of Research Funding (27 Dec.).  
Arranged by Victor Denenberg (University of Connecticut).
- Science and Democracy (27 Dec.).  
Arranged by Harvey Sapolsky (Massachusetts Institute of Technology).
- Social Consequences of Demographic Phenomena (27 Dec.).  
Arranged by David D. McFarland (University of Chicago).
- Comparative Policies in Science and Technology (27 Dec.).  
Arranged by Dixon Long (Case Western Reserve University).
- Critical Issues in Research Related to Disadvantaged Children (28 Dec.).  
Arranged by Donald L. Peters (Pennsylvania State University).
- Science Policies of Non-Defense Federal Agencies (28 Dec.).  
Arranged by James Carroll (Ohio State University).
- Directions in Religious Organizations (28 Dec.).  
Arranged by Ross P. Scherer (Loyola University).

- Recent Studies in the Sociology of Science (28 Dec.).  
Arranged by Bernard Barber (Barnard College, Columbia University).
- Science and the Federal Government—1970 (28-30 Dec.).  
Arranged by Raymond J. Seeger (AAAS, Washington, D.C.).
- User Participation in the Housing Process (29 Dec.).  
Arranged by John Turner (Cambridge, Massachusetts).
- Goals Analysis—Looking Ahead to 1980 (29 Dec.).  
Arranged by Leonard A. Lecht (National Planning Association).
- Crime, Violence, and Social Control (29-30 Dec.).  
Arranged by Joseph Coates (National Science Foundation).
- Scientific Organizations: War-Peace Issues and the Public Policy Process (30 Dec.).  
Arranged by Robert Pickus (Berkeley, California).

## ETHICS, PHILOSOPHY, HISTORY

- Society for the History of Technology Presidential Address (27 Dec.).  
Robert P. Multhauf (Smithsonian Institution).
- Scientific Engineering in the 19th Century (27 Dec.).  
Arranged by Otto Mayr (Smithsonian Institution, Washington, D.C.).
- Science in the 19th Century (27 Dec.).  
Arranged by John L. Heilbron (University of California, Berkeley).
- The Confrontation of Scientific Traditions in the Orient (27 Dec.).  
Arranged by John L. Heilbron (University of California, Berkeley).
- Renaissance Optics (27 Dec.).  
Arranged by David Lindberg (University of Wisconsin).
- The Improvement of Instruments and the Growth of Scientific Ideas (28 Dec.).  
Arranged by John L. Heilbron.
- George Sarton Memorial Lecture (28 Dec.).  
Attitudes toward Nature in Medieval England: The Alphonso and Bird Psalters, by G. Evelyn Hutchinson (Yale University).
- Hiroshima: 25 Years Later (28 Dec.).  
Arranged by George Wald (Harvard University).
- Early Modern Biology (28 Dec.).  
Arranged by Theodore M. Brown (Princeton University).
- Perspectives on Apollo History (29 Dec.).  
Arranged by Loyd S. Swenson, Jr. (University of Houston).

- **Problems in the Meaning of Death (29 Dec.).**  
Arranged for the Institute of Society, Ethics, and the Life Sciences by Leon Kass (National Academy of Sciences).
- **Contributions of U.S. Minority Groups to the Development of Science (30 Dec.).**  
Arranged by Raymond J. Seeger (AAAS, Washington, D.C.).
- **Approaches to the Philosophy of Biology (30 Dec.).**  
Arranged by Dudley Shapere (University of Chicago).

## EDUCATION, LEARNING, COMMUNICATION

- **University Open Admissions (27 Dec.).**  
Arranged by Lloyd G. Humphreys (University of Illinois).
- **Is There a Generation Gap in Science? (27 Dec.).**  
Arranged by Aristide H. Esser (Rockland State Hospital).
- **Science and Human Values: Search for Purpose in Nature and in Living Systems (27 Dec.).**  
Arranged by V. L. Parsegian (Rensselaer Polytechnic Institute) and R. W. Burhoe (Meadville Theological School of Lombard College, University of Chicago Press).
- **Surplus Ph.D.'s (27 Dec.).**  
Arranged by Lee Grodzins (Massachusetts Institute of Technology).
- **Science Teacher Education (27 Dec.).**  
Arranged by Harry Bennett (Louisiana State University).
- **Individualizing Instructions in College Science Courses (27 Dec.).**  
Arranged by Albert F. Eiss (National Science Teachers Association).
- **Science Literature for Children (27 Dec.).**  
Arranged by Eugene Kone (American Institute of Physics).
- **Humanizing Learning in Science (27 Dec.).**  
Arranged by Phillip Fordyce (Florida State University).
- **International Science Education (27 Dec.).**  
Arranged by Phillip Fordyce (Florida State College).
- **Nature Study and Conservation Education; the Ecological Attitude, Its Presence, Its Characteristics, and How to Effect It (27-29 Dec.).**  
Arranged by John I. Green (St. Lawrence University).
- **AAAS Vice Presidential Address (Mathematics) and Mathematics in the Undergraduate Program in the Sciences (28 Dec.).**  
Arranged by R. P. Boas (Northwestern University).
- **The Impact of Colleges on Students (28 Dec.).**  
Arranged by Alexander W. Astin (American Council on Education).
- **Education toward Social Responsibilities for Engineers (28 Dec.).**  
Arranged by T. Paul Torda (Illinois Institute of Technology).
- **Educational Needs for Careers in the Health Professions (28 Dec.).**  
Arranged by Maurice L. Moore (Bronxville, New York).
- **International Sharing of Scientific Information (28 Dec.).**  
Arranged by Scott Adams (National Academy of Sciences).
- **The Teaching of Science (28-29 Dec.).**  
Arranged by Arnold Ravin (University of Chicago).
- **Science Education in the Seventies (29 Dec.).**  
Arranged by John Mayor and Arthur Livermore (AAAS, Washington, D.C.).
- **Aspects of Mathematics: Kindergarten to College (29 Dec.).**  
Arranged by Isabelle P. Rucker (State Department of Education, Richmond, Virginia).
- **On Teaching Astronomy (29 Dec.).**  
Arranged by Raymond J. Seeger (AAAS, Washington, D.C.).
- **American Nature Study Society Presidential Address (29 Dec.).**  
Mrs. J. Lewis Scott (Pittsburgh, Pennsylvania).
- **The Learner and His Future Environment: Perspectives (29 Dec.).**  
Arranged by Mary Keegan (School District of Winnetka, Illinois) and Irwin Siegelman (Scott, Foresman, and Company).
- **Dynamic Changes in Biomedical Communication in the Seventies (29 Dec.).**  
Arranged by Abe Rubin (Ohio College of Podiatric Medicine).
- **An Undergraduate View of Science Education—1970 (29 Dec.).**  
Arranged by Frederic B. Dutton (Michigan State University).
- **Excellence in Scientific Writing (29 Dec.).**  
Arranged by W. Earl Britton (University of Chicago).
- **Chemistry Instruction and Social Concern (30 Dec.).**  
Arranged by William Cook (Colorado State University, Fort Collins).

*Contributed paper sessions on a wide variety of subjects have not been included in this summary.*

