

AAAS Annual Meeting

26–31 January 1975

New York City

Science and the Quality of Our Lives

"The best lack of conviction while the worst are full of passionate intensity," is the way the poet Yeats put it in one of his more apocalyptic moments a half century ago, and yet, more than ever, the specters of the Four Horsemen bestride our planet—pestilence, war, famine, and death. Somehow we must awaken our conviction and dedicate our talents to arresting their stride.

The program for our Annual Meeting in New York next January, which we have laid out before you, does not address all of the world's problems, nor all of the ways in which we scientists may become involved in their resolution—but it is a start. Look it over and express a commitment. For your convenience, we have divided our theme, "Science and the Quality of Life," into four main subthemes, representing different areas of concern: human health, human imagination, human environment, and the metropolis; in all, 122 symposia, run-

ning for a total of 88 symposium days over the course of the week, and supplemented by nine public lectures on related topics.

Contributions to the program came from all branches of the natural and social sciences. The 21 AAAS Sections originated about two-thirds of the program, with the remainder divided between the AAAS departments and committees on the one hand, and 37

affiliated societies on the other—the largest number of affiliates involved in a AAAS Meeting in recent years. The result is a truly interdisciplinary program, heavily weighted toward the discussion of problems of great public interest as seen from the full spectrum of scientific expertise.

More than 8000 will attend, united by a common belief in the relevance of science and technology to a resolution of the world's problems. Come join with us and renew your own convictions about the role of science in the quality of all of our lives.

—ARTHUR HERSCHMAN

Tours

As in previous years, the local Advisory Committee has arranged a number of educational and cultural tours, this year of particular quality. You will find them described on page 918 of the 6 December issue of *Science*.

Boston in '76

It is not too early to start thinking about our next Annual Meeting which will be held in Boston during the Bicentennial year, 1976. If you have suggestions about themes and symposia, please send them to the AAAS Meetings Office, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036.



General view of Brooklyn and Manhattan. [Port of New York Authority]

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26–31 January 1975

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PRECONVENTION PROGRAM

Headquarters Hotel, the **Americana of New York** (Seventh Avenue at 52nd Street), will contain the AAAS Office and Newsroom, and (in the Albert Hall on the lower lobby level) AAAS Registration, Information, and Message desks, as well as Interscience International (exhibits). All public lectures and the majority of sessions will also be held in the Americana. A smaller number of sessions are scheduled to be held in the **City Squire Motor Inn** (located opposite from the Americana).

Science and the Quality of Life

Honorary Chairman

The Honorable Abraham D. Beame
(Mayor of the City of New York)

Co-Chairmen

Eleanor Bernert Sheldon
(President,
Social Science Research Council)

Thomas J. Watson, Jr.
(Chairman, Executive Committee,
IBM Corporation)

AAAS PUBLIC LECTURES

National Geographic Society Public Lecture (26 Jan., 8:30 p.m.).

Kenan T. Erim (Professor of Classics; Director, Aphrodisias Excavations, New York University).
Aphrodisias.

Co-Chairmen's Public Lecture (27 Jan., 4:30 p.m.).

Max Black (Susan Linn Sage Professor of Philosophy and Humane Letters, and Senior Member, Program on Science, Technology, and Society, Cornell University).
Is Scientific Neutrality a Myth?

AAAS Public Lecture (27 Jan., 8:30 p.m.).

Thomas G. Stockham, Jr. (Professor of Computer Science, University of Utah).
Recovering Caruso.

AAAS Public Lecture (28 Jan., 4:30 p.m.).

Chauncey Starr (President, Electric Power Research Institute, Palo Alto, California).
Energy and Societal Development.

AAAS Public Lecture (28 Jan., 8:30 p.m.).

Edwin H. Land (Chairman of the Board, President, and Director of Research, Polaroid Corporation).
Color Vision and the Retinex Theory: A Demonstration Lecture.

Phi Beta Kappa Public Lecture (29 Jan., 4:30 p.m.).

Lewis M. Branscomb (Vice President and Chief Scientist, IBM Corporation).
Science, Technology, and Détente.

AAAS Retiring President's Public Lecture (29 Jan., 8:30 p.m.).

Roger Revelle (Director, Center for Population Studies, Harvard University).
The Scientist and the Politician.

AAAS Public Lecture (30 Jan., 4:30 p.m.).

Russell W. Peterson (Chairman, Council on Environmental Quality).
The Impact of Population on Resources, Environment, and the Quality of Life.

AAAS Public Lecture (30 Jan., 8:30 p.m.).

Isaac Asimov (Associate Professor of Biochemistry, Boston University School of Medicine).
The Science Fiction Writer as Prophet.

I. SCIENCE AND HUMAN HEALTH

A. Health Policy and Research

The Bile Acids (27 Jan.): Biosynthesis of the acids and transport and binding of bile salts (sponsored by AAAS Section C).

Padmanabhan P. Nair, David Kritchevsky, Erwin H. Mosbach, Leon Lack.

Health Care and Social Control (27 Jan.): The impact of medical labeling, such as healthy and ill, in our daily lives (sponsored by AAAS Section K).

Irving Kenneth Zola, Jon Beckwith, Stephan Chorover, Herbert Schrier, Paul Starr, John D. Stoeckle.

Aging and Quality of Life (27 Jan.): Survival, environmental influences, housing policies, and self-esteem as related to the aging (sponsored by AAAS Section J).

Ivan N. Mensh, Jean O. Britton, Joseph H. Britton, M. Powell Lawton, Werner Z. Hirsch, Arthur N. Schwartz.

Brain Functions and Physical Well-Being (27 Jan.): Stability versus stress in physical illness, studies of effects on immune mechanism, and effects of learning on emotion and health (sponsored by AAAS Section J).

Neal E. Miller, Morton F. Reiser, Elmer L. Struening, Marvin Stein.

The Occupational Health Status of Women (28 Jan.): Morbidity and mortality data on working women, employment patterns, safety of workplace, and women's right to work (sponsored by AAAS Section K and Graduate Women in Science).

Vilma R. Hunt, Harriet L. Hardy, Jeanne M. Stellman, Cora E. Marrett, Andrea M. Hricko, Mary L. Brown, Edna E. Raphael, Peter J. Nord.

Human Sexuality as a Science (28 Jan.): Review of animal studies which provide a basis, as well as hormonal and behavioral implications (sponsored by AAAS Sections G and H).

Delores Elaine Keller, John G. Vandenberg, David A. Goldfoot, Ronald D. Nadler, John Money, Devra Gail Kleiman, Amitai Etzioni, Robert Kolodny.

Noise and Human Health (28 Jan.): Noise standards, effects on children, and changes in threshold response (sponsored by the American Speech and Hearing Association, the American Medical Association, and AAAS Sections J and N).

Charles I. Berlin, W. Dixon Ward, John H. Mills, James D. Miller.

Genetics and Humanity (29 Jan.): Genetic disorders, dilemma in mass screening, prospects for molecular genetics, and political and racial implications (sponsored by the AAAS Office of Opportunities in Science).

Jeanne A. Smith, Harold M. Nitowski, Robert F. Murray, Jr., June Dobbs Butts, Bruce Hilton, Kellis Parker, Paula A. Sneed, Arthur Bank, Inez Reid, Arlene Bennett, Jean L. Cook, Tabitha M. Powledge, Roger L. Shinn.

The Control of Pain, II: New Therapeutic Approaches and Frontiers for Immediate Research (29-30 Jan.): Behavioral, hypnotic, and acupuncture techniques, relation to dying patients and research aspects (sponsored by AAAS Section R).

Matisyohu Weisenberg, Bernard Tursky, Aaron Ganz, C. Norman Shealy, Theodore X. Barber, Kay E. Thompson, Daniel M. Laskin, Austin Kutchner, John J. Bonica, W. Crawford Clark, Jeannette F. Rayner, Richard Orlowski, Charles R. Jerge, Peter J. Dyck, Ronald Melzack, Ronald Dubner, Richard Adelson, Arthur Taub, DeWitt C. Baldwin, Jr.

Institutionalized Technology and the Rights and Needs of Children (30 Jan.): Alienation, use of computers, effects of TV, and educational aspects (sponsored by the American Orthopsychiatric Association and AAAS Section K).

Ethel Tobach, Sarene S. Boocock, David Fanshel, Cecelia Pollack, Aimee Dorr Leifer, Melanie H. Barron, Dorothy H. Cohen, Ingram Cohen, Julius B. Richmond.

Control Systems in Biology and Medicine—A Sampler (30 Jan.): Biological command-control and organ-systems model, cell growth, development, metabolism, membrane transport, population growth, and so forth (sponsored by AAAS Sections G and N).

Arthur S. Iberall, Francis E. Yates, Rudolfo Llinás, Kiichi Sagawa, Joseph Higgins, Lewis Wolpert, Edwin B. Stear, Richard N. Bergman, V. Parsegian, Donald S. Gann.

Health Research and Social Policy—Implications for the Coming Decades (30 Jan.): Legislation and research, *in vitro* fertilization and embryo culture, attitudes of scientists and of consumers, and role of training (sponsored by AAAS Sections K and N).

Vijaya L. Melnick, Daniel Melnick, Harold Amos, Larry Horowitz, Stanley Leibo, Sydney Wolfe, Norman Zamcheck, Benjamin Alexander, Eliot Segal, Karl Yordy.

Medical Research and the Rights of Subject and Captive Populations (31 Jan.): Needs for caution and reform, experience with prisoners and those of impaired capacity to consent, and problems of psychosurgery (sponsored by AAAS Section K).

Bernard Barber, Jay Katz, Louis Lasagna, John D. Arnold, Alexander Capron, Charles R. Halpern.

B. Understanding Human Behavior

The Application and Misapplication of Findings in Parapsychology (27 Jan.): Interpretation of research results, amplification techniques, stimulating phenomena, interpersonal interactions, and ethical and practical problems in teaching (sponsored by the Parapsychological Association).

Robert L. Morris, Irvin L. Child, Helmut Schmidt, Charles Honorton, James C. Carpenter, Gertrude R. Schmeidler, Rex G. Stanford.

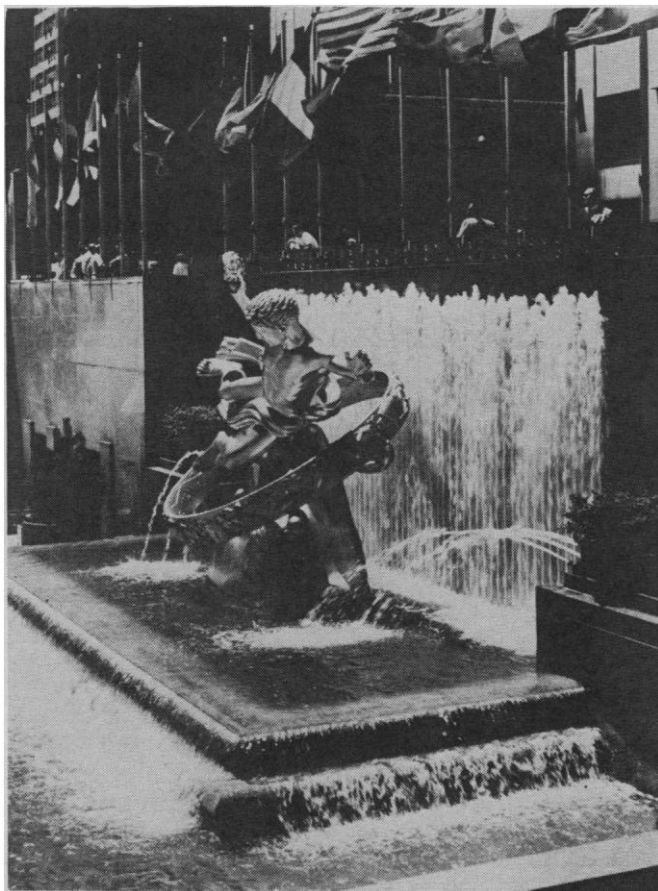
The Structure of Human Memory (29 Jan.): Meaning and word recognition, modeling of short-term memory, perception and cognition, associative mechanisms, language processing, and retrieval from long-term memory (sponsored by AAAS Sections J and T).

Charles N. Cofer, David E. Meyer, Roger W. Schvaneveldt, Kevin Gilmartin, Allen Newell, Herbert A. Simon, Donald A. Norman, Walter Kintsch, Terry Winograd, William K. Estes, Roger C. Schank, John R. Anderson, Richard C. Atkinson.

Innovative Roles for Psychologists in Improving the Quality of Life (30 Jan.): Supply and demand of psychologists; role in human services, problem-solving, and evaluation; public policy and legal implications (sponsored by the American Psychological Association and AAAS Section J).

C. Alan Boneau, George Albee, Raymond Bauer, Arthur Brayfield, Mark Lipsey, Lee Sechrest, Serena Stier, Kenneth B. Little.

Systems Thinking and the Quality of Life (30 Jan.): Systems approach to full employment, inflation, health, energy,



Bronze figure of Prometheus located on the lower plaza of Rockefeller Center. [New York Convention and Visitors Bureau]

change, and development of systems theory (sponsored by the Society for General Systems Research).

Clair Karl Blong, Margaret Mead, Bertram Gross, John H. Milsum, Milton D. Rubin, Lawrence B. Slobodkin, Julius Stulman.

Perceptual Systems: Images, Hallucinations, and Dreams (31 Jan.): Images and perception, model of hallucination, imagery, and unconscious fantasies (sponsored by AAAS Section J and the American Psychoanalytic Association).

Mardi J. Horowitz, Jacob Arlow, Ulrich Neisser, Peter Knapp, Jerome Singer.

C. Health Care and Delivery

The Impact of Engineering Science and Technology on Health Care Delivery (27 Jan.): Preventive health care, diagnostic, therapeutic, rehabilitative, and models for health care delivery (sponsored by AAAS Sections M and N).

Morris F. Collen, Cesar A. Cacered, G. Octo Barnett, Carlos Vallbona, Sidney R. Garfield.

Needs and Trends in Medical Electronics (27 Jan.): Electronic technology, ultrasonic imaging and photoacoustic technology, microoptical and microacoustic devices, implanting, and educational needs (sponsored by the Institute of Electrical and Electronic Engineers Group on Engineering in Medicine and Biology and AAAS Section M).

Wen H. Ko, James D. Meindl, J. Plummer, M. Maginness, Alan L. Susal, Sinclair Yee, David Auth, Eugene T. Yon, Allan

Rosencwaig, Edwin D. Trautman, Ronald S. Newbower, John G. Webster.

A Family Model Approach to Health Care (27 Jan.): Psychological services, compliance with medical treatment, and dental care (sponsored by the American Psychological Association and AAAS Sections J, N, and R).

Serena Stier, Irene Goldenberg, Herbert Goldenberg, Marshall Becker, Joanna Jenny, Julius Richmond.

Contributions of the Behavioral Sciences to Community Dentistry and Quality Health Care (28 Jan.): Teaching programs, ethical issues, financial needs, group practice, and improving effectiveness of community dentistry (sponsored by AAAS Section R).

Clifton O. Dummett, Joseph F. Volker, Eli Ginzberg, Martin Cherkasky, Rudolph H. Friedrich, Joseph A. Yacovone.

The Role of the Pharmacist in Health Care in the Year 2000 (28 Jan.): Impact of computers, technologists and technicians, primary care and community and clinical practice, the role of women, and educational needs (sponsored by AAAS Section S).

Samuel Elkin, Donald E. Francke, Joseph D. McEvilla, Marlane C. Gainor, Harvey A. K. Whitney, Jr., Louis P. Jeffrey, Donald C. McLeod, Carl Emswiler, Judith M. Slining, Sheila K. West, Donald Baugher, George Denmark, Peter P. Lamy, Phillip Gerbino, Robert A. Kerr, John A. Ganz, Michael A. Schwartz.

Rehabilitation of the Handicapped: A Model of the Human Usage of Science and Technology (28-29 Jan.): Physiological and behavioral aspects, new technological capabilities and needs, and system-based services for the handicapped (sponsored by AAAS Sections X and N).

William A. Spencer, M. Granger Morgan, Robert E. Herron, Milan R. Dimitrijevic, Edwin P. Willems, Lauro Halstead, Roberta B. Trieschmann, David Cardus, Robert L. Baker, John H. Noble, Jr., Colin A. McLaurin, Richard M. Herman, Robert L. Waters, Dudley S. Childress, Thorkild J. Engen, Paul H. Newell, Pierre Rabischong, James B. Reswick, Robert W. Mann, Morton H. Friedman, Patrick W. Nye, Emerson Foulke, Haig Kafafian, Gregg C. Vanderheiden, John G. Linville, Murray Turoff.

Hospital and Clinical Pharmacy (Contributed Papers) (29 Jan.): Drug abuse, radiopharmacy, patients' needs, fire control, clinical techniques, and management aspects (sponsored by AAAS Section S).

Joseph A. Oddis, George F. Archambault, James R. Talley, Harold D. Hudson, Clyde N. Cole, Sr., M. Gonzales, Thomas J. Mattei, Michael E. Krugman, Vincent Cardi, Louis P. Jeffrey, John Autian, Donald E. Francke, Christine Crisafulli, Rudolph Choich, Jr., Claudia McNulty, Melvin Baker, John Roman-kiewicz, Anne R. Somers.

Health Maintaining Behaviors (30 Jan.): Prevention, heart disease, maternal and child health, and economic and behavioral aspects (sponsored by the International Communication Association and AAAS Sections J, N, and R).

Nathan Maccoby, Cecil G. Sheps, John W. Farquhar, Joseph D. Wray, Sholom Pearlman, John B. McKinlay, Nathan Azrin, Allen J. Enelow.

Some Applications of Computers in Health Science (30 Jan.): Drug utilization, movie analysis, x-ray scanning, and neuronal structures (sponsored by the Association for Computing Machinery and AAAS Section A).

Gordon R. Sherman, Mark L. Braunstein, Robert P. Futrelle, Robert Ledley, W. Jack Davis, D. Raj Reddy.

Critical Issues in Emerging Health Roles (30–31 Jan.): Sociological perspective, professional and paraprofessional roles, cross-national perspectives, recruitment, training, and opportunities.

Jean Lipman-Blumen, Virginia Olesen, Thomas Piemme, Loretta C. Ford, Rose Laub Coser, Roberta Satow, Judith Lorber, Sole Levine, Eliot Friedson, Constantina Safilios-Rothschild, Rita Ricardo Campbell, David Hayes-Bautista, Julius Roth, Stanley Wallack, Joan R. Harris, Joseph Kadish, William J. Curran.

Quantitative Methods and Improvement of Health Care Delivery (31 Jan.): Ambulatory patients, data banks and chronic disease, and anesthesia teams (sponsored by the Institute of Management Science and AAAS Sections K and U).

Arnold Reisman, John F. Rockart, Robert A. Rosati, B. Mittler, C. F. Starmer, J. F. McNeer, Hamilton Emmons, Burton V. Dean, Thomas George, John J. Rasmussen, Joachim Gravenstein, Frank J. Staub.

II. SCIENCE AND HUMAN IMAGINATION

A. Understanding the Physical Universe

Observational Tests of Theories of Gravitation (27 Jan.): Solar-system observations and experimental tests, including low-temperature procedures for observing gravitational waves (sponsored by AAAS Sections D and B).

Robert V. Wagoner, Robert H. Dicke, Irwin I. Shapiro, William M. Fairbank.

The Atmospheric and Hydrospheric Science in Transition (27 Jan.): Global atmospheric research, tropical experiments, Great Lakes observations, hail research, and cloud physics (sponsored by the American Meteorological Society and AAAS Section W).

Kenneth C. Spengler, Joseph Smagorinsky, Joachim P. Kuettner, Eugene J. Aubert, David Atlas, Roscoe R. Braham.

Science for the Naked Eye: Or the Physics of Everyday Experience, II (28 Jan.): Physics of pyramids, observations in prehistoric cultures, violin construction, mathematical observations, and a view from space (sponsored by AAAS Section B).

Rolf M. Sinclair, Kurt A. G. Mendelssohn, Gerald S. Hawkins, Carleen M. Hutchins, Mark Kač, Helen M. Poland, Alfred M. Worden.

The Formation of Stars and Solar Systems (29 Jan.): Interstellar clouds, protostars, main sequence stars, and the presolar-system nebula (sponsored by AAAS Section D).

Stephen E. Strom, Benjamin M. Zuckerman, Gary L. Grasdalen, John A. Wood, Neville J. Woolf.

The Exploration of the Solar System: A Review of Recent Results (30 Jan.): Surface and interior of Mercury, atmospheres of Venus and Mars, and magnetosphere of Jupiter (sponsored by AAAS Sections D and B).

Tobias Owen, S. I. Rasool, Bruce C. Murray, Verner E. Suomi, Mikhail Y. Marov, James W. Warwick.

Seventy Years of Special Relativity (30 Jan.): Development of the theory, including conceptual and philosophical problems, and a discussion of faster-than-light motion (sponsored by AAAS Sections B and L).

Richard A. Isaacson, Banesh Hoffmann, Stanley Goldberg, Michael N. Kreisler.

The Frontiers of Physics (31 Jan.): Directions for elementary-particle physics, physics of biological molecules, and our understanding of the very large (sponsored by AAAS Section B).

Rolf M. Sinclair, Victor F. Weisskopf, John J. Hopfield, Philip Morrison.

B. Use of Mathematical Models

Contributions of Mathematical Models to Biological Discovery: Applications (27 Jan.): Far-from-equilibrium systems, enzyme models, photosynthesis, feedback models, computer simulations, and mitotic clocks (sponsored by AAAS Sections G and N and the Biometric Society).

Charles Walter, Douglas Riggs, Ilya Prigogine, David Shear, David Garfinkel, Stuart Kaufman.

Mathematics in the Social Sciences (28 Jan.): Models of international exchange, location of social services, sociolinguistics, social relations, and psychology (sponsored by the Mathematical Association of America and AAAS Section A).

R. Duncan Luce, David Gale, Gerard Rushton, David Sankoff, Harrison White, William K. Estes.

Applications of Mathematical Modeling to Ecological Problems Related to the Quality of Life (28 Jan.): Political morality, power-plant siting, man-induced climate changes, productivity, and environmental policy (sponsored by the Ecological Society of America).

Daniel B. Botkin, L. B. Slobodkin, Charles Hall, Charles Cooper, Seth R. Reice.

Some Mathematical Questions in Biology (29–30 Jan.): Ecological systems, age-structured populations, and neurobiological problems, including signal propagation (sponsored by the American Mathematical Society, the Society for Industrial and Applied Mathematics, and AAAS Section A).

Simon A. Levin, George F. Oster, Brian Charlesworth, Hirsh G. Cohen, John Rinzel, Horace B. Barlow.

Theory versus Practice: The Finite Element Method (31 Jan.): Wave propagation, computer programming, and impact on engineering calculations (sponsored by the American Mathematical Society and AAAS Section A).

Gilbert Strang, Ridgway Scott, Todd Dupont, Robert E. Nickell, Robert L. Taylor.

Contributions of Mathematical Models to Biological Discovery: Past, Present, and Future (31 Jan.): Population genetics, assessment of models, and projections for the future (sponsored by the Biometric Society and AAAS Sections G and N).

Daniel L. Solomon, William B. Provine, H. Robert van der Vaart, Robert A. Goldstein, Mary B. Williams.

C. Technological Use and Goals

The Cutting Edge: Interfacial Dynamics of Cutting (27 Jan.): Thermodynamics and thermal stress, adhesion and cohesion, separation of biological tissues, chemical effects, and drilling and grinding (sponsored by AAAS Sections R and E).

Sholom Pearlman, Frederick R. Eirich, Kenneth L. DeVries, Max L. Williams, Jr., Shirl M. Breitling, Albert R. C. West-

wood, Ralph W. Phillips, William C. Maurer, Frank F. Koblitz, Louis H. Tateosian, Frederick D. Roemer, Stephen D. Steen, John F. Glenn, Ben A. Lloyd, Wayne S. Brown, Barry K. Norling, John W. Stanford.

Student Papers (American Junior Academy of Science) (27 Jan.): Forum of top student scientists to present the results of their research.

Frank W. Starr, Sr. Mary Alvernia, Michael J. Wehner, Gary Chamberlain, Jeffrey Hunker, Frank T. Leighton, Etta Lovitt, Alan Brown, Andrea Putscher, Walter R. Buss, Brian D. Cossitor, Gary Berkowitz, Kathie Marsaglia.

Technology Assessment (27–28 Jan.): Political context and ongoing projects, including work schedules, geothermal energy, and mass transportation (sponsored by AAAS Sections X, K, and M and the AAAS Committee on Science and Public Policy).

Vary T. Coates, Charles A. Mosher, Deborah Shapley, James B. Sullivan, Craig Decker, John Owen, Frank Maslan, Gretchen Kolsrud, Leon Leonard, Harvey Brooks, Philip L. Bereano, Richard Wells, Edward Wenk, Jr.

Technology Assessment and Academies of Science: The Future of Scientific Communications (28 Jan.): Effects of recent changes of emphasis in science on Academies of Science (sponsored by the Association of Academies of Science).

Charles M. Vaughn, Lauren C. Gilman, Donald E. Cunningham, Franz H. Rathmann, James C. Butler, Walter R. Buss, Robert W. Hanson, Willis H. Johnson, Harvey A. Miller, Lauren C. Gilman.

The Mode of Production: Method and Theory (28–29 Jan.): Division of labor, primate and primitive human patterns, and developments in early societies and in contemporary cultures (sponsored by the American Anthropological Association and AAAS Sections H and K).

James Silverberg, Ruth Bunzel, Geza Teleki, John H. Dowling, Morton H. Fried, René Millon, Marvin Harris, Michael Harner, Irene Taviss Thomson, Dominique Legros, Christopher L. Hamlin, Edward E. Calnek, Donald P. Cole, Robert Harrison, Barbara Kendrick, Stanley H. Udy, Jr., Sidney W. Mintz, Luis S. Kemnitzer, John Spier, Benjamin Orlove, Barry M. Richman, Alvin W. Wolfe, Philip Kohl, Gerhard E. Lenski, Kari Polanyi Levitt, Paul M. Sweezy, Eric Wolf.

Establishing Goals for Weather-Climate Modification Activities (29 Jan.): Historical perspective, public attitudes, systems approaches, environmental impact, and science-policy aspects (sponsored by AAAS Section W).

Wendell A. Mordy, John Wilkinson, Barbara C. Farhar, Bernard D. Haber, Harvey Wheeler, Volker A. Mohnen.

New Ideas toward Metric Conversion for the Public (30 Jan.): Implications of metric conversion for trade, government, producers, consumers, and so forth (sponsored by the U.S. Metric Association and AAAS Section M).

William J. Jaffe, Frederick T. Gutmann, Louis E. Barbrow, John Kuharik, Peter Karl, Jane Keely.

Opportunities for Technology (30 Jan.): Institutional and organizational aspects, energy, communications and data processing, and health care (sponsored by AAAS Section P).

Gabor Strasser, Arthur Bueche, S. William Gouse, L. R. Jeffery, Edward J. Burger.

Science in the Service of Art (30 Jan.): Restoration, conservation, and preservation of art, and detection of errors

and forgeries (sponsored by the New York City Advisory Committee).

Seymour Z. Lewin, Robert M. Organ, Robert L. Feller, Norbert S. Baer.

Issues in Technology Policy (30 Jan.): Implications of recent developments for scientific-organization participation (sponsored by AAAS Section P).

Robert L. Stern, Gabor Strasser, John M. Dutton, Richard N. Foster, Robert W. Zimmerer, W. Kenneth Menke.

Advances in the Corporate Planning Process (31 Jan.): Corporate scenarios, planning, industrial behavior, and formation of judgments (sponsored by AAAS Section P).

J. Kenneth Craver, René D. Zentner, Ian Wilson, Selwyn Enzer, W. H. Clive Simmonds, Henry Boettinger.

D. Formulating Science Policy

Information Technology and Individual Privacy (27 Jan.): Implications of new technologies and individual rights (sponsored by AAAS Section T).

Walter M. Carlson, Alan F. Westin, and others to be announced.

Science Policy in a Changing Political Environment (27 Jan.): Need for a presidential science adviser and current R & D and policy missions, including energy, health, social problems, and foreign affairs (sponsored by the AAAS Committee on Science and Public Policy).

Jurgen Schmandt, William D. Carey, Edward E. David, Jr., Bryce Harlow, Laurence E. Levinson, Franklin A. Long, Don K. Price, George Reedy, H. Guyford Stever, Clay Thomas Whitehead, John M. Logsdon, Mike McCormack, Stephan P. Strickland, Richard Darman, Herman Pollack, Sanford A. Lakoff, Albert A. Blum.

Regulatory Decision-Making (27 Jan.): Medical innovation and the FDA, economics and legal procedures, and the Federal Energy Administration (sponsored by AAAS Section K).

George J. Stigler, Joseph D. Cooper, Kenneth W. Dam, Paul W. MacAvoy.

The Use of Quantitative Information and Modeling in Public Policy Decision-Making (28 Jan.): Social-policy analysis, modeling for decision-making, urban emergency services, health insurance, and contributions of systems analysis (sponsored by the SIAM Institute for Mathematics and Society and AAAS Sections A, M, P, and U).

Maxine L. Rockoff, Alice M. Rivlin, Harvey A. Averch, Garry D. Brewer, Richard C. Larson, Weston E. Vivian, Edward K. Hamilton, Douglas B. Wilson, William M. Capron.

Management of Interdisciplinary Policy Research and Specific Case Studies (29 Jan.): In universities, government, and research centers, and examples of studies of specific problems (sponsored by AAAS Sections X, K, and M).

Paul Polishuk, Jack M. Nilles, Martin Wilk, Walter S. Baer, Dale N. Hatfield, Craig A. Decker, Larry Day, William Bryan.

Western Standards and Stereotypes as Impediments to Development (30 Jan.): Scientific and economic institutions, urban development, occupational stereotypes, and implications of technological adaptation and misplaced technology (sponsored by the AAAS Office of International Science and AAAS Section K).

Irene Tinker, Milton L. Barnett, William Blanpied, Irving S.

Friedman, John D. Herbert, Jeffry R. Stubbs, Simon Teitel, Margaret Hagen, B. Marie Perinbam, Edgar Owens, David B. Cook, Klaus Meyn.

Science, Technology, and the Congressional Agenda: A Descriptive Panel Presentation (30 Jan.): Energy and environment, materials scarcity, health and social service, and arms control and military policy (sponsored by the AAAS Office of Science and Society Programs).

Richard A. Scribner, Lloyd B. Craine, Allan R. Hoffman, J. Thomas Ratchford, Jon M. Veigel, Haven Whiteside, Jerome P. Harper, Thomas H. Moss, Willis D. Smith, Gary L. Thomas, Jessica Tuchman, William S. Widnall, Pamela C. Ebert, Stephen E. Lawton, Elliot A. Segal, Henry C. Kelly, William G. Miller, Larry K. Smith, T. Edward Braswell, Jr.

Can Arms Control Succeed? (31 Jan.): Nuclear proliferation, SALT, Soviet versus American perception, and new defense strategies (sponsored by the New York City Advisory Committee).

Paul Doty, Spurgeon M. Keeny, Jr., Paul Warnke, Marshall Shulman, M. Goldberger.

Use of the Technical Expert in the Justice System (31 Jan.): In the prosecution and the defense, and in management of the courts (sponsored by AAAS Section K).

Joan E. Jacoby, Charles M. Friel, James F. Flug, Arne Schoeller.

E. Public Understanding of Science

Responsibilities in the Use and Misuse of Scientific Data (27 Jan.): Case histories of questionable use, including eutrophication and SST, and discussion of responsibility for action in scientific societies, universities, and agencies (sponsored by the American Institute of Chemists and AAAS Sections C and U).

Homer J. Hall, Milton Harris, Leon Golberg, Philip D. LaFleur, Bernard L. Oser, Paul F. Derr, Laurence I. Moss, Vaun A. Newill, Richard W. Roberts, Mary L. Good, George Bugliarello, Lawrence A. Goldmuntz, Gordon J. F. MacDonald.

How Public Understanding of Science Can Enhance the Quality of Life (28 Jan.): Implications for science writers and journalists (sponsored by the National Association of Science Writers and AAAS Section T).

Eugene H. Kone, Alfred Rosenthal, Albert Rosenfeld, Judith Randal, John Langone, Philip Lee, Glenn O. Paulsen, Henry R. Lieberman.

Citizen Participation in Decision-Making (29 Jan.): Problems, needs, goals, processes, tools, and role of professional societies, government, and the private sector (sponsored by the AAAS Office of Science and Society Programs).

Robert W. Lamson, Wayne K. Howell, Robert Y. Yin, David A. Straus, Chandler H. Stevens, Richard A. Scribner, William K. Butler, John N. Gentry, Sherry Arnstein, Louis D. Higgs, Charles P. Wolf, John Osman, Victor L. Arnold, William B. Shore, William R. Ewald, Jr., Bryghte D. Godbold, Philip M. Burgess, Nelson M. Rosenbaum, Davis B. Bobrow.

Telecommunications and Democracy (30 Jan.): Congress, state and local governments, and citizen-feedback technologies (sponsored by AAAS Sections X and K).

Ithiel de Sola Pool, Joseph F. Coates, Alan F. Westin, F. Christopher Arterton, Frank B. Ryan, Fred B. Wood, Wes Vivian, Charles Brownstein, Peter C. Goldmark, Anthony G. Oettinger, Harold Sackman, Amitai W. Etzioni, Albert H. Horley, Thomas B. Sheridan, Theodora Sklover.

Social Consequences of Misleading or Inadequate Information about Science (31 Jan.): Food fads, drugs and cosmetics, nuclear energy, approaches to education, and medicine.

Norman L. Brown, E. R. Pariser, Jerrold R. Zacharias, Darla R. Erhard, Joel E. Hoffman, Henry W. Kendall, Daniel F. Ford, Isaias Raw, Arthur Ruskin.

III. SCIENCE AND HUMAN ENVIRONMENT

A. Understanding Our Ecology

U.S. Contributions to the International Biological Program (27-29 Jan.): Primary and secondary production, decomposition and mineral cycling, aquatic regulation, modeling, and human adaptation in ecosystems (sponsored by AAAS Section G).

Orie L. Loucks, Paul L. Jamison, Frederic H. Wagner, Philip C. Miller, Otto T. Solbrig, Gordon H. Orians, Harold A. Mooney, W. Frank Harris, David C. Coleman, Stephen F. MacLean, Norman R. French, George O. Batzli, Martyn M. Caldwell, Stanley I. Auerbach, John J. Skujins, Neil E. West, Gray S. Henderson, Charles C. Grier, Wayne T. Swank, Jack Waide, Francis E. Clark, C. Vernon Cole, Phillip Sollins, W. Carter Johnson, Beverly S. Ausmus, Kermit Cromack, David M. Sharpe, Stanley P. Gessel, Nicholas L. Clesceri, Dale D. Huff, Eugene B. Welch, Robert Burgher, Demetrios E. Spyridakis, John E. Hobbie, Donald C. McNaught, Kenneth Bodgan, James F. Kitchell, George M. Van Dyne, Henry H. Shugart, D. E. Reichle, N. T. Edwards, J. R. Kercher, Richard A. Park, Donald Scavia, Jeff Richey, Peter R. Weiler, W. Scott Overton, Robert Woodmansee, William H. Hunt, George Innis, Paul T. Baker, James V. Neel, Richard S. Spielman, William S. Laughlin, Harold H. Draper, R. Brooke Thomas, Robert L. Burgess, Everett S. Lee, Joan M. Hett, F. Glenn Goff, W. Frank Blair.

Electrical Responses of Plants to External Stimuli (29 Jan.): Healthy and diseased plants, primary perception in plants and animals, and electrical signals in biological systems (sponsored by the American Society of Plant Physiologists and AAAS Section G).

Arthur W. Galston, Anton J. Novacky, Cleve Backster, Edgar L. Gasteiger, John M. Kmetz, Clifford L. Slayman.

A Higher Quality of Life through Environmental Education: An Overview of State Plans (29 Jan.): Implication of these plans for national effort (sponsored by the American Nature Study Society and AAAS Section Q).

Richard J. Baldauf, Richard Rocchio, Martha McInnis, Charles E. Roth, B. Ray Horn.

The Structure and Function of the U.S. Tundra Ecosystems (29-31 Jan.): Climate and primary production, decomposition and nutrient flux, grazing and population dynamics of animals, and carbon flow in tundra ponds (sponsored by AAAS Section G).

Jerry Brown, Larry L. Tieszen, Roger G. Barry, Carl S. Benson, John J. Kelley, Samuel I. Outcalt, Gunter Weller, Patrick J. Webber, Roy E. Cameron, Patrick I. Coyne, James R. Rastorfer, Emanuel D. Rudolph, W. Dwight Billings, F. Stuart Chapin, Jay D. McKendrick, Philip C. Miller, Martyn M. Caldwell, Mary Allesio Leck, Brent H. McCown, Walter C. Oechel, Charles F. Cooper, Arnold M. Schultz, Robert J. Barsdate, Lowell A. Douglas, Kaye R. Everett, Paul L. Gersper, Keith Van Cleve, Patrick W. Flanagan, Robert E. Benoit, Stephen F. MacLean, Jr., Orson K. Miller, Jr., Stephen A. Norrell, Vera Alexander, Fred L. Bunnell, Philip S. Flint, Frank A. Pitelka, George O. Batzli, Boyd D. Collier, John S. Edwards, B. Michael Fitzgerald, David W. Norton, Uriel Safriel,

Larry S. Underwood, George C. West, Edwin M. Banks, Martin C. Lewis, Robert G. White, Jack R. Luick, David Klein, Tom M. Fenchel, John E. Hobbie, Michael C. Miller, Jawahar Tiwari, Donald W. Stanley, Ralph J. Daley, C. Peter McRoy, Raymond C. Stross, Donald A. Bierle, James N. Cameron, Richard T. Prentki, Philip L. Johnson.

Lead: Its Sources, Transport, Sinks, and Impacts (30 Jan.): Environmental contamination, watershed ecosystems, biological effects, and effects on man (sponsored by AAAS Section W).

H. W. Edwards, Robert Rabin, Rodney K. Skogerboe, Bobby G. Wixson, Gary L. Rolfe, Gary L. ter Haar, Paul B. Hammond.

Are There Thresholds in the Effects of Pollutants on Health? (30 Jan.): Mammalian repair of damages, development of resistance, and extrapolation to low-dose effects (sponsored by AAAS Sections U, C, G, S, and X).

Elizabeth L. Scott, Jerzy Neyman, David P. Rall, George A. Sacher, John R. Totter, Bernard Alshuler, William S. Cleveland, Thomas E. Graedel.

Space Observations for Management of World Resources (31 Jan.): Results from ERTS and Skylab, observational capabilities, ground processing, information exchange, and implications for politics, security, and international law (sponsored by the American Society of Photogrammetry and AAAS Section M).

Frederick J. Doyle, Robert B. McEwen, Arthur G. Anderson, John M. Denoyer, William A. Fischer, Ronald J. Ondrejka, W. Murray Strome, H. G. S. Murthy, Samuel D. Estep.

B. Land Use, Food, and Population

Water Use: Past, Present, and Future (27 Jan.): Pre-Columbian water use in Peru and Mexico and more recent systems in Mexican villages and the Colorado River basin (sponsored by AAAS Section H and the Society for Applied Anthropology).

Jean K. Boek, Richard S. MacNeisch, Angel Palerm, Robert C. Hunt, Eva Hunt, Robert A. Hackenberg, Margaret Mead.

Food Safety Regulations: Benefit and Risk (27 Jan.): Implications for safety, ample supply, and ethical considerations (sponsored by AAAS Section O).

C. O. Chichester, Virgil O. Wodicka, Howard Bauman, E. M. Foster, Samuel Stumpf.

Anthropological Studies of Fertility (27 Jan.): Inbreeding, fertility trends, population and health planning, poverty, and evolution (sponsored by the American Association of Physical Anthropologists and AAAS Section H).

Gabriel W. Lasker, Russell Reid, James W. Ryder, Solomon H. Katz, Jana E. Hesser, Baruch Blumberg, Sylvia H. Forman, A. Roberto Frisancho, Andrew Abelson, Walter E. Ellis, John Friedl, Edward E. Hunt.

Biochemical and Nutritional Aspects of Trace Elements (27–28 Jan.): Zinc, copper, manganese, chromium, selenium, cadmium—biochemistry, physiology, pathology, teratogenesis, endocrinology, and infectious processes (sponsored by AAAS Section S).

Robert E. Burch, James F. Sullivan, James F. Riordan, Boyd L. O'Dell, I. Herbert Scheinberg, Merton F. Utter, George C. Cotzias, Walter Mertz, Klaus Schwarz, H. Mitchell Perry, Lucille S. Hurley, Robert I. Henkin, Milos Chvapil, George C. Becking, William R. Beisel.

Economic Change and Family Size (27 Jan.): Female status, Iranian-city parents, black families, and complex-household formation (sponsored by AAAS Sections H and K, the AAAS Office of International Science, and Graduate Women in Science).

Priscilla Reining, Peter F. M. McLoughlin, Rae Lesser Blumberg, John Gulick, Margaret Gulick, Carol B. Stack, Ruth B. McKay, Anthony Leeds, William Cousins, Timothy King, Adrienne Germain.

The Chain of Communication in Population Studies (28 Jan.): Information networks, community health clinics, mothers' clubs, structure and ecology, and American Indians (sponsored by AAAS Sections H and T, the AAAS Office of International Science, the Anthropological Society of Washington, and Graduate Women in Science).

Priscilla Reining, William O. Sweeney, Lois Bradshaw, Roxann A. Van Dusen, Everett M. Rogers, H. J. Park, K. K. Chung, S. B. Lee, David Marlowe, Gertrude Marlowe, Norma Linton, Phyllis T. Piotrow, Ralph H. Faulkingham, Ernestine Friedl.

Land Use (28 Jan.): Administrative and legal aspects of planning, development, and coastal management, and of urban land use and water-resource management (sponsored by the American Geographical Society and AAAS Section E).

Peter O. Wacker, Grant F. Walton, Richard J. Sullivan, B. Budd Chavooshian, Jerome G. Rose, J. Kenneth Mitchell, William Whipple, Michael R. Greenberg, Robert V. Thomann, Robert M. Hordon, Robert A. Muller.

The Dynamics of Population Education—World Perspective (28 Jan.): Development policy, curricular aspects, and a world perspective of action programs (sponsored by AAAS Section Q).

Byron G. Massialas, Riad Tabbarah, David Sly, Thomas Poffenberger, Charles B. Nam, Nafis Sadik.

Food, Population, and the Environment (28–29 Jan.): Food and population pressures, animal production, world trade, effects of limited resources, environmental impacts, and technology (sponsored by AAAS Section O).

Sylvan H. Wittwer, Georg A. Borgstrom, John A. Hannah, J. Thomas Reid, Raymond D. Vlasin, Cecil H. Wadleigh, Daryl B. Simons, W. L. Harris, Ralph W. Cummings, Jr., Pierre R. Crosson, Robert H. White-Stevens.

Frontiers of Population Research (29 Jan.): Fertility control and regulation, contraception, genealogy and demography, and hormonal use (sponsored by AAAS Section H, the Society for Applied Anthropology, and the AAAS Office of International Science).

Irene Tinker, Conrad Taeuber, Lucile F. Newman, George A. Collier, Priscilla Reining, Elton Kessel, L. Charles Powell, Pushpa N. Schwartz, Carl J. Hemmer.

Introduction of New Foods—Principles and Problems (29 Jan.): Legal aspects, food habits, food technology, unconventional proteins, and developing countries (sponsored by AAAS Section O).

Norman L. Brown, E. R. Pariser, Stephen H. McNamara, John R. K. Robson, Steven R. Tannenbaum, Max Milner, Martin J. Forman.

Land-Use Policies and Management in Relation to Food Production (30 Jan.): Resource capabilities for food and fiber production and environmental impact and hazards of



agricultural technology (sponsored by the Association of American Geographers, and AAAS Sections K, O, and E).

James R. Anderson, Melvin L. Cotner, Brent W. Spaulding, Ian R. Manners, Richard A. Warrick.

Science and Foreign Policy: The Food-Energy Relationship (30 Jan.): International implications of U.S. energy use for food production and U.S. foreign policy on food and energy (sponsored by the AAAS Committee on Science and Public Policy).

T. Dixon Long, Victor Rabinowitch, Harvey Picker, John S. Steinhart, Henry R. Nau, Walter Lynn, Roger Revelle, Lawrence Scheinman.

The Impact of Engineering on Food Supply (30 Jan.): Agricultural and bioengineering, energy use, hydrology, food preservation and transportation, wastes, fish and aquatic foods, and new marine sources (sponsored by AAAS Sections M and O).

Norman L. Brown, E. R. Pariser, Charles Dennison, Roy E. Harrington, Gary H. Heichel, Dean F. Peterson, Jr., Stanley Charm, Donald Whittaker, Lilia A. Abron, Elmer L. Gaden, Jr., Donald F. McKernan, Ronald D. Mayo, Maynard A. Steinberg, Judith T. Kildow, Louis J. Ronsivalli, Charles A. Rosen.

Land Use and Mineral Resources (30 Jan.): Oil shale, reclamation, revegetation, surface mining, and land-use planning (sponsored by AAAS Section E).

Duane N. Bloom, R. Gary Malin, Wilbert J. Ulman, G. Richard Dreese, Russell D. Hutnik, Guy W. McKee, Lee W. Saperstein, Dale E. Trower.

Weather and Climate Modification: Impacts on World Food Problems (31 Jan.): World food supplies and weather

variability and agricultural, legal, and political implications of climate modification (sponsored by AAAS Sections W and K).

Allan H. Murphy, Louis M. Thompson, Stephen H. Schneider, Stewart W. Borland, J. Eugene Haas, Edith Brown Weiss, Ray J. Davis.

C. Energy and Transportation

The Future of Cars: Energy, Environment, and Economics (27-28 Jan.): Auto-emission options, energy and power-plant options, and long-term prospects (sponsored by AAAS Sections X and M).

John McCarthy, R. Rhoads Stephenson, J. Ross Macdonald, Emerson W. Pugh, Robert F. Sawyer, John B. Heywood, Karl H. Hellman, Richard L. Strombotne, Thomas J. Galbreath, David G. Hawkins, Joseph F. Coates, Douglas G. Harvey, Robert U. Ayres, Stedman B. Noble, Eric O. Stork, Frank P. Grad, Jan Norbye, Ernest S. Starkman, Jack H. Irving, R. Eugene Goodson, William G. Agnew, John Brogan, Clarence M. Ditlow.

Biochemical and Photosynthetic Aspects of Energy (29 Jan.): Cellulose production, energy plantation, solar-energy fixation, ocean farming, photosynthesis, and use of wastes (sponsored by AAAS Section C).

Ralph Roberts, Richard H. Bogan, James A. Bassham, Clinton C. Kemp, William J. Oswald, Clarence G. Golveke, Moshe Uziel, Howard A. Wilcox, Lester O. Krampitz, Donald L. Wise, Leo Spano, Thomas M. Leese.

Transportation and Energy Utilization: Evaluating the Options (30 Jan.): Alternative patterns of travel, shipment, and mass transit, and implications for commuting and



Times Square forms the backdrop as a policeman directs traffic. [New York Convention and Visitors Bureau]

urban policy (sponsored by the Association of American Geographers and AAAS Section K).

Frank E. Horton, Duane F. Marble, William R. Black, Gordon J. Fielding, Howard L. Gauthier, Jr., Ronald F. Abler, John F. Hultquist.

Effects of Energy Reduction on Work and Play (30 Jan.): Reduced lighting, thermal comfort, convenience, and perception of limited resources (sponsored by the Human Factors Society and AAAS Section K).

Tapas K. Sen, Corwin A. Bennett, Daniel H. Carson, Lewis F. Hanes, Henry M. Parsons.

Project Independence: Environmental Bust or Boon? (31 Jan.): Environmental implications and assessments (sponsored by the AAAS Committee on Science and Public Policy).

Stephen J. Gage, Kenneth R. Woodcock, Philip F. Palmedo, Laurence I. Moss, Donald R. Talbot.

D. Education and Manpower

The Role of Comprehensive Problem-Solving Curriculum in the Secondary School (27 Jan.): Mathematics, physical science, and social science (sponsored by AAAS Section Q and the National Council of Teachers of Mathematics).

William M. Fitzgerald, Alan Hoffer, Joseph Piel, John Haas.

The Human Resources of Science and Engineering—Today and Tomorrow (27 Jan.): Utilization in various disciplines, past assessments, recruitment, enrollments, and implications for action (sponsored by the Scientific Manpower Commission and AAAS Sections M, P, and A).

Betty Vetter, Robert L. Stern, Raymond W. Sears, Robert E. Henze, Bonnie Henderson, Truman A. Botts, John D. Alden, Orr E. Reynolds, C. Alan Boneau, David W. Breneman, David R. Reyes-Guerra, Janet W. Brown, Edward Wenk, Jr., Charles V. Kidd, Paul H. Robbins, James W. Symington.

The Problems of Longitudinal Comparisons in Educational Outcomes (28 Jan.): Science education, baseline and follow-up data, background adjustments, and so forth (sponsored by AAAS Sections U and Q).

Edward C. Bryant, Dorothy M. Gilford, Donald T. Searls, Robert C. Larson, Susan W. Sherman, George H. Dunteman, Kenneth A. Tabler, William B. Fetters, Morris H. Hansen.

The Place of Applications in the Mathematics Curriculum (28 Jan.): Utilization of mathematics in other areas and use of real problems in curricula (sponsored by AAAS Section A, the National Council of Teachers of Mathematics, and the Mathematical Association of America).

George Pedrick, Arnold Wendt, John D. Neff, Maynard Thompson, Max S. Bell.

Prospects for Increased Professional Responsibility in Science (29 Jan.): Compatibility of professional responsibility with the ethos of science (sponsored by AAAS Sections K and L).

Norman W. Storer, Everett K. Mendelsohn, Emmanuel G. Mesthene, Dorothy Nelkin, Seymour B. Sarason, Jeremy J. Stone, Stephen Toulmin.

Formulation and Implementation of Educational Policy (29 Jan.): Role of research, state legislatures, federal government, and international developments (sponsored by AAAS Section Q).

Frank W. Banghart, George Arnstein, Robert Graham, Tom Green, Corinne Rieder, Champion Ward.

Developmental Psycholinguistics: From Sound to Meaning (29 Jan.): Unique human capacities for acquiring sophisticated language systems (sponsored by the Society for Research in Child Development and AAAS Section J).

Lewis P. Lipsitt, Peter D. Eimas, Eve V. Clark, Jill G. de Villiers, Lois Bloom, Martin D. S. Braine.

The Physically Disabled Scientist: Potential and Problems (30 Jan.): Scientists with hearing, sight, and orthopedic disabilities (sponsored by the AAAS Office of Opportunities in Science and AAAS Section X).

John J. Gavin, Jerome D. Schein, Nansie S. Sharpless, Paul R. Filpus, Ralph F. Guertin, E. C. Keller, Jr.

Innovations in Education: Curricular and Technological (30 Jan.): Interdisciplinary programs on campus, new educational technology, and evaluation of effectiveness (sponsored by the AAAS Office of Science Education and AAAS Section Q).

Rustum Roy, Arthur H. Livermore, Joseph Lipson, Theodore F. Andrews, Willard F. Libby, David Pimentel, Lowell Paige, William D. Coplin, Rolland B. Bartholomew, Albert V. Baez, Donald Bitzer, Gregg Edwards.

Contributions of the Visual Arts to Environmental Education (31 Jan.): Interaction between architects and regional environmental educators (sponsored by the AAAS Office of Science Education and AAAS Section Q).

David Clarke, Arthur H. Livermore, Alan Levy, Richard Polton, Edward J. Ambry, Dean B. Bennett, Eleanor K. Davis.

IV. SCIENCE AND THE METROPOLIS

A. Urban Health and Education

Urban Medical Problems (28 Jan.): Drug and alcohol abuse, emergency room care, and cost of urban hospital care (sponsored by AAAS Section N).

Saul J. Farber, Vincent P. Dole, Norma J. Goodwin, Nicholas A. Pace, Irvin G. Wilmot.

Primary Health Care in the Urban Community (28 Jan.): Role of government, department of health, municipal hospital, group practice, medical school, colleges, and foundations (sponsored by the New York City Advisory Committee).

Alfred Gellhorn, Kenneth M. Endicott, Lowell Bellin, John Holloman, Allan Kornfeld, Kurt Deuschle, David E. Rogers.

Improving Inner-City Science Teaching (29 Jan.): Issues, problems, and an urban systems approach (sponsored by AAAS Section Q).

F. James Rutherford, Lloyd Cooke, Ethel Fitzgerald, Sol Levine, Alfredo Matthew, Herbert Schwartz.

Role of the Living Museum (29 Jan.): Problem of presenting diverse collections to various audiences through appropriate means.

Priscilla Dunhill, Malcolm Arth, Ruth Bowman, Lloyd Hezekiah, Kenneth L. Mathis, Taizo Miake, Paul Smith, Michael Spock, Elliot Willensky.

Growing Up in Large Cities: Research and Research Needs (31 Jan.): Physical, social, and biological influences on the health and behavior of children (sponsored by the New York City Advisory Committee).

Stephen A. Richardson, Edmond N. Bacon, Urie Bronfenbrenner, Alfred Kahn, Arnold Einhorn.

B. Urban Policy and Planning

Political Economy of Ethnicity: Comparative Focus (27 Jan.): Social theory, political economy, and urban educational policy (sponsored by the New York City Advisory Committee).

Moyibi Amoda, Paul Ritterband, Wendell Bell, Constance Sutton, Cynthia Enloe, Herbert Gans, Lawrence Glasco, Norman Jacobson, Babatunde Williams, Michael Novak.

Urban Modification of Weather (27 Jan.): Causes, implications, and examples of weather modification in urban areas (sponsored by AAAS Section W).

Glenn R. Hilst, Louis J. Battan, Helmut E. Landsberg, Stanley A. Changnon, Jr., Roscoe R. Braham, Jr., J. Eugene Haas.

Science, Regional Environmental Management, and Policy-Making: Critique of New York Experience (27 Jan.): Policy-making and planning in New York City and Long Island, adversary and advisory processes, and acceptance of technological innovation (sponsored by the AAAS Committee on Science and Public Policy).

Christopher Wright, Jerry E. Mechling, Lee E. Koppelman, Glenn Paulson, Donald C. Menzel, Irwin Feller, Richard Chase, Brewster C. Denny, Gerald Hansler.

Co-Chairmen's Symposium: Policy Analysis and Urban Life (28-29 Jan.): Case of St. Louis, analysis of housing programs and emergency deployments, effects of city size and

self-consuming appetites (sponsored by the New York City Advisory Committee).

Lloyd N. Morrisett, Robert A. Levine, Barbara R. Williams, John F. Kain, William Alonso, Robert C. Wood, Bernard Weissbourd, Norman Mineta, Harold W. Guthrie, Philip J. Rutledge, Warren E. Walker, Manuel Aragon, Judah Gribetz, Michael H. Moskow.

Social Science and Urban Policy: Retrospect and Prospect (28 Jan.): Experience of several speakers in this area of endeavor (sponsored by AAAS Section K).

Jeffrey A. Raffel, Robert C. Wood, Anthony Downs, Theodore J. Lowi, Suzanne Keller, Martin Rein.

Urban Information Systems: Present Capabilities and Future Needs (28 Jan.): Interaction between representatives of computer-based information systems and those who face real urban problems (sponsored by the American Society for Information Science and AAAS Section T).

Vivian S. Sessions, Kenneth A. Gibson, D. Geoffrey Hayward, Joyce A. Healy, Elmer L. Struening, John C. Beresford, Joseph G. Coyne, Joshua I. Smith.

The City and the Sea (30 Jan.): Experiences with the sea in London, Boston, Bombay, Venice, and New York (sponsored by the New York City Advisory Committee).

Walter H. Munk, Martin Lang, Alexander Morrison, Harold A. Thomas, Jr., Charles M. Correa, Oswald A. Roels, John P. Craven.

C. Urban Housing and Alternatives

Changes in the Quality of Nonmetropolitan Life (27 Jan.): Characteristics of villages, social stratification, and social norms and environmental quality (sponsored by the Rural Sociological Society and AAAS Section K).

Archibald O. Haller, Frederick C. Fliegel, Glenn V. Fuguitt, Harley E. Johansen, David L. Featherman, Robert M. Hauser, Thomas A. Heberlein, Denton E. Morrison, Frank Young, J. Lynn England.

The Quality of Life in Small Towns: Approaches to Community Revitalization (28 Jan.): Future roles, theories of community, public and private sector policies, technology, and intervention theory and practice.

Harold S. Williams, Paul Meadows, Bert E. Swanson, Orville Lerch, John D. Leslie, Peter Goldmark, Bonnie Kraig.

The Central City: Spatial Aspects of the Quality of Life (28 Jan.): The classic slum, the preservation of place, population densities, fear of fire, and governmental and financial-institution policies (sponsored by the Association of American Geographers and AAAS Section K).

Julian Wolpert, Anne Buttner, David Ward, Peirce F. Lewis, John S. Adams, Harold M. Rose, Michael J. Munson, David W. Harvey.

Innovation in New Communities (29 Jan.): Use of advanced technologies and innovations, social aspects, and the New York State experience.

Mark H. Freeman, Bernard A. Schriever, Marshall L. Kaplan, Edward J. Logue, Robert E. Simon, Jr.

Urban Housing: The Future of New Techniques (29 Jan.): Industrialization, use of subsystems, new techniques, and of total systems (sponsored by the New York City Advisory Committee).

Roger Starr, Allan Labie, Joseph H. Newman, David M. Pellish.

AAAS Annual Meeting: New York, N.Y.

26-31 January 1975

Americana of New York
City Squire Motor Inn
Seventh Avenue at 52nd Street

D

ADVANCE REGISTRATION FORM

- ☐ Enclosed is \$20 Registration Fee (Program and Convention Badge)
- ☐ Enclosed is \$25 Registration Fee (for attendee and spouse) (One Program and two Convention Badges)
- ☐ Enclosed is \$10 Student Registration Fee (Program and Convention Badge)
- ☐ Enclosed is \$10 One-Day Registration Fee (Program and Convention Badge) _____
(Specify Day)

Program and badge will be mailed in December.

Registrations received after 10 January will be held at the AAAS Information Booth.

NAME: _____
(Last Name) (First) (Middle Initial)

MULTIPLE REGISTRATION: _____
(List full name for spouse and other registrants)

MAILING ADDRESS: _____
(For receipt of program and badge(s)) (Street) (City/State) (Zip Code)

INSTITUTION OR COMPANY: _____
(City) (State) (Zip Code)

CONVENTION ADDRESS: _____
(Where you can be reached) (Hotel or Street Address)

Check days attending: Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐

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

SURVEY OF ATTENDEES

Annual Meeting, New York City, 26-31 January 1975

Your answers to the following questions will help us in planning future AAAS Annual Meetings. Please complete the following form and either return it with your registration form or send in separately (to the same address) if you wish to respond anonymously (in any case, the two forms will be processed separately).

Principal Professional Interest

- 11 ☐ Physical, mathematical
12 ☐ Biological, medical
13 ☐ Engineering
14 ☐ Social, behavioral
15 ☐ Science policy
16 ☐ (other)

Principal Professional Activity

- 21 ☐ Teaching, education
22 ☐ Health practice
23 ☐ Other practice, consulting
24 ☐ Research, development
25 ☐ Administration
26 ☐ (other)

Institutional Affiliation Type

- 31 ☐ University, 4-year college
32 ☐ Other educational
33 ☐ Industrial, commercial
34 ☐ Other private
35 ☐ Government
36 ☐ (other)

Highest Educational Level

- 41 ☐ Doctoral Degree
42 ☐ Master's Degree
43 ☐ Other professional
44 ☐ Bachelor's Degree
45 ☐ (other)

Age

- 51 ☐ Under 26 years
52 ☐ 26 to 35 years
53 ☐ 36 to 45 years
54 ☐ 46 to 55 years
55 ☐ 56 to 65 years
56 ☐ Over 65 years

Distance Traveled to Meeting

- 61 ☐ Under 51 miles
62 ☐ 51 to 100 miles
63 ☐ 101 to 200 miles
64 ☐ 201 to 500 miles
65 ☐ 501 to 1000 miles
66 ☐ Over 1000 miles

Membership: in AAAS ☐ 71, in Affiliate ☐ 72 (specify) Neither ☐ 73

Reservations

HOTEL RATES* (Per Day)

The American Association for the Advancement of Science will hold its 1975 Annual Meeting in New York City, 26-31 January. The AAAS registration and information desks will be located in the Albert Hall at the Americana of New York. The following hotels will be used for housing:

Hotel	Single	Double	Twin	Suites**	Parking
1) AMERICANA OF NEW YORK*** Seventh Avenue at 52nd Street	\$25 28 30 33 36	\$36 38 42 45 48	\$36 38 42 45 48	\$60 and up	\$7 per 24 hours (subject to change)
2) CITY SQUIRE MOTOR INN*** Seventh Avenue at 52nd Street	\$24 27 29 32 35	\$35 37 41 44 47	\$35 37 41 44 47	\$59 and up	Free

* New York Sales Tax, 8%; New York City Room Tax, \$1 per night; \$10 additional charge for cots and rollaway beds. If rate specified is not available, the next available higher rate will be assigned.

** One-bedroom parlor suites; rates for larger suites available upon request.

*** Children under age 14 accommodated at no extra charge in same room with parents; four persons per room maximum.

HOTEL RESERVATIONS FORM Mail to: AAAS Housing Bureau, c/o Reservation Manager,
Americana Hotel, 811 Seventh Avenue, New York, N.Y. 10019

CHOICE OF HOTEL: First _____ Second _____

ROOM: ☐ Single ☐ Double ☐ Twin ☐ Suite Preferred Rate \$ _____

ARRIVAL: 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 other-
wise specified.

DEPARTURE: Date _____; _____ a.m. _____ p.m.

NAMES AND ADDRESSES OF ALL OCCUPANTS OF ROOMS

Name _____ Name _____

Address _____ Address _____

City _____ State _____ Zip _____ City _____ State _____ Zip _____

Name _____ Name _____

Address _____ Address _____

City _____ State _____ Zip _____ City _____ State _____ Zip _____

Individual Requesting Reservations _____