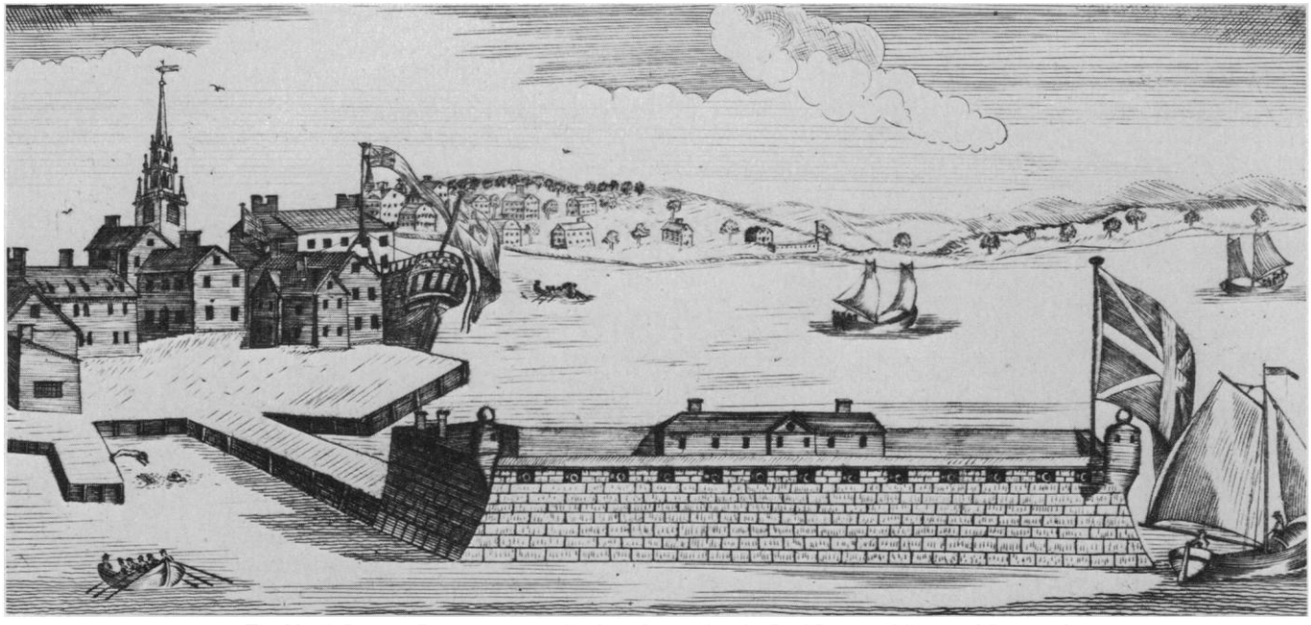
Science and Our Expectations: The Reach and the Grasp



The North Battery, Boston—a reproduction of a woodcut by Paul Revere. [Library of Congress]

In the equation for an exponentially increasing process, the rate of change is proportional to what is there. One wonders, if an attempt were made at a similar model for our expectations, what high power of what is actually there would appear on the right-hand side. "The Revolution of Rising Expectations" was coined to describe a prevalent social attitude shortly after World War II and yet, a scant three decades later, we find ourselves in the midst of a doldrum of falling expectations. A rise fueled by the anticipation of change, manyfold greater than that observed at the time, has given way to a fall as fact far lags the anticipation.

What began as optimism in the full flush of victory, an optimism directed at the scores of problems which afflict mankind, turned to apathy and despair, as confidence was lost in the institutions and procedures of society to accomplish what had been anticipated, what we had been led to expect. This failure of confidence is not only in regard to our social and political institutions and procedures but to our intellectual ones as well.

Science, as a way of knowing, as a basis for technological development, came trickling out of the 17th century, growing in strength in consonance with our own growth as a nation until it came on as a torrent in our mid-century, a potent fuel for our rising expectations, only to be found with feet of clay, with all the weaknesses and frailties of its flesh and blood practitioners. And yet there is more. Just as our recent trials have demonstrated the resiliency of our 200-year-old political institutions, so have our recent intellectual achievements extended our reach beyond the bounds of our mortal frailties, an extension which is the hallmark of those things we cherish most in our human history. In the words of Browning's *Andrea del Sarto*, "Ah, but a man's reach should exceed his grasp/ Or what's a heaven for?"

Passing a major milestone in our nation's history, it is time to take stock, to sort out our reach from our grasp, and ask from whence do we come and whither do we go. The AAAS Annual Meeting in this our bicentennial year poses the question: What have been our expectations for science—from science—and what have they become? About 180 symposia divided among the *Frontiers of Science*, where are the physical, biological, and social sciences leading? the *Uses of Science*, what progress is being made in the problems of health, food, habitation, and energy, and what are the implications of this progress? and some *Perspectives on Science*, what are the ethical considerations, the views from other cultures and from history, the possibilities for education and as a source of opportunity?

But of course there is much more. Our Annual Meeting is not only a major intellectual event, it is also a social and cultural event: lectures, concerts, films, tours, exhibits, and the chance to renew old acquaintances and make new ones, to rub elbows with colleagues not only in your own field but in all the other areas of science and of social concern, and to extend your own horizons.

Come celebrate with us in Boston, look back over our past, consider our present needs and capabilities, and peer with us into the future. Extend your reach, your grasp may be greater than your expectation.—ARTHUR HERSCHMAN

Annual Meeting
Boston
18-24 February 1976

PRECONVENTION PROGRAM

Headquarters Hotel is the **Sheraton-Boston**, located in Boston's Prudential Center; it accommodates the public lectures, most sessions, the AAAS Office, an Information and Message Center, the Newsroom, the Handicapped in Science Office, and a Meeting Hospitality Room. The second floor of the adjacent **John B. Hynes Veterans Auditorium** contains AAAS Registration and Information, some sessions, *Science International* (exhibits), and the AAAS *Science Film Festival.* See Boston map on page 69.

Science and Our Expectations:

Bicentennial and Beyond

Honorary Chairman
The Honorable Kevin H. White
(Mayor of the City of Boston)

Co-Chairmen

Gerhard D. Bleicken
(Chairman of the Board,
John Hancock Mutual Life Insurance Company)

Howard W. Johnson
(Chairman of the Corporation,
Massachusetts Institute of Technology)

Vice Chairmen

Derek C. Bok
(President,
Harvard University)

Richard H. Bolt
(Chairman of the Board,
Bolt Beranek & Newman, Inc.)

Mrs. Norman L. Cahners
(Trustee)

Bradford Washburn
(Director, Museum of Science)

AAAS PUBLIC LECTURES

AAAS Public Lecture (18 Feb., 1:45 p.m.).
Derek C. Bok (President, Harvard University).
Topic to be announced.

AAAS Public Lecture (18 Feb., 8:30 p.m.).
James G. Moore (U.S. Geological Survey, Menlo Park, Cal.).
Exploration of the Mid-Atlantic Rift.

AAAS Public Lecture (19 Feb., 1:45 p.m.).
Françoise Giroud (Secretary of State to the Premier for the Condition of Women, Paris, France).
Topic to be announced.

National Geographic Society Public Lecture (19 Feb., 8:30 p.m.).
Bradford Washburn (Director, The Museum of Science, Boston).
Mapping the Grand Canyon.

Phi Beta Kappa Public Lecture (20 Feb., 1:45 p.m.).
Gerald Holton (Professor of Physics, Jefferson Physical Laboratory, Harvard University).
The Scientific Imagination.

AAAS Retiring President's Public Lecture (21 Feb., 7:30 p.m.).
Margaret Mead (Curator Emeritus, American Museum of Natural History).
Towards a Human Science.

George Sarton Memorial Public Lecture (22 Feb., 1:45 p.m.).
Joseph S. Fruton (Eugene Higgins Professor of Biochemistry, Yale University).
The Emergence of Biochemistry.

AAAS Public Lecture (22 Feb., 8:30 p.m.).
Speaker and topic to be confirmed.

AAAS Public Lecture (23 Feb., 1:45 p.m.).
Andrew F. Brimmer (Thomas Henry Carroll Ford Foundation Visiting Professor, Graduate School of Business Administration, Harvard University).
Income Distribution and Economic Equity in the United States.

AAAS Public Lecture (23 Feb., 8:30 p.m.).
Gyorgy Kepes (Director Emeritus, Center for Advanced Visual Studies, Massachusetts Institute of Technology).
Art of a New Scale.

I. FRONTIERS OF SCIENCE

A. General Interest

The Limits of the Universe—Is It Open or Closed? (18 Feb.): Observation and understanding, optical and dynamic tests, mass of universe.

Frank D. Drake, Robert V. Wagoner, James E. Gunn, P. J. E. Peebles, Philip Morrison.

Viking Mars Science Experiments: Expectations (19 Feb.): Viking mission, goals and strategy; view from Orbiter, Martian atmosphere, organic compounds, surface composition; and biological investigation, future exploration.

George W. Morgenthaler, Noel W. Hinners, James S. Martin, Jr., Gerald A. Soffen, A. Thomas Young, Michael H. Carr, Michael B. McElroy, Richard M. Goody, Thomas Mutch, Harold P. Klein, Klaus Biemann, Priestly Toulmin, III, Carl E. Sagan, Don Fuqua, Donald P. Hearth, Walter O. Lowrie, Walter Sullivan.

Extraterrestrial Intelligence (ETI) (20 Feb.): Extrasolar systems, origins of life, Ozma search, beacons, Soviet searches, extragallactic systems, long-range strategies.

Carl E. Sagan, Frank D. Drake, George D. Gatewood, Leslie E. Orgel, Patrick Palmer, Ben M. Zuckerman, Alan H. Bridle, P. A. Feldman, N. S. Kardashev, Philip Morrison.

The Frontiers of the Natural Sciences (22 Feb.): Chemistry, geology, physics, molecular biology, mathematics and computer sciences, astronomy.

Rolf M. Sinclair, Edward C. Creutz, Harry B. Gray, Charles L. Drake, Freeman J. Dyson, Salvador Luria, Donald E. Knuth, Philip Morrison.

The Early History of the Earth and of Life (23 Feb.): Earth-moon system, crustal evolution, geochronology, earth's outer spheres, lithosphere and crustal mobility, origin of life, earliest fossils.

Preston Cloud, Roger Revelle, Robert Clayton, Heinrich Holland, George Wetherill, Karl Turekian, Paul Hoffman, Kevin Burke, Lynn Margulis, James W. Schopf.

Science for the Naked Eye: Or the Physics of Everyday Experience, III (23 Feb.): Nature, art, arithmetic, insect's view, illustrating, prehistory, flying circus, mirages and theology.

Rolf M. Sinclair, Eugene W. Boehne, Thomas Eisner, Carol Donner, Alexander Marshack, Jearl D. Walker, Alistair B. Fraser.

B. Physical Sciences

Progress in the Hydrospheric Sciences in America: A Bicentennial Review (18 Feb.): Irrigation, hydropower, flood control, soil and water conservation, pollution control, urban water resources.

William C. Ackermann, Ellis L. Armstrong, Bob J. Buehler, Bernard B. Berger, M. B. McPherson.

Progress of the Atmospheric Sciences in America: A Bicentennial Review (19 Feb.): Storms, cloud physics, precipitation, atmosphere in three dimensions, National Weather Service.

William W. Kellogg, Gisela Kutzbach, Wendell A. Mordy, Verner E. Suomi, George P. Cressman.

The Meteorology and Chemistry of the Stratosphere (19 Feb.): Dynamics, energetics, exchange and transport processes, composition and chemical reactions.

James P. Friend, Reginald E. Newell, Edwin F. Danielsen, Jerry D. Mahlman.

Coal Science and Our National Expectations (20 Feb.): Energy R & D, coal conversion, future requirements, nonenergy uses, role, combustion, process chemistry, liquefaction, gasification.

Henry A. McGee, Jr., Walter R. Hibbard, Robert C. Seamans, Eric H. Reichl, Alvin M. Weinberg, Richard E. Balzhiser, Henrik Harboe, Richard C. Neavel, Donald C. Cronauer, Arthur M. Squires.

Estuaries, Geophysics, and the Environment (21 Feb.): Circulation, mixing, plumes, fjords, turbulence, boundary layers, water quality, salinity, nutrients, sediments, flocculent layers.

Pembroke J. Hart, Charles B. Officer, D. W. Pritchard, K. R. Dyer, R. W. Garvine, Maurice Rattray, K. F. Bowden, G. T. Csanady, B. H. Ketchum, D. J. O'Connor, R. W. Thomann, D. M. DiToro, D. R. F. Harleman, H. J. Simpson, R. J. Gibbs, R. Kirby, W. R. Parker, K. K. Turekian.

The Magnetically Varying Sun and Its Effects on Terrestrial Climate (22 Feb.): Solar interior, magnetic variability, solar wind, variability and climate, climate theory, possible mechanisms.

Robert W. Noyes, George B. Field, Peter A. Gilman, John C. Brandt, John A. Eddy, Stephen H. Schneider, Michael B. McElroy.

High Energy Radiation in the Universe, X- and Gamma-rays (23 Feb.): High-energy phenomena, x-ray sky, future tools, cosmological view.

Paul Gorenstein, Philip Morrison, George W. Clark, Riccardo Giacconi, George B. Field.

Fifty Years of Quantum Mechanics (23 Feb.): Significance and relations to chemistry, life, and so forth.

Rolf M. Sinclair, Victor F. Weisskopf, Linus Pauling, John A. Wheeler.

Severe Storms and Society (24 Feb.): Characteristics, effects on farming, prediction, modification, warning.

Louis J. Battan, Chester W. Newton, E. Ray Fosse, Robert C. Miller, D. Ray Booker, Peter McManamon.

Geology of the Terrestrial Planets: An Overview (24 Feb.): Interiors, impact cratering, tectonism and volcanism, erosion and transport.

Baerbel K. Lucchitta, M. Nafi Toksoz, Donald E. Gault, Keith A. Howard, Jahn F. McCauley, Carl E. Sagan.

C. Biological Science

Deterministic versus Stochastic Models in Biology (19 Feb.): Use and insights gained from such models.

Daniel L. Solomon, Charles F. Walter, Jack Turner, Richard C. Lewontin, Evelyn C. Pielou.

Communication in Biological Systems (20 Feb.): Chemical ecology; immune responses, recognition, interaction; gene expression, viruses, animal reproduction.

Hans Laufer, Karl Maramorosch, Thomas Eisner, Baruj Benaceraff, Bert W. O'Malley, A. A. Moscona, R. K. Hunt, Frank H. Ruddle, Hilary Koprowski, Clement L. Markert.

Biological Rhythms in Activity and Interaction (21 Feb.): Synthesis, oscillation, mathematical models, species comparisons, genetics, organization.

Eliot D. Chapple, Theodosios Pavlidis, Yau-Yin Lui, John F. Eisenberg, John L. Fuller.

Guaranteeing Our Wildlife Heritage in 2076 (22 Feb.): Citizen concern, species extinction, space demands, environmental modifications.

Donald J. Zinn, Thomas L. Kimball, Robert M. Pyle, Arthur L. Sullivan, Benjamin C. Dysart, III.

Zoos and Wildlife Conservation (23 Feb.): Trade in wildlife, endangered species, tortoises, peregrine falcons, cranes, rare birds, golden lion tamarin, ungulates, computerized records.

William G. Conway, F. Wayne King, Earl Baysinger, Nat Reed, Walter Auffenberg, Tom Cade, Stan Temple, George Archibald, Donald Bruning, Devra G. Kleiman, Chris Wemmer, U. S. Seal.

Some Mathematical Questions in Biology (24 Feb.): Models, immunology, axoplasmic transport, fluid mechanics, mitotic clock, pattern formation.

Simon A. Levin, George Bell, Byron B. Goldstein, Garrett Odell, George F. Oster, Sol Rubinow, Stuart Kauffman, Hans Othmer.

D. Medical Science

Bacterial Infections: Vaccines versus Antibiotics (18 Feb.): *Haemophilus influenzae*, meningococci, pneumococci, bacterial resistance, prophylaxis.

Robert Austrian, John B. Robbins, Ronald Gold.

Medications and the Patient (19 Feb.): Illness, prescribing, self-medication, adverse reactions, clinical pharmacy, patient compliance, pharmacokinetics.

Raymond Jang, Donald E. Francke, Gerald L. Klerman, Edmund D. Pellegrino, Deanne E. Knapp, Louis A. Morris, James T. Doluisio, David J. Greenblatt, Donald C. McLeod, Dorothy L. Smith, William H. Barr.

The Role of Controlled Therapeutic Investigations in the Nation's Health Program (19 Feb.): Impact on regulations, pharmaceuticals, insurance.

Marvin Zelen, Thomas Chalmers, J. Richard Crout, Donald S. Frederickson, William Hubbard.

Neural Metabolism, Drugs, and Aging (20 Feb.): Brain ultrastructure, monoamine changes; L-dopa, drug addiction, and aging.

Caleb E. Finch, Ruth E. Weber, Martin Feldman, Lucien J. Côté, George C. Cotzias, Richard V. Phillipson.

Priorities in Cancer Research: Occupational and Environmental Carcinogenesis (20 Feb.): Status, scientific basis, legal and political action, purpose.

Allen E. Silverstone, W. Gary Flamm, Samuel S. Epstein, Nicholas A. Ashford, Barry Commoner.

Medical, Ethical, and Social Consequences of Widespread Use of Intensive Care and Resuscitation Procedures (21 Feb.): Likelihood and consequences, humanizing life support, unexpected death, nervous system trauma, critical illness, dying in dignity, limits in brain damage (Soviet view).

Harold H. Hillman, Robert J. White, Peter Safar, Lawrence E. Meltzer, Francis D. Moore, Sylvia A. Lack, Edward I. Kandel.

Genetics and Social Policy (22 Feb.): Eugenics and class struggle, sex roles, XYY male, genetic screening, sterilization abuse, gene manipulation.

Jon Beckwith, Garland Allen, Marian Lowe, Jonathan King, Tabitha Powledge, Maritza Arrastia, Kostia Bergman.

Biomedical Research: A View from the Outside (23 Feb.): Legislative, public, legal rights of human subjects.

Barbara J. Culliton, William A. Blanpied, William D. Delahunt, William P. Homans, Jr., James W. Smith, David G. Nathan.

Computers and Medical Knowledge: Extending the Availability and Use of Knowledge in Medicine (23 Feb.): Patient management decisions, clinical support and problem solving, consulting, training programs.

Vladimir Slamecka, R. A. Rosati, Harry Pople, Albert N. Badre, Ralph L. Engle, Jr., Roger W. Dahlen.

Randomization and Therapeutic Investigations in Cancer (24 Feb.): Validity of studies, biases, ethical considerations.

Marvin Zelen, Emil Frei III, Paul P. Carbone, Emil J. Freireich, Edmund A. Gehan, Marsha Greenberger.

E. Anthropology

Blood Types and the Mystery of the Origins of Amerindians (18 Feb.): Transferrin and hemoglobin, antigens, genetic variability.

Marcel Roche, Tulio Arends, Miguel Layrisse, Zulay Layrisse, Rubén Lisker, J. C. Quilici, Francisco M. Salzano, James V. Neel.

Population Studies: The Techniques and Prospects for the Future (19 Feb.): Political consequences, social and religious factors, policies, economics of children, demographic parameters, women's work, productivity.

David G. Mandelbaum, Priscilla Reining, Irene Tinker, Myron Weiner, Warren Ilchman, Nafis Sadik, Moni Nag, Nancy Howell, Francis Conant, H. Leedom Lefferts.

Margaret Mead: Fifty Years of Anthropology (20 Feb.): A festschrift on fifty years of shaping anthropology.

Ruth L. Bunzel, David G. Mandelbaum, Lola Romanucci-Ross, Rhoda Métraux, Theodora M. Abel, William E. Mitchell, Gregory Bateson, Ward H. Goodenough, Robert F. Murphy, Warren W. Swidler, Vera D. Rubin, Philleo Nash, Sol Worth, Mark Zborowski, Wilton S. Dillon, Ray L. Birdwhistell, Renée Fox, Geoffrey E. Gorer.

Nonverbal Behavior in American Society (21 Feb.): Visible, spatial, public behavior; urban, environment.

Nelson A. Ossorio, John R. Aiello, Albert E. Scheflen, Aristide H. Esser.

The Coevolution of Expressive, Productive, and Cultural Systems (22 Feb.): Vocal performance, cultural evolution, movement style, social structures, hierarchy, taxonomy of culture.

Alan Lomax, Conrad M. Arensberg, Herbert Barry, III, Edwin E. Erickson.

A Small Child's Alchemy: Air, Water, Mud, and Fire (22 Feb.): Mythical world, pollution and ambient air, hydrologic cycle, mound-building, traumatic encounters.

Robert W. Kates, Kenneth Boulding, Bernard Kaplan, Dorothy Noyes Kane, Cindi Katz, Denis Wood, Luitgard Wundheiler.

On the Problem of Reconstructing a Culture: Of What Is "A Culture" a Model? (23 Feb.): Behaviorism, extinct cultures, intraspecies variability, ethnohistory, social change.

James Silverberg, Marvin D. Loflin, Marvin Harris, Barbara J. Price, Naomi H. Bishop, Iris Winogrond, Philleo Nash, Mario A. Bunge, B. F. Skinner, Margaret Mead.

The Wider Applicability of Anthropological Methodology (24 Feb.): Rural development, field methods, modern institutions, behavioral process, biological systems, ethnography and education, Japanese perception of American work, information control.

Jean K. Boek, William Foote Whyte, Walter E. Boek, Leonard Sayles, Frederick L. W. Richardson, Margaret Mead, Eliot D. Chapple, Robert B. Everhart, John van Willigen, Richard W. Stoffle, David Levinson, Anne Renouf Headley.

F. Social and Political Science

The Integration of the Natural and Social Sciences (18 Feb.): Philosophy, humanism, normative factors.

Edgar Taschdjian, Ervin Lazlo, Alfred Kuhn.

Social Scientific Methods in the Study of Religion: Milestones of the Past or Signposts for the Future? (19 Feb.): Historical, survey, psychoanalytic, structuralist, and field method approaches.

Gillian Lindt, David Little, Samuel Z. Klausner, Richard K. Fenn, Donald R. Ploch, Paul W. Pruyser, Norman Birnbaum, Irving I. Zaretsky.

Geographic Contributions to Knowledge of Innovation Diffusion Processes (20 Feb.): Human geography, models, innovation among firms, the market.
Lawrence A. Brown, Lakshman S. Yapa, Edward J. Malecki, C. Samuel Craig.

Trends in Social and Economic Stratification in the United States (20 Feb.): Inequality, value of schooling, goals of equality.
Seymour Martin Lipset, William Sewell, Robert M. Hauser, David L. Featherman, Richard Freeman, Nathan Glazer, S. M. Miller.

Federalism Reconsidered in America's Third Century (21 Feb.): Decentralization, community land use, growth control, financing state and local governments, federal-state relations.
Werner Z. Hirsch, Henry Rosovsky, Robert A. Nisbet, Richard Nathan, Preble Stolz.

Work in America: Changing Roles (22 Feb.): Redefinitions, nontraditional jobs for women, blue-collar, occupational segregation, household labor, Polish-American men, black women, Native American women, Mexican-Americans, immigrant adjustment.
Janet Welsh Brown, Elliott Liebow, Mary Lindenstein Walshok, Richard Berk, Louise Lamphere, Paul Wrobel, Lena Wright Myers, Kathryn Red-Corn, Jean J. Schensul, Stephen R. Schensul, Richard E. Lopez.

Client-Focused Feedback Modeling of Social Systems (23 Feb.): Occupational education, West African Sahel, human services, criminal justice, corporate strategy.
Kenan E. Sahin, Richard D. Wright, Michael Garet, Anthony Picardi, Gary Hirsh, Willard R. Fey.

Crime: What We Know and What We Need to Know (23 Feb.): Illicit enterprise, organized crime, victimless, family violence, rape, theory and research.
Margaret A. Zahn, Dwight C. Smith, Jr., Edwin M. Schur, Murray Straus, Lynda Lytle Holmstrom, Ann Wolbert Burgess, Paul Friday, Amitai Etzioni.

The Anatomy of Violence in Today's Society (24 Feb.): Government sanctions, society's rejects, woman criminal, political violence, conflict, psychopathology.
Robert W. Wesner, Manoucher Parvin, John M. Martin, Florence L. Denmark, Harvey S. London, John P. Entelis, Gus Grammas, David C. Schwartz, Morton Bard, Benjamin B. Wolman.

G. Behavioral Science

Attitudes Toward Children and Child-Rearing in the United States: An Historical Commentary (18 Feb.): Cult of child-rearing, spare the rod, selection and isolation, American parents.
Lewis P. Lipsitt, Lucile Newman, Howard Gadlin, Lloyd deMause, M. Robert Coles, William Kessen.

The Effect of Early Rearing Conditions on the Child's Development (19 Feb.): Environmental enhancement, adaptation, early education, group care, human competence.
Jerome Kagan, Richard B. Kearsley, Henry N. Ricciuti, William Kessen, Burton L. White.

Psychoanalytic Contributions to the Parenting Function (19 Feb.): Family characteristics, schizophrenic and delinquent children, psychoanalytic critique, child development.
Martin A. Berezin, Irving Kaufman, Peter H. Knapp, Peter B. Neubauer.

Adolescent-Adult Role Socialization, Family Planning, and Health Professional Advocates (20 Feb.): Changing society, identity, unwed pregnancies, becoming a spouse, adolescents and planning.
Harriet H. Werley, Doris V. Allen, Helen K. Grace, Kathleen A. Knafl, Barbara Logan, Paul A. Reichelt.

The Future of Neurology and Pharmacology of Learning and Behavior: Social Issues in the Application of New Techniques (20 Feb.): Family, education system, medicine, social systems.
Stanley S. Robin, James J. Bosco, James McGaugh, Marvin Sussman, Robert Havighurst, Leon Eisenberg.

Intelligence and Performance: Newer Conceptualizations and Relevance for Behavioral Measures of Success (21 Feb.): Test theory, theory of intelligence, concept attainment, intellectually gifted, success measures.
Robert Perloff, Lloyd G. Humphreys, Herbert J. Klausmeier, Julian C. Stanley, Jr., Mary Jo Bane, Leslie H. Hicks.

Race, Genetics, and Intelligence (21 Feb.): Evolution and diversity, IQ tests and intelligence, IQ and success, social Darwinism and change, heritability.
Ned J. Block, Richard Lewontin, Bernard Davis, Naroman Daniels, Bruce Eckland.

Species-Specific Learning (22 Feb.): Evolution, genetics, behavior, phobias, sexual learning, intelligence.
Alma S. Wittlin, Martin E. P. Seligman, Mary-Claire King, Gilbert S. Omenn, Paul Rozin, James W. Kalat.

The Role of Anticipation in Human Affairs (23 Feb.): Uses of language and imagery, prediction of disaster.
Maurice R. Green, Harley C. Shands, Jerome L. Singer, John L. Schimel.

Biofeedback and Self-Control: An Enlightened Era? (23 Feb.): Mind and consciousness, disregulation disorders, short-term stress, EEG alpha.
Robert S. Goyer, Clarence E. Rohm, Jr., Barbara B. Brown, Gary E. Schwartz, J. Douglas Gibb, Martin T. Orne.

How Times Have Changed: What Hypnosis of Today Can Lead To, Tomorrow (24 Feb.): In medicine and dentistry, as a research paradigm.
Kay F. Thompson, Melvin A. Gravitz, Robert E. Pearson, Frederick J. Evans.

II. USES OF SCIENCE

A. General Interest

The Future of Health Care (18 Feb.): Options for improving, impact of medical research, promise and constraints of technology.
Irving M. London, David E. Rogers, Donald S. Fredrickson, Walter A. Rosenblith.

Science, Technology, and the Handicapped (19 Feb.): Reading machine for the blind, teach deaf children to speak, electronically aided instruction, technology, architectural and transportation barriers, career barriers, quality science education.
Richard H. Bolt, John A. Swets, Barry Unger, Martha Redden, Edward Keller, Raymond Kurzweil, Raymond S. Nickerson, Kenneth N. Stevens, Richard A. Foulds, Max Mueller, Donald Schon, James Jeffers, James Gashel, Maynard Reynolds, Elizabeth Boggs.

Science Policy and Social Development (20 Feb.): Developing nations, public information, political process.
Jerome B. Wiesner, Carlos Chagas, Arne V. Engstrom, Alexander W. Merrison.

Catastrophes: Analyses and Solutions (21 Feb.): Disaster warnings, threats to the biosphere, food-climate catastrophe, genetic resources, nuclear power.
Stephen H. Schneider, Walter Orr Roberts, Kenneth E. Boulding, J. Eugene Haas, David J. Rogers, Gilbert N. Hersh, Jay E. April, Kanti Rawal, John Holdren.

The Mouth: Where It All Begins (22 Feb.): Growth and development, psychological aspects, dental disease, oral structures, paleontology, art and music, talking teeth.

Paul E. Boyle, John W. Hein, Donald H. Enlow, Donald B. Giddon, Thomas Lehner, Coenraad F. A. Moorrees, Mark W. Field, Martin A. Taubman, Alfred W. Crompton, Jens J. Pindborg, Reidar F. Sognnaes, David W. Hamilton, Gerald Shklar, Arthur Mazmanian, Stanley Schwartz, Sholom Pearlman.

Social, Cultural, and Technological Connections of Acoustics (23 Feb.): Forensic techniques, prosthetics and hearing, musical instruments.

Arthur H. Benade, Michael H. L. Hecker, Hugh S. Knowles.

Food, Nutrition, and Population Policy (24 Feb.): Fertility, society, and food; nutrition and population; affluence and poverty; agriculture; minimum human needs; future projects; population and resources.

Roger Revelle, David G. Mandelbaum, Jean Mayer, F. James Levinson, James Grant, Harrison Brown.

B. Health

Sensory Prostheses for the Hearing Impaired: Current Status and Future Directions (18 Feb.): Acoustic, cochlear implant, and tactile prostheses; electrotactile vocoder; basic research.

James H. Abbs, David W. Sparks, Harry Levitt, F. Blair Simmons, Moise H. Goldstein, Frank Saunders, James D. Miller.

Malnutrition, Behavior, and Social Organization (19 Feb.): Protein-calorie malnutrition, endemic goiter, cretinism, nutritional stress, behavior, culture, malnourished population, psychological development.

Lawrence S. Greene, Nevin S. Scrimshaw, Ernesto Pollitt, John B. Stanbury, Solomon H. Katz, Merrill S. Read, Georgeda Buchbinder, Edward Foulks, B. Abbott Segraves, Eugene G. d'Aquili, Gary Mihalik, Margaret Mead, Andrew P. Vayda.

Ecology of Famine (20 Feb.): Ecosystems, psychological effect, diseases, immunity, Africa, Bangladesh, prediction, prevention, and aid.

Frederik B. Bang, Dwain W. Parrack, George W. Cox, Jean Mayer, George F. Cahill, Roger Hay, M. Mujibur Rahman, S. Aziz, Leonard Berry, Bruce Currey.

Elemental Pathways from Rocks to Man (21 Feb.): Trace elements, soils, plants, tap waters, mammals, cardiovascular disease.

Helen L. Cannon, Willard L. Lindsay, Wendell A. Norvell, Raymond J. Miller, David E. Koeppe, Robert G. Corbett, Paul M. Newberne, A. Richey Sharrett.

The Biosocial Aspects of Breastfeeding (21 Feb.): Urban poor, indigenous versus modern techniques, psychosocial development, developing countries, contraceptive value.

Dana Raphael, Solomon H. Katz, Marion B. Cardozo, Joe Wray, Anita Spring, Jean-François Saucier, Roy E. Brown, George Masnick, Jean Pierre Habicht.

Mortality, Population, and the National Economy (21 Feb.): Social stress, modern economy, less-developed countries, nutrition, causes of death, aging, child survival hypothesis.

M. Harvey Brenner, Nathan Keyfitz, Samuel H. Preston, Jean Mayer, Carl E. Taylor.

An Introduction to Occupational Health and Safety (22 Feb.): Workers, unions, government.

Kostia Bergman, David Kotelchuck, Judy dePontbriand, Anthony Mazzochi, John Froines.

Statistics and Environmental Factors in Health (22 Feb.): Pollutant concentrations, air pollution, competing risks, skin cancer, ultraviolet radiation.

Donald L. Thomsen, Jr., Paul Switzer, Persi Diaconis, Peter Bloomfield, Jerzy Neyman, Elizabeth L. Scott, Vaun A. Newill.

Health Status Indexes—Their Role in Tomorrow (23 Feb.): Health indicators, medical care delivery, index of well-being.

Pennifer Erickson, Robert H. Brook, Denis F. Johnston, Jacob J. Feldman, Ronald W. Wilson, John E. Ware, Jr., C. C. Berry, J. W. Bush, W. R. Blischke, Daniel Tunstall.

Some Recent Advances in Statistical Science (23 Feb.): Tomographic scanner, entropy, chronic diseases.

Emanuel Parzen, Herman Chernoff, Lawrence A. Shepp, Arthur Albert, Tom Louis.

Diet and Cancer (24 Feb.): Hazards in food, protective factors, life-style, government regulation.

Ruth W. Shearer, Virginia L. Zaratzian, Thomas J. Slaga, Haitung King, Anita Johnson.

The Role of Fiber in Human Nutrition (24 Feb.): Dietary fiber, gastrointestinal tract, lipid metabolism, implications for industry.

Ruth Schwartz, David Kritchevsky, Peter J. Van Soesst, Albert I. Mendeloff, John H. Hopper.

C. Food

Feasibility and Impact of Urban Food Production (18 Feb.): Personal, intensive agriculture; homesteading; pest control; city farmers.

Stuart M. Leiderman, Carter Schelling, Helga Olkowski, William Olkowski, Jerome Goldstein.

Human Life in Arid Lands: Food and Agriculture (19 Feb.): Desertification, greenbelts, nomadic ways of life, semiarid tropics, Lebanon, Syria, Iran, Sahel, climate fluctuations.

Walter Orr Roberts, D. F. Peterson, Mostafa Tolba, H. N. Le Houérou, Sereydoun Hoveyda, Ralph W. Cummings, Lester R. Brown, Omond M. Solandt, Michael H. Glantz, Eric B. Kraus, Len H. Shebeski.

Climate and Plant Productivity (20 Feb.): Climate fluctuation, man's influence, meteorological variability, coping with weather.

E. R. Lemon, H. E. Landsberg, W. S. Broecker, George M. Woodwell, James D. McQuigg, Paul E. Waggoner.

Crop Productivity—Research Imperatives (20 Feb.): Research needs for increasing crop productivity.

Marvin Lamborg, Sylvan Wittwer, R. W. F. Hardy, Waldemar Klassen, Jan van Schilfgaarde, Donald H. Wallace, Conrad J. Weiser, Israel Zelitch.

Nitrogen and Phosphorus: Food Production and the Environment (21 Feb.): Agriculture, economic effect, eutrophication, water quality, nutrient control.

Raymond C. Loehr, Robert J. Young, Samuel R. Aldrich, C. Robert Taylor, Ray T. Oglesby, David R. Bouldin, George L. Casler, Harold R. Capener, Lester T. Kurtz.

Malthus Thwarted—So Far (22 Feb.): Tropical farming, temperate and urban area farming.

James G. Horsfall, Herbert M. Atherton, Robert F. Chandler, Jr., J. Lawrence Apple, Charles R. Frink, Robert Josephy, Louis G. Nickell.

Energy and Food Production: Contemporary Technology and Alternatives (23 Feb.): Starvation, energy, organic, ecology, costs of protein.

George Salzman, David C. Culver, David Pimentel, William P.

Lockeretz, John Todd, Li-Min Lenke, Constance L. Phillips, Susan W. Taffler, Robert M. Shapiro, Bruce M. Hannon, Frances M. Lappé, Scott Nearing.

Food Resources: Indigenous, Nutritious, Unappreciated, and Unexploited (24 Feb.): Human milk, high quality protein, fermented foods, indigenous agriculture, information sources.
Marjorie Grant Whiting, C. Earl Smith, Cicely D. Williams, Derrick B. Jelliffe, E. F. Patrice Jelliffe, Paul Fleiss, Dean F. Gamble, Ray Pariser, Garrison Wilkes, Charles N. Bebee, Oku Ampofo, Aubrey W. Williams.

Plant Germplasm Resources—American Independence, Past and Future (24 Feb.): Colonial America, history, gene utilization, policy.
Garrison Wilkes, Joseph A. Ewan, Howard L. Hyland, Jack R. Harlan, R. W. Hougas.

D. Habitation and Development

Early Promises: Geographical Views of American Development (18 Feb.): Urban forms, rights of passage, rural settlement, delicate space.
Michael P. Conzen, James E. Vance, Jr., Robert D. Mitchell, D. Aidan McQuillan, John P. Radford.

Technology, Public Policy, and Rural America (20 Feb.): Rural small towns, transportation, telecommunications, agriculture, growth, industrial location.
Vary T. Coates, Clayton C. Denman, Ernest Weiss, Robert A. Anthony, William B. Back, John Gilmore, Sharon Oster.

The Role of Rural Technology in Improving the Economic Development of Less-Developed Countries (21 Feb.): Small-scale and intermediate technology, manure methane plant.
Allen D. Jedlicka, Dilmus D. James, George McRobie, Nirmala Narula, Vernon Schield, Elizabeth O'Kelly, L. John Fry.

Indoor Air Quality (21 Feb.): Tobacco combustion products, health effects, nonsmokers' rights.
Karl H. Raab, John E. Yocom, Morton Corn, Benjamin G. Ferris, Jr., Glenn A. Goldberg, Paul Cameron, David G. Wilson.

Art, Science, and Technology in Shaping the Environment of the Future (22 Feb.): Artists' involvement, social and economic change, public environment.
Arnold Berleant, Billy Klüver, Edmund N. Bacon, Gyorgy Kepes, James R. Johnson, Curtis L. Carter, Hilde S. Hein, Rolf-Dieter Herrmann.

Where to Live? Policy Implications of Research on Habitat (23 Feb.): Are cities economic?, Japanese economic growth, lifestyles, health indicators, urban poor.
Irene Tinker, Priscilla Reining, S. Fred Singer, John W. Bennett, Nicholas Raymond, John P. Eberhard, Clark C. Abt, George J. Beier.

The Geography of Economic Development (23 Feb.): Agricultural development, vermin, population explosion, East Africa, Green Revolution, India.
Geoffrey Bannister, Lakshman S. Yapa, John Harris, Philip W. Porter, Emilio Casetti, Leonard Berry.

Telecommunication, Transportation, and Urban Development (24 Feb.): Substitutions for travel, urban growth, alternatives.
Jack M. Nilles, Richard C. Harkness, Jerry D. Ward, A. Quincy Jones.

See information and order forms on Air Travel, Tours, and Concerts on pages 72 and 73.

E. Energy

The Optimal Use of Nonreplenishable Energy Resources (18 Feb.): Allocation among competing uses, future.
Michael D. Yokell, Oscar Burt, Kai Lee, James McCrae, Lee Schipper, William Schulze.

Energy Policy and the Future of Nuclear Power: Assessing Alternatives and Evaluating the Debate (19–20 Feb.): Price, demand, efficiency, growth, petroleum, natural gas, coal, nuclear power, energy policy.
Benjamin S. Cooper, Richard A. Scribner, John F. O'Leary, Duane Chapman, Robert H. Williams, Morris A. Adelman, Vincent McKelvey, Arlon R. Tussing, Harry Perry, David J. Rose, Ernst R. Habicht, Marjorie L. Hart, Jerry Grey, Harvey Brooks, Victor Gilinsky, Donald G. Allen, Ian Forbes, Daniel Ford, L. Charles Hebel, Irvin Bupp, George E. Brown, Jr., Claire Nader, Robert Gillette, Robert McCarthy, Elizabeth Peelle, Paul Tsongas, Jon M. Veigel, Wade Blackman.

Solar Energy: An Interdisciplinary Societal Opportunity (21 Feb.): Congressional perspectives, ERDA, electric utilities, economic perspective, NSF, legal aspects, solar technology.
Ronal W. Larson, Mike McCormack, John Teem, Piet Bos, Nicholas Georgescu-Roegen, Larry Rosenberg, William Thomas, Joan Berkowitz, Michael Noland.

The Alaska Pipeline (22 Feb.): Technical aspects, social and economic effects, corporate view, historical perspective.
Robert W. Hiatt, Keith B. Mather, George W. Rogers, Ralph R. Migliaccio, Ernst W. Mueller, David T. Kresge, John Sackett, Claus M. Naske.

Exploration for Hydrocarbons (23 Feb.): Geophysical, geological, offshore technology and effects, onshore effects.
Franklyn K. Levin, J. R. Jackson, Jr., A. M. Olander, Robert Sheriff, M. Gordon Frey, Norman Bellinger, Edward W. Mertens.

Oil from the Oceans: Premises and Prospects (23 Feb.): Planning and regulation, geological problems, geochemistry, oil pollution, industry interactions.
Susan B. Peterson, James M. Friedman, John W. Farrington, Leah J. Smith.

Environmental Impact of Coal Mining and Conversion, Northern Great Plains (24 Feb.): Resource base, human health effects, coal conversion, social impacts, water availability.
Arnold J. Silverman, John Van Derwalker, Carl M. Shy, Clarence C. Gordon, Raymond L. Gold, Robert Anderson, Richard L. Stroup.

Case Studies in Regional Energy Planning (24 Feb.): Conservation versus exploitation, community involvement, Southwest, Minnesota, New England, interregional cooperation.
William A. Blanpied, Richard H. Bolt, Charles P. Eddy, Jeffrey Kirsch, Eileen Grevey, Philip W. Getts, Peter B. Clark, Donald E. Cunningham.

F. Science and Technology Implications

Putting Science to Work Through University–Industry Interaction (18 Feb.): College-industry partnerships, needs and resources, future innovators.
John C. Johnson, Warren J. Baker, Thomas W. Butler, Y. T. Li.

Vernaculars of Peace: Exploring Levels of Communication on Foreign Policy (19 Feb.): Social science, peace activist and official's perspective.
Grant G. Hilliker, James N. Rosenau, Alan Geyer, Charles W. Bray III.

Paths into the Future: The United States as a Force for War and Peace After Vietnam (19 Feb.): Food for peace, foreign policy, toward an end to war.
Davis B. Bobrow, Cheryl J. Christensen, Craig Liske, Robert Pickus, Warren R. Phillips.

Science and Social Risk (20 Feb.): Earthquake damage and prediction, nuclear material safeguards, stratospheric ozone, toxic metals, hurricanes.
Bruce A. Bolt, Robert V. Whitman, J. Eugene Haas, Dennis Mileti, Julia Mewes, Carl A. Bennett, F. Sherwood Rowland, Bobbie C. Wixson, Neil L. Frank.

Impact of Operations Research on Industrial Management (20 Feb.): Science of managing, industrial practice, social and technological policy.
Burton V. Dean, George K. Chacko, Andrew Vazsonyi, David B. Hertz.

Research for the People (21 Feb.): Giant corporations, nuclear reactor safety, preventing ill health, food additives, molecular genetics.
Jonathan King, Greg Williams, Henry Kendall, Anita Johnson, Michael Jacobsen, Harry Meade.

Man–Computer Relations: What Will They Be? (22 Feb.): Automatic speech, computer programming, offices, home terminals, brain-computer hookups.
John D. Gould, William A. Woods, Patricia Goldberg, Jerry I. Elkind, John McCarthy, Adam Reed.

The Perishing Publishing Prospect for Scientific Authors (22 Feb.): Scientific journals, citation outlook, technological innovation, scientific communication, electronic alternatives.
Harold F. Osborne, Melvin S. Day, Robert A. Day, Robert A. Harte, Ben H. Weil, Seldon W. Terrant, Harold E. Bamford.

America: The First Information Society? (23 Feb.): Information sector, information as a commodity, location decisions, productivity, international trade, market aspects, mass production.
Paul Polishuk, Edwin B. Parker, Marc U. Porat, Anthony G. Oettinger, Yale Braunstein, Herbert Dordick, Frank Bernstein, Vincent Giuliano, Lawrence Darby, Robert Fano.

The Engineering of Public Safety: Protect or Perish (24 Feb.): Fire safety, research, government, materials producers, fire services, consumer product safety, public policy; engineering, industrial, and consumer problems.
F. Karl Willenbrock, John W. Lyons, David A. Lucht, Charles E. Peck, George Paul, R. David Pittle, Jacob Rabinow, Richard H. Goodemote, David A. Swankin.

G. Science and Technology Policy

Science and the Limitations of Decision Technology (18 Feb.): Information, nonscientific constraints, intertemporal bias, the stratosphere.
Ernest R. Habicht, Jr., Helen Hill Updike, Kenneth J. Arrow, Roger G. Noll, Robert Pollack, R. Talbot Page, John Firor.

The Uses of Social Science for Social Policy (19 Feb.): Financing of academic social research; disciplinary tunnel vision; tactical and strategic problems; institutional change or control?
Joseph H. Helfgot, Michael Useem, Kirsten A. Gronbjerg, David P. Street, Josephy Schwartz.

Can Science Be Measured?: Problems in the Use of Science Indicators (19 Feb.): Historiography of science, Soviet use, science policy.
Arnold W. Thackray, Harriet Zuckerman, Yakov Rabkin, Harvey Brooks, Stefan Dupre.

The Effect of Government Antitrust Action and Regulation on Technological Innovation: The Issues (20 Feb.)
Richard N. Foster, Frederic M. Scherer, Morris Tanenbaum, Eugene V. Rostow, Jesse W. Markham.

Science, Technology, and Society: A Field of Study (20 Feb.): Academic activities.
Ezra D. Heitowit, Eugene B. Skolnikoff, Ian G. Barbour, Don E. Kash, Joseph S. Szyliowicz.

Policy Implementation (21 Feb.): The President, policy analysis in government, regulations and implementation, bureaucracy, policy research.
William Gorham, Erwin C. Hargrove, Richard E. Neustadt, Laurence E. Lynn, Jr., Jeffrey L. Pressman, Mark Moore.

Philosophy of Technology: Methodological Guidelines (21 Feb.): Popperian-critical, engineer-philosopher's, systems, and analytical approach.
Paul T. Durbin, Joseph Agassi, Stanley Carpenter, Robert McGinn, Joseph Margolis.

Research-Based Science Policy (22 Feb.): Researcher-advisor-decision-maker, research on innovation, legal logic, advisory and advocacy.
William H. Gruber, James M. Utterback, Richard I. Miller, Albert H. Teich, J. Herbert Hollomon, T. Dixon Long, Harvey M. Sapolsky.

Roles for Scientists and Engineers in Congressional Energy Policy-Making (22 Feb.): Legislation, pricing and regulation, technology assessment, solar energy, nuclear proliferation.
Richard A. Scribner, William R. Moomaw, John P. Andelin, E. Kevin Cornell, Jon M. Veigel, Charles P. Wolf, David W. Hafemeister, Anthony L. Rigas, Harold Rosenbaum, John H. Young, Ernest W. Johnson.

Evaluating Federal R & D Policy (23 Feb.): Effectiveness, science indicators, GAO's efforts, OTA's program, congressional oversight.
John M. Logsdon, Michael Michaelis, Robert Brainard, Morton Myers, Ellis Mottur, Ray Thornton, W. Henry Lambright, Robert Koontz.

Social Utility Measurements for Technological Endeavors (23 Feb.): Energy balance, information seeking, measures for education, bounding the problem, overhauling the profession.
Joseph G. Wohl, John F. O'Leary, Thomas B. Sheridan, James D. Palmer, John N. Warfield, F. Karl Willenbrock.

Science and the State Legislative Process (24 Feb.): Privacy, computer technology, public policy, oil refinery site, air pollution standards.
Frederick C. Nelson, Thomas J. Anderson, Chester Atkins, Seville Chapman, John H. Sununu, James R. Mahoney, Richard H. Bolt, Edward L. Helminski, Edward T. Kelly, Thomas H. D. Mahoney, Ronald J. Philips, Irwin Feller.

III. PERSPECTIVES ON SCIENCE

A. General Interest

Planning for the Future: Limits and Prospects (18 Feb.): Experimenting society, public learning, prospects for mankind.
Edwin P. Hollander, Daniel Rich, Donald T. Campbell, Daniel Bell, Donald Schon, Herman Kahn.

Science and Art (19 Feb.): Contained in light, musical cosmology, movies and models.
Rolf M. Sinclair, Charles Ross, Benjamin Boretz, Charles Eames.

Scientific Communications and the Advancement of Science (19 Feb.): Improving communications, economic condition, communicating to the public, a plan of action.

Ruth M. Davis, Joel D. Goldhar, Alvin M. Weinberg, Fritz Machlup, J. Herbert Hollomon, Erwin D. Canham, Lewis M. Branscomb.

Great Women in Science (20 Feb.): Challenges in the aquatic world, lure of the stars, stumbling into science, Florence Sabin, Rachel Carson, Maria Mitchell, hope, high energy physics, the hurdles, congressman's view.

Ruth M. Davis, Dixy Lee Ray, Margaret Burbidge, Mildred S. Dresselhaus, Margaret Rossiter, Paul Brooks, Sally Gregory Kohlstedt, Derek John De Solla Price, Gail Hanson, Gerard Piel, George E. Brown, Jr.

Science as Drama (21 Feb.): Theme in film and television.

Judith Wechsler, Howard J. Lewis, Norman Metzger, Robert Wise, Gene Roddenberry, Carl E. Sagan, Hollis Alpert, Charles Eames, Philip Morrison.

Technology and Values (21 Feb.): Big technology, end-use efficiency, small technology, development process.

Harvey Brooks, Robert A. Charpie, Robert H. Socolow, Robert H. Williams, Franklin A. Long, Daniel Bell, Alex Inkeles, Amory B. Lovins.

Science and Anti-Science (22 Feb.): Varieties, new irrationalism, pop science, public perceptions.

L. Vaughn Blankenship, Ian Mitroff, Richard Mason, Paul Kurtz, George Basalla, Daniel Metlay, Todd la Porte.

The Scientists' Interface with the Press: Who Carries the Burdens? (23 Feb.): Ally to science, enemy to news, scientific news, headlines and bylines, TV image, misunderstanding, preconference news breaks.

Homer J. Hall, Albert F. Plant, David F. Salisbury, Walter L. Sullivan, W. Alec Jordan, Raymond P. Mariella, Audrey Likely, David P. Rall.

Science and Society in the 18th Century and in the Future (24 Feb.): Space and time, plant sciences, biological advances, responsible use, ethics, food.

Magnus Pyke, William D. McElroy, Sir Herman Bondi, J. Heslop-Harrison, W. F. Bodmer, Josef Kates.

B. Ethical Perspectives

Human Values in Engineering (18 Feb.): Ethical problems, moral philosophy, professional societies, U.S. Congress, developing countries, industry.

T. Paul Torda, Robert F. Ladenson, Victor Paschkis, Barry Hyman, Jerome Steffens, Robert Seidel.

Ethics and the Corporate Scientist (19 Feb.): Management view, professional societies, professional ethics, science education, legal rights and responsibilities, individual integrity, whistle-blowing, science and ethics, scientist as criminal.

Robert J. Baum, Arthur Bueche, Alan C. Nixon, Dorothy Zinberg, Peter Petkas, Carol Benson, Jack Cloherty, Louis V. McIntire, Douglas Bray, Donn B. Parker.

Roles for Scientific Societies with Regard to Issues of Scientific Freedom and Responsibility (20 Feb.): Major proposals, historical context, framework to follow-through.

William A. Blanpied, William D. McElroy, John T. Edsall, Don K. Price, Frank Von Hippel.

Literary Modes in the Practice of Science (20 Feb.): Concept of tragedy, how is science made?, Promethean technology, picaresque science, pejoration.

Joseph W. Meeker, Harry Boardman, Thomas R. Blackburn, Conrad Hyers, Garrett Hardin.

Transdisciplinary Studies in Science and Values (21–22 Feb.): Two subcultures, natural law, Eastern and Western science, can values be measured?, progress in medicine, human behavior, freedom and coercion, alternate technologies, South Asia.

William A. Blanpied, Gerald Holton, Melvin Kranzberg, Harry Boardman, John M. Koller, Milton Rokeach, Kenneth F. Schaffner, Joseph W. Meeker, Peter Buck, Philip L. Bereano, Nicholas Wade, Robert S. Anderson.

C. Cultural Perspectives

Science and Technology: Our Afro-American Prospective (18 Feb.): Mental health needs, myths, realities, welfare of children, health services, housing.

Kathleen J. Prestwidge, June J. Christmas, Patricia G. Morisey, Gertrude T. Hunter, Gloria Toote.

Science and Technology in Brazil: Past, Present, and Future (19 Feb.): Discovery and use, evolution, technology, sciences of man, experimental science, scientific training, support of science, economic development, earth sciences.

Oscar Sala, Leonard M. Rieser, Paulo Emilio Vanzolini, Antonio Candido de Mello e Souza, Julio R. Katinsky, Ulpiano Bezerra de Menezes, Mauricio Rocha e Silva, José Reis, Gerhard Jacob, Isaac Kerstenetzky, Aziz Ab'Saber, J. J. Bigarella.

Intercultural Relations Between Mexico and the United States (20 Feb.): Prehistory, archaeology, ethnohistory, linguistics, ethnology, social anthropology, applied anthropology.

Fernando Cámara, Philleo Nash, Jose Luis Lorenzo, Wigberto Jimenez-Moreno, Yolanda Lastra, Nancie L. Gonzalez, Angel Palerm, Alfonso Villa-Rojas.

Public Conception of Science and Perspectives on Current Crucial Problems in Japan (22 Feb.): Intellectual background, antitechnocracy, science and the public, life sciences, resources recycling, rice eating, urbanization, language sciences.

Keiko Nakamura, Harrison Brown, Yoichiro Murakami, Nobushige Sawada, Gotaro Tomonaga, Martha Ventilla, Fred C. C. Peng, Hiroshi Hori, Yoichi Fukushima.

Unfinished Business: 200 Years of Native American Indian Affairs (22 Feb.): Federal recognition, trusteeship, demythologizing, stereotypes.

Philleo Nash, Andrew X. Akins, Ada Deer, Michael Dorris, Alfonso Ortiz.

Health Science Education as Applied to National Needs (23 Feb.): Community health, National Health Service, South Korea, Indonesia, Bangladesh, urban community, U.S.S.R., role allocation, rural health, Iran.

Mehdi Tavassoli, Arthur H. Livermore, John H. Bryant, Francis P. Chinard, Zenonas Danilevicius, Majid Rahnama, Carl E. Taylor, Moslem Bahadori.

D. Historical Perspectives

American Mathematics: Retrospect and Prospect (18 Feb.): Mathematical heritage, mathematical education.

Arnold Wendt, F. Joachim Weyl, Garrett Birkhoff, Edwin E. Moise.

Social History and Archaeology of the 17th and 18th Centuries in the United States (19 Feb.): Material culture, vernacular studies, ceramics, early black settlement, written record, settlement, colonial cemeteries, faunal studies, foodways, contact period.

James Deetz, Henry Glassie, Abbott L. Cummings, Geoffrey Moran, Marley Brown III, John Demos, Albert Bartovics, Stephen Horvath, Joanne Bowen, Jeffrey Brain.

Science and Revolution (20 Feb.): English, French, American,

Mexican, Russian, Chinese, and Cuban revolutions; independence in Latin America.

Thomas F. Glick, Everett Mendelsohn, Theodore M. Brown, Dora B. Weiner, Brooke Hindle, Roberto Moreno, Loren R. Graham, Peter Buck, Garland E. Allen.

The Sciences in America: A Bicentennial Retrospective (21–23 Feb.): Paradigm lost, view from abroad, public policy, popular attitudes, antebellum America, 19th-century inventor, natural history research, higher education, earth sciences after Darwin, rationality and reform, classical genetics, pure and applied science, industrial research, scientific mobilization, foundations, mathematical frontier, between the two World Wars, biochemistry, World War II, science and the military, big science.

Nathan Reingold, Donald Fleming, William H. Goetzmann, Bruce Sinclair, Robert Post, Deborah J. Warner, Robert Bruce, Monte A. Calvert, Michele L. Aldrich, Stanley Guralnick, Steve Pyne, Sally Kohlstedt, Michael M. Sokal, Garland E. Allen, Charles Rosenberg, Kendall Birr, Alice Quinlan, Stanley Coben, Albert C. Lewis, Spencer Weart, Everett Mendelsohn, Robert Kohler, Carroll Pursell, Harvey Sapolsky, Charles Weiner.

Climate in the United States Since 1776 (23 Feb.): Meteorology in 1776, the Forty-Niners, drought and tree rings, pacific coastal climate.

J. Murray Mitchell, Jr., David M. Ludlum, Merlin P. Lawson, Charles W. Stockton, Gunnar I. Roden, Raymond S. Bradley.

History of the Association of Academies of Science and of Some Individual Academies of Science (24 Feb.): Promotion of human welfare; Maryland, Iowa, Pennsylvania, and Ohio academies.

John H. Melvin, Franz H. Rathmann, Lora Mangum Shields, Scott Nearing, Robert E. Murphy, Robert W. Hanson, George C. Shoffstall, Jr., Charles M. Vaughn, Arthur H. Livermore, Richard J. Raridon.

Biology and the American Public, Then and Now (24 Feb.): Zoology, Indian medicine, development of taxonomy, theory of evolution, support of endocrinology, biochemical pharmacology, oceanography, history and biology.

Charlotte M. Porter, Keir B. Sterling, Virgil H. J. Vogel, Henry D. Shapiro, Stephen J. Gould, Diana L. Hall, John Parascandola, Harold L. Burstyn, Jane M. Oppenheimer.

E. Education

Women and Mathematics (18 Feb.): Sex differences, mathematics achievement, mathematics filter, women's participation, creative men and women.

Lynn H. Fox, John Ernest, Elizabeth Fennema, Lucy Sells, Carolyn MacDonald, Edith H. Luchins, Ravenna Helson.

Environmental Education's New Audience and New Communication (18 Feb.): Electronic media, power of the pen, sensitivity, inner-city, pictures.

Richard L. James, Kate S. Taylor, Charles Roth, Edwina Czajkowski, James H. Zion, John Green, Jr.

Energy and Environmental Education (19 Feb.): Social studies, future directions.

John M. Fowler, Robert L. Silber, John Jones, Brian J. Larkin, Walter Bogan.

Current Practices in Environmental Education (19 Feb.): Training methods, community personnel, land disposal of waste, policy formation studies, teacher involvement.

Ronald J. Raven, John Monteau, Emery Letham, Christopher White, Donald Rhine, Joseph Novak, George Garrigan, William Ritz, Norman Childers.

Science Education Amidst Educational Policies (20 Feb.): What goes?, NSF, curriculum development, needs and directions.

Arthur H. Livermore, Joseph M. Dasbach, Don I. Phillips, John I. Goodlad, Lowell J. Paige, Patsy T. Mink, Deborah P. Wolfe, Fletcher G. Watson, Robert G. Heyer, F. James Rutherford, Jean D. Grambs, Eleanor Rosenblum.

Can We Develop a Reliable Applied Science of Education? (21 Feb.): Key questions and directions, British open university, educational research, educational technology, hidden variables, science of instruction, institutional problems.

Joseph L. Lipson, Frederick Reif, Robert B. Davis, Brian N. Lewis, Seymour Papert, Ernst Z. Rothkopf, Arthur Luehrmann, James D. Koerner, Mary Budd Rowe, C. Victor Bunderson, Jessie C. Hartline, Roger Levien.

Museums and Science Education (22 Feb.): Perception, curriculum development, precollege science education, general public, orientation programs.

William A. Blanpied, Lee Kimche, Frank Oppenheimer, Watson M. Laetsch, Joel N. Bloom, Robert E. Murphy, Victor J. Danilov.

College Anyone, College Everyone, or College at All in Century III? (22 Feb.): Prerequisites, open-door university, what makes a scientist?

Robert B. Collagan, Fletcher Watson, Paul Brandwein, Herman Branson.

Research Techniques and Reports by High School Science Students (22 Feb.):

Frank W. Starr, and selected students from Colorado, Iowa, New Mexico, Oklahoma, Pennsylvania, and Virginia high schools.

Symbolic Mathematical Computation: Its Potential for Science and Education (22 Feb.): Survey, implications, applications.

James H. Griesmer, Paul S. Wang, L. Wayne Fullerton.

Teaching of Science-Related Social Issues (23 Feb.): Educational research, dissemination of information, teacher preparation, education for survival.

Laura C. Trout, Fletcher G. Watson, Irving Morrissett, F. James Rutherford, James T. Robinson, Peter B. Dow.

New Frontiers in Mathematics Education (23 Feb.): Development of children, problem solving, mathematics resource.

William M. Fitzgerald, Eugene Nichols, George Springer, Uri Haber-Schaim, Alan Hoffer.

Birth of New Ways to Raise a Scientifically Literate Society: Research That May Help (24 Feb.): Personality variables, Piaget's theory, learning to learn, college science teacher, the lecture.

Mary Budd Rowe, Mary H. McCaulley, Anton E. Lawson, John J. Koran, Jr., J. Dudley Herron.

Innovative Approaches Currently in Use in Undergraduate Science Education (24 Feb.): Interdisciplinary science, individualization, self-paced education, audio-tutorial instruction, computer managed instruction.

Robert A. Bernoff, Byron L. Youtz, Edwin B. Kurtz, Samuel N. Postlethwait, Robert Hurst, Michael Szabo.

International Communications: The Foreign Language Requirements for the Doctor of Philosophy Degree in the Sciences (24 Feb.): Astronomy-astrophysics, biology, chemistry, economics, philosophy.

Franz H. Rathmann, Owen J. Gingerich, Bentley Glass, Paul E. Fanta, Fritz Machlup, Willard Van Orman Quine, Richard Raridon.

F. Opportunities

Minorities in Science (19 Feb.): Medical college admissions test, graduate record examination, minority applicant pool, black in-

stitutions, black, native, and Spanish-surnamed Americans.
Percy J. Russell, James L. Angel, Robert Altman, Ralph Cuzart, Frederick Humphries, James M. Jay, Don Jennings, J. V. Martinez.

Problems of Minorities at Majority Institutions (19 Feb.): Political environment, sociocultural factors, medical schools, students' perspective.
Francine B. Essien, Theodore Brown, Sigfredo Maestas, George I. Lythcott, Woodrow Myers, Janet S. Blackwell, Carl Spight.

Public Policy and Biomedical and Behavioral Training: Effective Development of Existing Potential (19 Feb.): Science policy, minority participation, mental health, health sciences, industrial sector.
Vijaya L. Melnick, Cora B. Marrett, Joseph W. Watson, William Denham, Robert Schlegel, Herman Smith, Ruth Kirschstein, Geraldine Woods.

Financial Support for Minority Scientific Activity in Education and Research (20 Feb.): Impact of funding, NIH, individual studies, NIMH, private sector, NSF.
Charles M. Goolsby, Miles M. Fisher IV, Zora J. Griffo, Samuel M. Nabrit, Mary S. Harper, Paul Wohlford, Maxine Bleich, James W. Mayo.

Affirmative Action: Myth or Reality? (20 Feb.): Academic community, rules of the game, national policy, private sector, congressional perspective.
Francine B. Essien, Franklin D. Hamilton, Vijaya L. Melnick, Ermon Hogan-Kamara, Patricia Garrison, James Goodwin, Margaret Gordon, Brock Heylin, Edward Roybal.

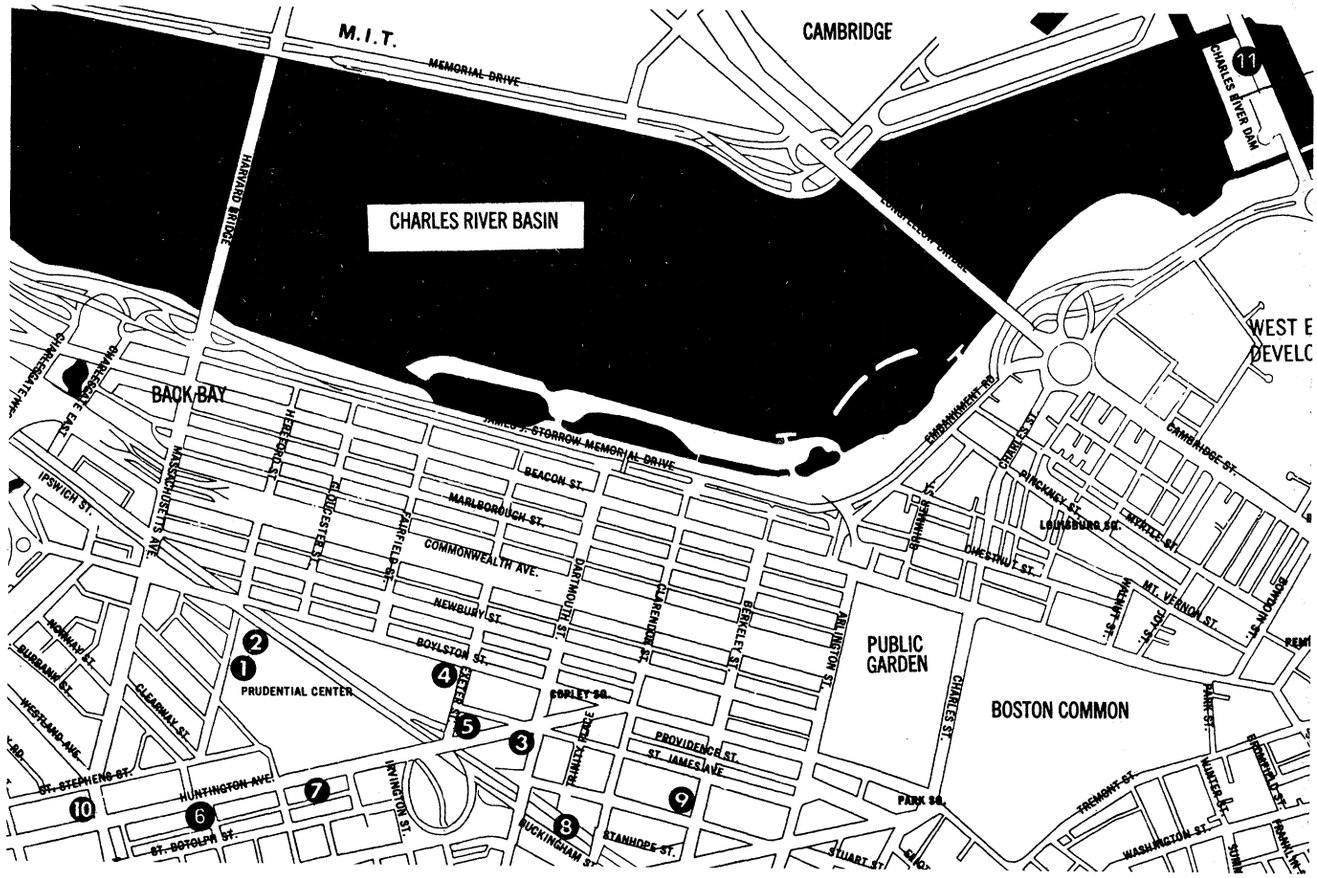
Special Training Programs for Minority Students in Science—College Level (21 Feb.): Science enrichment, medical students, premedical, medical training, health careers, summer programs, research training, industrial research, college curriculum.
Franklin D. Hamilton, Edgar Smith, Alonzo Atencio, Jewel Cobb, Stanford Roman, William Wallace, Richard McGinnis, Kenneth McLin, Dan Obasun, Bernis Barnes.

Special Training Programs for Minority Students in Science—Precollege Level (21 Feb.): Innovative methods, collegiate interface, television as a teaching tool, inner-city minority youth, Mexican-American students, ethnoscience.
Cyrus J. Lawyer, Shirley M. Malcom, Sidney A. McNairy, Jr., Joseph Gayles, Lee Colquitt, James Rutherford, Robert A. Warren, Carl Hime.

Are Scientists Different? The Job Crisis in Perspective (21 Feb.): Economic roots, unemployment, misemployment, changing conditions, alternative careers, trade union organizing.
Joseph Schwartz, Richard Rosen, Joseph Shapiro, Paul Raskin, David Kotelchuk.

Bicentennial Retrospectives and Prospectives: Science Education for Women (23 Feb.): Higher education, Cinderella and science, undergraduate education, admission and attrition of women, future for women.
Miriam Schweber, Mary Bunting, Patricia Graham, Mary Verheyden-Hilliard, Mildred Dresselhaus, Elizabeth Baranger, Virginia Trotter.

Bicentennial Retrospectives and Prospectives: Opportunities for Women in Science and Engineering (23 Feb.): Two hundred years, women in industry, recent changes, employment opportunities.
Miriam Schweber, Vera Kistiakowsky, Joan B. Berkowitz, Betty Vetter, Phyllis Wallace.



LOCATIONS OF NUMBERS ON MAP

1 Sheraton-Boston Hotel
2 John B. Hynes Auditorium
3 Copley Plaza Hotel
4 The Lenox Hotel
5 Copley Square Hotel
6 Midtown Motor Inn
7 The Colonnade Hotel
8 Back Bay Railroad Station
9 John Hancock Hall
10 Symphony Hall
11 Museum of Science

Annual Meeting Boston
18-24 February 1976

Advance Registration Form
(C)

Enclosed is:

☐ $20 Single Registration Fee ☐ $30 Double Registration Fee (attendee and spouse)

☐ $10 Single Student Registration Fee ☐ $15 Double Student Registration Fee (student and spouse)

☐ $10 One-Day Registration Fee _____ (Specify Day)

Program and badge will be mailed to each registrant in late January.
Registrations received after 30 January will be held at the AAAS Information Booth.

NAME OF REGISTRANT: _____ (Last Name) _____ (First and Initial)

NAME OF SPOUSE: _____ (Last Name) _____ (First and Initial)

REGISTRANT'S MAILING ADDRESS: _____ [For receipt of program(s) and badge(s)] (Street) (City/State) (Zip Code)

ADDITIONAL REGISTRANTS: _____ (List full name and mailing address)

REGISTRANT'S INSTITUTION OR COMPANY: _____

_____ (City) (State) ☐☐☐☐☐ (Zip Code)

CONVENTION ADDRESS: _____ (Where you can be reached) (Hotel or Street Address) Check days attending: Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun ☐ Mon ☐ Tue ☐

☐ **Please check here if you need special services due to handicap. We will contact you prior to the meeting.**

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

SURVEY OF ATTENDEES
Annual Meeting, Boston, 18–24 February 1976

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*

Annual Meeting
Boston
18-24 February 1976

The American Association for the Advancement of Science will hold its 1976 Annual Meeting in Boston, 18–24 February. The majority of sessions will be held in the Sheraton-Boston and in the John B. Hynes Veterans Auditorium. The exhibits (*Science International*) as well as AAAS registration and information desks will be located in the Hynes Auditorium. The following hotels will be used for housing:

Hotel	Single	Double	Twin	Suites**	Parking
SHERATON-BOSTON	$25	$36	$36	$65	Free 24-hour parking
Prudential Center	29	38	38	and up	for registered guests;
(No. of rooms held: 1200)	31	40	40		$1 valet charge.
COPLEY PLAZA	$24	$32	$32	$60	Free 24-hour parking
Copley Square	28	36	36	and up	for registered guests;
(No. of rooms held: 250)	30	38	38		$1.75 valet charge.
THE LENOX	$24	$31	$31	$75	Free overnight parking
710 Boylston Street	28	35	35		(6 pm–10 am); day-time
(No. of rooms held: 125)					parking $3 maximum.
MIDTOWN MOTOR INN	$24	$32	$32	—	Free parking for registered
220 Huntington Avenue					guests.
(No. of rooms held: 100)					
COPLEY SQUARE	$20	$23	$26	$40	Free overnight parking
47 Huntington Avenue	22	25	28	and up	(5 pm–9 am); for day-time
(No. of rooms held: 75)	24	30	30		parking, inquire at hotel.
THE COLONNADE	$30	$38	$38	$130	Free parking for registered
120 Huntington Avenue	34	42	42	and up	guests.
(No. of rooms held: 150)					

*Per day; add 5.7% for Massachusetts State Room Tax. Charges for rollaway beds and cots vary between $5 and $7, depending on hotel. Children under age 12 accommodated free in same room with parents at Midtown Motor Inn and Colonnade; under age 14 at Copley Square; age limit higher at Sheraton, Copley Plaza and Lenox.

**One-bedroom parlor suites; rates for larger suites available upon request. Deluxe accommodations available at Sheraton-Boston in all categories at higher rates.

NOTE: If room rate specified is not available, the next available higher rate will be assigned. Confirmation will come to you directly from the hotel. You should notify the hotel of any change in your reservation. Assignment is delayed if any information is omitted.

HOTEL RESERVATIONS FORM

(Reservations received after 4 February cannot be assured)

CHOICE OF HOTEL: First_____ Second_____

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

Please indicate any special accommodation needs due to a handicap _____

_____

ARRIVAL: Date _____; ____ a.m. ____ p.m.

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

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

NAMES AND ADDRESSES OF ALL OCCUPANTS OF ROOM

Name _____ Name _____

Address _____ Address _____

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

Name _____ Name _____

Address _____ Address _____

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

Individual Requesting Reservations _____

Mail to: AAAS Housing Bureau,
900 Boylston Street, Boston, Mass. 02115

Attend the American Association for the Advancement of Science Meeting in Boston February 18 – 24, 1976

In order to offer the greatest possible savings to those planning to attend the AAAS Meeting in Boston, February 18 – 24, 1976; we are pleased to bring to your attention the fares and possible savings which may be realized, as being offered by Garber Travel Service of Boston.

The Bicentennial Excursion Fare and ITX Fare allow individual travel. Group fares require minimum numbers of passengers to travel together. Garber Travel will co-ordinate all requests, in order to make these group fares available where they represent the best value.

For reservations or additional information, complete the reservation application or call Garber Travel at (617) 734-2100 or (800) 225-4570.

DEPARTURE CITY	REGULAR ECONOMY	BICENTENNIAL EXCURSION FARE	GROUP FARE	ITX FARE
Washington	$102.00		$ 63.00	
Philadelphia	$ 80.00		$ 53.00	
Chicago	$166.00	$124.00		
Detroit	$134.00		$ 90.00	
Cleveland	$126.00		$ 84.00	
Miami	$216.00	$162.00		
Houston	$262.00	$197.00		
Pittsburgh	$116.00		$ 78.00	
St. Louis	$190.00	$142.00		
Denver	$284.00	$213.00		$213.00
San Francisco	$392.00			$274.00
Los Angeles	$392.00			$274.00
Palm Springs	$380.00			$266.00
Phoenix	$352.00		$264.00	
Salt Lake City	$326.00			$245.00
San Diego	$392.00			$274.00
Tucson	$350.00		$263.00	
Boise	$348.00			$260.00
Las Vegas	$362.00			$290.00
Portland, Oregon	$392.00			$274.00
Reno	$380.00			$284.00
Seattle	$392.00			$274.00
Vancouver	$410.40			$287.28
Albuquerque	$310.00			$233.00

All fares shown include Federal Transportation Tax, but do not include applicable Security Charge of 37 cents per flight segment.

REGULAR TOURIST FARE: Travel on individual basis . . . any day, any time.

BICENTENNIAL FARE: This fare requires a minimum 7 days' stay, a maximum of 30 days' stay at the Destination City. It must be booked and paid for 7 days before departure.

GROUP FARES: Various Group Fares are available at different fare levels requiring minimum of 10, 25, or 40 passengers to travel round trip together. No travel is allowed between 12 noon on Friday through 12 noon on Saturday and between 12 noon on Sunday through 12 noon on Monday. No minimum stay is required.
Garber Travel will co-ordinate all booking requests and advise participants when minimum numbers have been attained in order to guarantee group departure. If group departure is not realized, all funds will be returned or alternate arrangements offered at the choice of the passengers.

ITX FARES: ITX allows independent travel; however, travel may not originate Friday from 2 p.m. to midnight and Sunday from 2 p.m. to midnight. Return travel may not take place prior to the first Sunday or six days after day of departure. The ITX Fare requires prepayment of $65 to the Travel Agent to cover group services. The $65 will be applied as follows:

- Round trip transfers from the airport to the hotel
- Administrative handling charge
- $54 will be forwarded to the hotel to which you will be assigned by the AAAS Housing Bureau, depending on your choice on the Hotel Reservation form.

FINAL PAYMENT DUE - FEBRUARY 4, 1976.

Order Form for Air Travel (see information on preceding page)

RETURN TO:
GARBER TRAVEL
1406 Beacon Street
Brookline, Massachusetts 02146
Attention: Congress and Convention Department

RESERVATION APPLICATION
DC0432

Gentlemen:

I plan to attend the American Association for the Advancement of Science Meeting in Boston, February 18 – 24, 1976.

I am interested in departing from.....(home city) on.....(date) with return on..... (date).

Please arrange travel on the most advantageous fare possible. I am enclosing my check in the amount of $ . . . . . representing my deposit of $65 per person to cover round trip transfers from airport to hotel; administrative charge and a prepayment of $54 at my hotel. We have submitted the Official Hotel Reservations Form to the AAAS Housing Bureau and have indicated our choice of hotel as follows:

FIRST.....SECOND.....

I desire my air fare charged to my credit card:

(type).....(number).....(expires).....

TRAVELER'S NAME.....

BUSINESS ADDRESS.....BUSINESS PHONE.....

CITY & STATE.....ZIP.....

HOME ADDRESS.....HOME PHONE.....

CITY & STATE.....ZIP.....

Tickets should be sent to: ☐ Business ☐ Home

OTHERS IN MY PARTY.....

Please make checks payable to Garber Travel and mail to the above address.

Order Forms for Tours and Concerts

For detailed information on tours and concerts, see *Science*, 28 November 1975, pages 871 to 873.

AAAS Meeting registrants who wish to reserve tickets for tours and concerts scheduled during the Boston Meeting are requested to use these coupons to submit their orders. Tickets for all events will be mailed to registrants in late January.

Indicate number of tickets desired for each tour and/or concert and enclose your check for the total amount, payable to AAAS. Concert tickets cannot be refunded.

1-A _____ **Introduction to Boston and Cambridge** **($7.50)**
Wednesday, 18 February, 1:30 p.m.

1-B _____ **Introduction to Boston and Cambridge** **($7.50)**
Thursday, 19 February, 9:30 a.m.

1-C _____ **Introduction to Boston and Cambridge** **($7.50)**
Monday, 23 February, 10:00 a.m.

2-A _____ **Lexington and Concord** **($7.50)**
Thursday, 19 February, 1:30 p.m.

2-B _____ **Lexington and Concord** **($7.50)**
Monday, 23 February, 10:30 a.m.

3 _____ **University Tour** **($6.60)**
Saturday, 21 February, 9:00 a.m.

4 _____ **Woods Hole Oceanographic Institution** **($6.50)**
Saturday, 21 February, 8:30 a.m.

5 _____ **Audubon Society Field Trip** **($7.50)**
Monday, 23 February, 7:30 a.m.

15 _____ **Boston Pops Concert** **($4.50)** **($6.50)**
Friday, 20 February, 8:30 p.m.

16 _____ **New Engl. Cons. Ragtime Ensemble** **($3.00)**
Sunday, 22 February, 2:15 p.m.

Total No. of tickets _____ Total amount remitted $ _____

Name _____

Address _____

City _____ State _____ Zip Code _____

Mail to: AAAS, Dept. R
1515 Massachusetts Ave., NW
Washington, D.C. 20005

The following tours are free of charge, but because they have limited capacities, reservations are required. Please indicate the number of tickets desired for each tour.

6 _____ **Boston University Medical Center**
Saturday, 21 February, 2:30 p.m.

7 _____ **Harvard University**
Saturday, 21 February, 2:30 p.m.

8 _____ **Massachusetts Institute of Technology**
Saturday, 21 February, 2:30 p.m.

9 _____ **Northeastern University**
Saturday, 21 February, 2:30 p.m.

10 _____ **Abt Associates & Bolt Beranek & Newman**
Friday, 20 February, 8:30 a.m.

11 _____ **High Voltage Eng. Corp. & Itek Corp.**
Friday, 20 February, 1:30 p.m.

12 _____ **Damon Corp. & Digital Equipment Corp.**
Friday, 20 February, 1:30 p.m.

13 _____ **Environ. Res. & Technol., Inc., & Raytheon Co.**
Monday, 23 February, 8:30 a.m.

14 _____ **MITRE Corporation & Arthur D. Little, Inc.**
Monday, 23 February, 1:30 p.m.

Total No. of tickets ordered _____

Name _____

Address _____

City _____ State _____ Zip Code _____

Mail to: AAAS, Dept. R
1515 Massachusetts Ave., NW
Washington, D.C. 20005