

The U.S. Capitol, Washington, D.C. [Photo courtesy of the Washington Area Convention and Visitors Bureau]

A Welcome to Washington

Richard Berendzen

Welcome to Washington, D.C., which is not only the nation's capital but also a scientific capital, with a phenomenal number of key scientific and technological establishments located here, including the AAAS itself. Indeed, Washington is a special place: the thriving center of national government and international activity; a sleepy southern town turned cosmopolitan; the Athens of the modern world and one of the most active centers for science, science education, and science policy in the world. It is a city where the past, present, and future merge, where yesterday lives and tomorrow begins.

Thus, most appropriately, the theme of this 148th National Meeting—Building Knowledge and Understanding: Enduring Assets of Society—fuses the past with the future. More than 160 symposia, falling under 20 general areas of interest, will be held during the 5-day meeting. Lectures, films, exhibits, conversations with professional peers and leaders will augment the symposia. More than 5000 are expected to participate, and several thousand high school students will attend the youth symposium preceding the Annual Meeting.

In the rush of the Meeting, do not miss the extraordinary city that surrounds you. From the museums of the Smithsonian Institution to the halls of the Federal government, Washington offers much. You and your family can learn of anthropology in the Museum of American History, of flight and

space in the National Air and Space Museum, of medicine in the National Library of Medicine. To this end, the Washington Advisory Committee has included in the program many opportunities for you to know this city. In addition, the Committee is sponsoring a symposium, "Space Science and Technology: Its Impact, Present and Future," which will bring together many leaders from the Washington governmental and scientific community.

We hope your visit here will give you a chance to know, understand, and appreciate the city we call home. It is a city of tradition and transition, of beauty and blight, of power and pleasure, but, most of all, it is a city that belongs to each of us. One should be forewarned about Potomac Fever, a rather unscientific malady. If you should begin to fall victim to its reach, fear not, for the disease is widespread and harmless. No cure exists, but usually no cure is desired. In most cases, one symptom will remain with you—a genuine love of Washington—and that symptom will undoubtedly ensure your return to the city that is already yours.

Best wishes for a thoroughly enjoyable and productive Meeting!

Richard Berendzen is President of The American University and Co-Chairman of the Washington Advisory Committee for the 1982 Annual Meeting of the AAAS.

Preconvention Program

Building Knowledge and Understanding: Enduring Assets of Society

Public Lectures

- **AAAS Keynote Lecture** (3 Jan., 8:30 p.m., WH).
Speaker to be announced.
- **AAAS Public Lecture: Four Challenges for the Information Age** (4 Jan., 1:30 p.m., WH).
IAN M. ROSS (*President, Bell Laboratories*).
- **AAAS Public Lecture: Academia, Industry, and Government: The Organizational Frontier of Science Today** (4 Jan., 8:30 p.m., WH).
The Honorable JAMES B. HUNT (*Governor, State of North Carolina*).
- **AAAS Public Lecture: Theories of Choice in the Making of Decisions** (5 Jan., 1:30 p.m., WH).
JAMES G. MARCH (*Fred H. Merrill Professor of Management, Graduate School of Business, Stanford University*).
- **AAAS Public Lecture: Diving for the Ancient Past** (5 Jan., 8:30 p.m., WH).
ROBERT L. HOHLFELDER (*Professor of History, University of Colorado*).
- **Phi Beta Kappa Public Lecture: Inspiring Scientific Literacy Through Public Participation** (6 Jan., 1:30 p.m., WH).
J. TUZO WILSON (*Director General, Ontario Science Centre*).
- **AAAS President's Public Lecture: The Other Frontiers of Science** (6 Jan., 8:30 p.m., WH).
D. ALLAN BROMLEY (*Henry Ford II Professor and Director, A. W. Wright Nuclear Laboratory, Yale University*).
- **George Sarton Memorial Public Lecture: Why Edit Scientific Classics?** (7 Jan., 1:30 p.m., WH).
HENRY E. GUERLAC (*Goldwin Smith Professor Emeritus of History of Science, Cornell University*).
- **AAAS Public Lecture: Science and the Cultural Warp** (7 Jan., 8:30 p.m., WH).
DONALD S. FREDRICKSON (*Scholar-in-Residence, National*

Academy of Sciences; former Director, National Institutes of Health).

1. General Interest

Youth Symposium (3 Jan., 2:30 p.m., WH): The astronomical perspective.

Richard Berendzen, E. Margaret Burbidge, Russell A. Kirsch, Richard A. Goldsby, Gerald Soffen, Stephen C. Grebe, Nancie L. Gonzalez, Jacob Rabinow, Robert Haar, Henry M. Cathey, Noel W. Hinnens, Eugenie Clark, Howard P. Layer, Geerat Vermeij, Ronald Graham, Robert F. Murray, Jr., Douglas H. Shaffer, Suzanne Jenniches, Romeo Segnan.

Space Science and Technology and Its Impact: Present and Future (4 Jan., 2:30 p.m., WH): Development of space activities.

Joseph V. Charyk, George A. Keyworth, Frank Press, Koji Kobayashi, George M. Low.

Frontiers of the Social Sciences (5 Jan., 9:00 a.m., 2:30 p.m., WH): Urban evolution, psychological growth, economics, interdisciplinary research, studies of expertise.

Nancie L. Gonzalez, Meredith P. Crawford, Frederick Mosteller, Robert McC. Adams, Jerome Kagan, Mancur L. Olson, Kenneth Prewitt, Lee S. Shulman, William C. Sturtevant.

Science: The Beginning of a Great Adventure (5 Jan., 2:30 p.m., WH): Space exploration, astronomy, cosmology, physics, computer sciences.

Jerry Pournelle, Rolf M. Sinclair, Gregory Benford, Marvin Minsky, Larry Niven, Carl Sagan, Charles Sheffield.

A Symposium to Honor Mina Rees: Contributions to the Study of Artificial Intelligence (6 Jan., 9:00 a.m., WH): Arranged by Herman H. Goldstone.

The Frontiers of the Natural Sciences (7 Jan., 9:00 a.m., 2:30 p.m., WH): Planetary exploration, orogenic belts, nonlinear phenomena, chemistry and health, symmetry and sporadic groups, hormonal control of behavior.

Rolf M. Sinclair, Frank Press, Bruce Murray, Robert D. Hatcher, Jr., J. Robert Schrieffer, Lewis H. Sarett, John H. Conway, James Truman.

Human Learning and the Optimum Utilization of Knowledge (8 Jan., 9:00 a.m., 1:30 p.m., WH): The school system, mass

HOTEL CODES: Washington Hilton . . . (WH); Capital Hilton . . . (CH)

Register in advance and receive a free 1982 AAAS Calendar with your Program; registration and housing forms can be found on pages 546 and 547. For information on tours and the Film Festival, see *Science*, 2 October 1981, pages 45-47.

Support of Scientific Research in the '80s

A special session, "The Support of Scientific Research in the '80s," will open the Washington Meeting at 1:30 p.m. on Sunday, 3 January, in the Senate Room of the Capital Hilton Hotel. Emphasis will be on anticipated support within the academic community from the federal government and private foundations.

D. Allan Bromley, AAAS President, will introduce speakers from the National Science Foundation, Department of Energy, Department of Defense, National Institutes of Health, and Rockefeller Foundation. The discussion will include points raised from the audience.

media, museums and the arts, social benefits and private incentives, public decision-making.

Lawrence E. Senesh, Kenneth E. Boulding, Joseph D. Novak, Fritz Machlup, Paul Bohannon, Albert L. Ayars, Leo Bogart, Victor J. Danilov, F. James Rutherford, Leonid Hurwicz, Arthur R. Kantrowitz, William N. Hubbard, Jr.

2. Physical Sciences

Special Issues in Laboratory Safety (4 Jan., 9:00 a.m., WH): Occupational health standards, physically handicapped, designing laboratories, legal responsibilities.

Anne B. Swanson, Bailus Walker, Jr., Thomas S. Austin, Norman V. Steere, James Ric Gass.

Chemically Solvable Problems (4 Jan., 2:30 p.m., WH): Conquest of diabetes, health and the environment, drug monitoring, clinical chemistry.

Helen M. Free, Alfred H. Free, Anna J. Harrison, Jocelyn M. Hicks, Edward C. Knoblock.

Grand Unification in Elementary Particle Physics and Cosmology (5 Jan., 9:00 a.m., 2:30 p.m., WH): Fundamental interactions and substructures, nucleon decay, galaxy formation, cosmic microwave background.

George A. Snow, Steven Weinberg, Donald H. Perkins, Jogesh C. Pati, Vigdor L. Teplitz, Michael S. Turner, Marvin L. Marshak, J. Richard Gott III.

Solar Flares: A Key to the Physics of Cosmic Magnetic Explosions (6 Jan., 9:00 a.m., WH): The Sun's energy, solar magnetic fields, magnetic explosions, stellar flares, astrophysical plasmas.

James A. Ionson, Sabatino Sofia, Leon Golub, Robert D. Chapman, Robert Rosner.

Science for the Naked Eye; Or, the Physics of Everyday Experience, IX (6 Jan., 9:00 a.m., 2:30 p.m., CH): The boomerang, computer animation on film, sky awareness, animal locomotion, the artist and space, the planets from space.

Rolf M. Sinclair, David P. Robson, James F. Blinn, Jack Borden, Jerry Wishnow, Thomas McMahon, Frederick C. Durant, III, Farouk El-Baz.

Quasars Large and Small (6 Jan., 2:30 p.m., WH): What are they and what do they look like?

Virginia L. Trimble, Thomas A. Matthews, Jean A. Eilek, Martin J. Rees, Kenneth I. Kellermann, Maarten Schmidt

Chemistry Is Fun! (8 Jan., 9:00 a.m., WH): Microscopy, operation supersleuth, chemistry at the FBI, magic.

Lois A. Nicholson, Richard S. Nicholson, Robert W. Parry, George Pimentel, Walter McCrone, Jeanette Grasselli, Barry Brown, Luther Brice.

3. Earth and Planetary Sciences

The Weather of Other Planets (4 Jan., 9:00 a.m., WH): Origin of atmospheres, Titan, Venus, Mars, Jupiter, Saturn.

Andrew P. Ingersoll, Julius London, Tobias Owen, Yuk L. Yung, Ronald G. Prinn, Gerald Schubert, Conway B. Leovy.

Paradoxes of Western Energy Development: How Can We Maintain the Land and the People if We Develop? (4 Jan., 2:30 p.m.; 5 Jan., 9:00 a.m., 2:30 p.m., WH): Policies for development, states' role, environmental regulations, intent of Congress, enforcement, Wyoming, oil shale, western oil and gas, role of water, clean air and energy, social impacts, Native Americans, impact assessments, sociocultural factors.

Cyrus M. McKell, Elinor C. Cruze, Richard L. Perrine, Donald G. Browne, Fred Roach, William R. Freudenburg, Bruce Babbitt, John Hernandez, Gary Hart, M. Rupert Cutler, Gary B. Glass, James H. Gary, Richard B. Powers, Peter House, Lee Brown, David Abbey, Charles D. Kolstad, William D. Schulze, Michael D. Williams, Joe Jorgensen, Steve H. Murdock, F. Larry Leistritz, Stan L. Albrecht, Allen Kneese.

Global Concerns of Stratospheric Modification (6 Jan., 9:00 a.m., WH): The ozone layer, ultraviolet light and skin cancer, chlorofluorocarbons, federal and international response.

Julius London, Hans A. Panofsky, Thomas B. Fitzpatrick, Lester Machta, Max S. Peters, Robert W. Kates.

Drought in the United States: History, Causes, and Impact (The Dust Bowl Revisited) (6 Jan., 2:30 p.m., WH): The Great Plains, tree-ring records, causes and impacts, government response.

Kenneth H. Bergman, Alan D. Hecht, Robert S. Chen, Charles W. Stockton, David M. Meko, Jerome Namias, Norman J. Rosenberg, Donald A. Wilhite.

Carbon Dioxide, Climate, Impacts, and Research (7 Jan., 9:00 a.m., CH): Energy supply and demand, climate impact, CO₂-induced warming, assessing the impacts, scientific research.

David M. Burns, Roger Revelle, Alfred M. Perry, James Hansen, Hermann Flohn, Jesse Ausubel.

The Planet Earth (7 Jan., 9:00 a.m., WH): Ecosystems, origin of life, calcium, the atmosphere, evolution.

Lynn Margulis, Tobias C. Owen, Daniel Botkin, Cyril Ponnampereuma, Robert H. Kretsinger, James C. G. Walker.

Looking into the Earth: Nonconventional Imaging Methods (7 Jan., 2:30 p.m., WH): Satellite imagery, synthetic aperture radar, infrared methods, sidescan sonar, the seismic picture.

Franklyn K. Levin, Floyd F. Sabins, Jr., Homer Jensen, Thomas R. Ory, James M. Coleman, Alistair R. Brown, David B. Prior.

International Minerals: A National Perspective (8 Jan., 9:00 a.m., WH): Critical minerals, minerals policy, Alaska, Canada, South Africa, U.S.S.R. and Afghanistan, historian's perspective.

Allen F. Agnew, A. G. Unklesbay, L. Harold Bullis, Harrison (Jack) Schmitt, Meredith E. Ostrom, Thomas K. Bundtzen, John H. DeYoung, Jr., W. C. J. Van Rensburg, John F. Shroder, Jr., Alfred E. Eckes, Jr.

The Appalachians: New Frontiers in Old Mountains (8 Jan., 1:30 p.m., WH): Paleozoic exotic terranes, thin skin and rifts

and sutures, metallic minerals, Eastern Overthrust Belt, neotectonics, Appalachian water.

Robert B. Neuman, E-an Zen, Martin F. Kane, Jacob E. Gair, Wallace De Witt, Jr., Juergen Reinhardt, M. Gordon Wolman.

4. Engineering and Technology

Computer-Based Sciences: Policy and Performance Issues (4 Jan., 9:00 a.m., 2:30 p.m., WH): Computing resources, aerodynamic simulator, computational sciences, federal policies, innovation.

Melvyn Ciment, Lawrence A. Lee, William F. Ballhaus, Jr., John Killeen, E. Rex Krueger, George G. Olson, Peter D. Lax, Walter M. MacIntyre, Jay P. Boris, Glenn R. Ingram, Francis A. McDonough, Sidney Fernbach, George E. Lindamood, Peter G. Lykos.

The Software Explosion: Issues in Software Technology, Measurement, and Evaluation Through Human Engineering and Management Perspectives (5 Jan., 9:00 a.m., WH): Engineering technology, management perspectives, human factors, reliability models, education.

K. O. Bowman, Roshan L. Chaddha, Jean C. Zolnowski, Leon G. Stucki, Edwin A. Irland, Ben Shneiderman, Amrit L. Goel, William M. McKeeman.

Innovations in Manufacturing (5 Jan., 2:30 p.m., WH): Technological frontier, human considerations, computer-based technology.

Joel D. Goldhar, Janice E. Greene, M. Eugene Merchant, Barbara A. Burns, James Hardy, James E. Ashton, Erich Block, Margaret B. W. Graham, Sidney A. Rubenstein, Howard Young.

The Potential of Space: Developing Science and Applications Policies (6 Jan., 9:00 a.m., 2:30 p.m., WH): National policy, NASA, space exploration, international ventures, view from Congress, government and commercial policy, military and civilian policy, competing in space.

Randolph J. Steer, Richard C. Hart, Leonard W. David, Eugene H. Levy, John Naugle, Stan Kent, Wilfred Mellors, George E. Brown, Jr., Ray A. Williamson, Thomas H. Karas, Donald A. Vogt, Hans Mark, John Logsdon, Gordon Law, Stephen Cheston.

Space Industrialization: Who's Doing What Today (7 Jan., 9:00 a.m., WH): Corporate perspective, industrial perspective, Japanese perspective, space technology, NASA perspective, European perspective.

Morrie Schneiderman, Norris Mendoza, Larry L. Fosbinder, Thomas Piwonka, Akira Sawaoka, Robert F. Shaw, Louis Testardi, Hannes Walter.

Ceramics for the 21st Century (7 Jan., 2:30 p.m., WH): Modern technology, electronic and optical applications, high temperature, new materials.

Roy W. Rice, Murray A. Schwartz, John B. Wachtman, Jr., Geoffrey Frohnsdorff, Robert C. Pohanka, R. Nathan Katz.

Chemistry of Optical Communications (8 Jan., 9:00 a.m., WH): Light-wave systems, optical fibers, glasses, semiconductor lasers.

Joseph A. Giordmaine, Melvin I. Cohen, Koichi Inada, John E. Midwinter, Morton I. Schwartz, Henry Kressel.

5. Energy

Nuclear Power and the Public: Are There Critical Masses? (4 Jan., 9:00 a.m., 2:30 p.m., WH): Reagan Administration,

public interest, national attitudes, perceived risk, public opposition, nuclear industry, media influence.

William R. Freudenburg, Eugene A. Rosa, W. Kenneth Davis, Barry Commoner, William L. Rankin, Paul Slovic, Baruch Fischhoff, Sarah Lichtenstein, Robert C. Mitchell, Robert A. Szalay, Allan C. Mazur, Cynthia B. Flynn, Don A. Dillman, Russell C. Youmans, Marvin E. Olsen, Steve H. Murdock, Barbara Farhar-Pilgrim, Cora Bagley Marrett.

International Progress in Energy Conservation, 1972-1982 (5 Jan., 9:00 a.m., WH): Measuring progress, United States, Federal Republic of Germany, Italy, Venezuela.

Lee Schipper, Eric Hirst, Karl-Friedrich Holm, Sheldon Lambert, Oliviero Bernardini, Luis Sedgwick-Baez.

Fuels and Chemicals from Oilseeds: Technology and Policy Options (5 Jan., 2:30 p.m., WH): Novel oilseeds on marginal lands, renewable agricultural resources, sunflower oil, Chinese tallow tree, commercial oilseed crops, wild plant oilseeds.

Robert P. Morgan, Eugene B. Shultz, Jr., George E. Brown, Jr., Kenton R. Kaufman, Herbert W. Scheld, Everett H. Pryde, Robert Kleiman.

Fuels from Biomass: Patterns of Development in Latin America and the Caribbean (6 Jan., 9:00 a.m., 2:30 p.m., WH): Central America, the Caribbean, Brazilian alcohol, biofuels in arid regions, international concerns, environmental perspective, Swedish perspective, development strategies.

Juan Valera-Lema, Ingemar Falkehaug, James W. Rowe, Michael Dow, Carlos Rolz, Norberto Quezada, Lourival Carmo-Monaco, Enrique Campos-Lopez, Carl R. Duisberg, Gustavo Calderon, Joseph F. Coates, Henry Hitchcock, Lisa Heinz, Erik Wiren, Astrid Borg, Gustaf Siren, Carl Joran Heden, Luis Correa da Silva.

Fusion Energy: Science and Policy (7 Jan., 9:00 a.m., WH): Magnetic fusion, inertial confinement fusion, Department of Energy, implications for the next century.

John F. Clarke, Harold P. Furth, Gerald P. Yonas, Edwin E. Kintner, Mike McCormack.

Synthetic Fuels from Nonfossil Sources (7 Jan., 2:30 p.m., WH): Fission, fusion, solar, the transition.

Frank J. Salzano, James R. Powell, Cesare Marchetti, Robert Quade, Edwin E. Kintner, J. O'M. Bockris, Meyer Steinberg.

Behavioral Approaches to Energy Conservation (8 Jan., 9:00 a.m., WH): Household adaptations, tenants and landlords, systems perspective, social-psychological process, energy-saving innovations, consumer participation.

Paul C. Stern, Elliot Aronson, J. Stanley Black, Julie T. Elworth, Lou McClelland, Richard A. Winett, John M. Darley, Sara B. Kiesler.

Energy R&D Strategies and National Energy Policy (8 Jan., 1:30 p.m., WH): Private sector role, Department of Energy, congressional perspective, long-term view.

Albert H. Teich, Thomas J. Wilbanks, Ezra D. Heitowit, Robert L. Hirsch, W. Kenneth Davis, Robert W. Fri, Ellis Cose, Lionel S. Johns, Hans Landsberg.

Traditional Fuels and Forest Policy in Asia and Africa (8 Jan., 1:30 p.m., CH): India, Nepal, West Africa, Gujarat, Uttar Pradesh, Tanzania.

Irene Tinker, Norman L. Brown, Richard Tucker, Deanna G. Donovan, Marilyn W. Hoskins, Raymond J. Noronha, Margaret M. Skutsch, Julia C. Allen, Douglas Barnes, Kathleen McNamara.

6. Biological Sciences

Biological Generation and Detection of Magnetic Fields (4 Jan., 9:00 a.m., WH): Aquatic bacteria, pigeons, ferromagnetic minerals in animal tissue, recent advances.

Saul Krasner, Richard B. Frankel, Charles Walcott, Joseph L. Kirschvink, David E. Farrell.

Biological Processes at Deep-Sea Hydrothermal Vents (4 Jan., 2:30 p.m., WH): Physical setting, chemosynthetic production, growth rates of invertebrates, feeding types.

Holger W. Jannasch, Robert D. Ballard, Richard A. Lutz, Ruth D. Turner.

International Cooperation in Ecological Research: Strengths, Weaknesses, and Future Needs (5 Jan., 9:00 a.m., WH): Agroecosystem research, mathematical modeling, biogeochemical cycles, everybody's future.

Mohan K. Wali, Harold L. Mooney, Frank B. Golley, John H. Vandermeer, Robert A. Goldstein, Folke Andersson, Carl W. Chen, Robert G. Woodmansee, Thomas E. Lovejoy, III.

Mutualism: New Ecological Theories (5 Jan., 2:30 p.m., WH): Theoretical models, tropical food web, effect of third species, populations, group selection.

Douglas H. Boucher, Robert M. May, Larry E. Gilbert, David C. Culver, W. M. Post, D. L. Deangelis, C. C. Travis, David Sloan Wilson.

Biocommunication: New Discoveries and Ideas (6 Jan., 9:00 a.m., 2:30 p.m., WH): Ritualized combat, ants, firefly, sexual selection, mosquitoes, predator-prey interactions, luminescent marine organisms, crickets, navigation.

Thomas Eisner, Bert Holldobler, James E. Lloyd, Fred Nijhout, W. Mitchell Masters, James G. Morin, Franz Huber, Rüdiger Wehner.

Biology of the Connective Tissue (7 Jan., 9:00 a.m., 2:30 p.m., WH): Visualization of collagen, collagen synthesis, interaction of cells, monoclonal antibodies, osteonectin, heritable disorders, molecular defects, macromolecular disorganization, tumor cells.

George R. Martin, Klaus Kühn, Ronald G. Crystal, Hynda K. Kleinman, Leo T. Furcht, John D. Termine, Victor McKusick, Darwin J. Prockop, Stephen I. Rennard, Lance A. Liotta.

Bioactive Marine Products (8 Jan., 9:00 a.m., WH): Drugs from the sea, marine metabolites, neurobiology.

Paul J. Scheuer, Robert S. Jacobs, Yuzuru Shimizu, Patrick L. McGeer.

The Adrenal Chromaffin Vesicle as a Biological Model (8 Jan., 1:30 p.m., WH): Exocytosis, membrane fusion, bioenergetic uptake, enkephalins and monoamines, basic release mechanisms.

Stephen W. Carmichael, Carl E. Creutz, Stephen J. Morris, David L. Njus, O. Humberto Viveros, Bruce G. Livett.

7. Cell Biology and Genetics

Human Embryo and Gene Manipulation: The State of the Art, Ethics, and Public Policy (4 Jan., 9:00 a.m., WH): Human *in vitro* fertilization, embryo transfer and cloning, gene therapy in human adults and embryos, ethical issues, politics.

R. Daniel Benz, Joseph F. Rautenberg, John D. Biggers, W. French Anderson, LeRoy Walters, Ruth Hubbard.

Molecular and Cellular Biology of the Lens (5 Jan., 9:00 a.m., WH): Cellular communication, cytoarchitecture, beta and gamma crystallins, lens transparency, crystallin synthesis.

Joram Piatigorsky, Daniel A. Goodenough, Harry Maisel, Thomas L. Blundell, George B. Benedek.

The Protein Folding Problem (5 Jan., 2:30 p.m., WH): Modular assembly processes, bacteriorhodopsin, genetic analysis, hierarchical structure, collagen fibril.

Jonathan King, Jane S. Richardson, Donald B. Wetlauffer, Donald M. Engelman, Donna Smith, Karl A. Piez.

Commercial Genetic Engineering: Impacts on Universities and Nonprofit Institutions (6 Jan., 9:00 a.m., WH): Patents, public image of science, faculty members and institutions, triangular relationships, erosion of research, funding and academic freedom.

Sheldon Krimsky, Charles Weiner, Gilbert S. Omenn, Ruth L. Kirschstein, Jonathan King, Otto T. Solbrig.

Reflections on the Recombinant DNA Controversy (7 Jan., 9:00 a.m., 2:30 p.m., WH): Federal perspective, technology and democratic control, professional societies.

Clifford Grobstein, Raymond A. Zilinskas, Donald S. Fredrickson, Keith Gibson, Ray Thornton, Charles Weiner, Claire Nader, Gregg Edwards, Harold Schmeck, Jr., Harlyn O. Halvorsen, Burke K. Zimmerman.

Transition: Applications of Genetic Engineering to Agriculture (8 Jan., 9:00 a.m., WH): T_i and R_i plasmids, nitrogen fixation, crop seed proteins, genetic engineering and plant breeding, animal vaccines, baculovirus genomes.

H. O. Kunkel, Joe L. Key, Mary-Dell Chilton, Winston J. Brill, Timothy C. Hall, E. T. Bingham, Jerry J. Callis, Max D. Summers.

Plant Biology and Biotechnology in the '80s (8 Jan., 1:30 p.m., WH): DNA technology in crop plants, plant tissue culture, economically valuable biochemicals, agriculture innovations, support for research and development.

Jerome P. Miksche, A. Carl Leopold, Charles S. Levings, Donald J. Durzan, E. John Staba, John F. Fulkerson, Quentin W. Lindsey.

8. Evolution

Mechanisms of Major Evolutionary Change (4 Jan., 9:00 a.m., 2:30 p.m., WH): Evolution and development, mutations and morphological diversity, genetic variation, macromutation and macroevolution, karyotypic fissioning, polyploidy, symbiosis, biochemical evolution of plants.

Jeffrey S. Levinton, Lynn Margulis, John Maynard Smith, J. T. Bonner, Eric Wieschaus, Melvin M. Green, Francisco J. Ayala, Neil B. Todd, Donald A. Levin, Geerat J. Vermeij, Karl J. Niklas.

Terminal Cretaceous Extinction: A Comparative Assessment of Causes (5 Jan., 9:00 a.m., 2:30 p.m., WH): New data, flood basalt volcanism, sudden death, changes in the oceans, tektite strewn fields, Arctic spillover mode, ocean plankton extinctions, deep ocean circulation, environmental deterioration, abrupt faunal turnover, vegetational change, evolution of terrestrial faunas, extinction of the dinosaurs.

Roger D. K. Thomas, Erle G. Kauffman, David M. Raup, Walter Alvarez, Dewey M. McLean, Cesare Emiliani, Kenneth J. Hsü, John A. O'Keefe, Stefan Gartner, Hans R. Thierstein, Michael A. Arthur, Finn Surlyk, Leo J. Hickey, William A. Clemens, Thomas J. M. Schopf.

The Origins of Sex and Sex Research (6 Jan., 9:00 a.m., WH): Eukaryotic heterotrophic micro-organisms, is sex necessary?, sexual development, why do males exist?

Georgiana D. Feldberg, Diana Long Hall, Lynn Margulis, Steven M. Stanley, Jane A. Maienschein, Fred Hapgood.

Sexual Differentiation: Brain and Behavior (6 Jan., 2:30 p.m., WH): Neuroeffectors, reproductive behavior, neural sexual differentiation, gonadal steroid receptors, gender identity and role behavior.

Bruce S. McEwen, Darcy B. Kelley, C. D. Toran-Allerand, Anke A. Ehrhardt.

The Functions and Management of Aggression and Cooperation in Biocultural Evolution (7 Jan., 9:00 a.m., WH): The will-to-power, violence, human emotions, perspectives.

Garrett Hardin, John W. Bowker, Solomon H. Katz, Paul D. MacLean, Paul Heelas, Ward H. Goodenough, Kenneth E. Boulding.

What Happened to Darwinism Between the Two Darwin Centennials, 1959–1982? (7 Jan., 2:30 p.m., WH): Evolutionary synthesis, speciation and macroevolution, new molecular studies, synthetic theory.

William B. Provine, Stephen Jay Gould, Ernst Mayr, Walter M. Fitch, G. Ledyard Stebbins.

The Evolution of Human Diet: New Lines of Evidence (8 Jan., 9:00 a.m., WH): Miocene hominids, tooth wear, bone strontium levels, carbon and nitrogen isotope ratios of fossil bone, archaeological evidence.

Glynn L. Isaac, Alan C. Walker, Richard F. Kay, Kathleen D. Gordon, Margaret Schoeninger, Andrew Sillen, Michael J. DeNiro, Henry T. Bunn, Richard B. Potts.

The Human Knowledge Process: An Evolutionary Dilemma (8 Jan., 1:30 p.m., WH): Knowledge evolution, autopoietic system, emotional cognitive structural modes, building subjectivity into the computer, human survival.

William Gray, Aristide H. Esser, John B. Calhoun, Brian R. Gaines, Mildred L. G. Shaw, Magoroh Maruyama.

9. Environment

The Global 2000 Report to the President: The Authors Update Their Work (4 Jan., 9:00 a.m., CH): Projections reappraised, food, energy, tropical forest resources.

Gerald O. Barney, Samuel Baum, Patrick M. O'Brien, John D. Pearson, Bruce B. A. Ross-Sheriff, Ned W. Dearborn.

Human Impacts on Global Resources: Disciplinary Approaches and Research (4 Jan., 2:30 p.m., CH): The global concerns, ecological view, geographical approaches, anthropological approaches, socioenvironmental impact assessment.

Kenneth A. Dahlberg, John W. Bennett, Ralph C. d'Arge, Frank B. Golley, Douglas Johnson, Leonard Berry, Emilio F. Moran, Charles P. Wolf, Robert E. Tillman.

Life on Earth Is Getting Better—Or Is It? (5 Jan., 9:00 a.m., CH): Global futures controversy.

S. Fred Singer, Glenn R. Hilst, Julian L. Simon, Garrett Hardin, Harold J. Barnett, Alvin Weinberg, Aaron Wildavsky.

The Global 2000 Report on Population, Resources, and Environment: Implications for American Education (5 Jan., 2:30 p.m., CH): Leadership, learning and teaching, new curricula, interdisciplinary undergraduate education.

Martha G. Jenner, Charles E. Jenner, Russell W. Peterson, S. Wesley Jackson, Elaine M. Murphy.

Toxic Substance Control and the Environment: Policy Implications for Society (6 Jan., 9:00 a.m., CH): Risk/benefit, stratospheric ozone, superfund strategy, regulatory decisions.

S. Phyllis Stearner, Thomas R. Stewart, Herbert L. Wiser, Michael B. Cook, A. Karim Ahmed, Joseph Highland.

Applied Toxicology: Environmental Toxicology in the Poison Control Center (6 Jan., 2:30 p.m., CH): Regionalization, reproductive hazards, common noxious substances, the workplace.

Eugene V. D. K. Perrin, Regine Aronow, Anthony R. Temple, Alan K. Done, Daniel T. Teitelbaum.

Transboundary Transport of Air Pollutants (7 Jan., 9:00 a.m., CH): Regional pollution patterns, satellite imagery, model simulations, sulfur and nitrogen transport, northeastern United States.

William W. Wilson, Walter A. Lyons, John F. Clarke, Rudolf B. Husar, George M. Hidy, Lowell Smith, Jim Young.

Environmetrics 82 (7 Jan., 9:00 a.m., 2:30 p.m., CH): Air and water pollution, ambient and indoor aerosols, population CO exposure, models for human exposure, biological viewpoint, statistical considerations, radiation epidemiology, environmental epidemiology, quantitative risk assessment, occupational radiation exposure, carcinogenesis.

Donald L. Thomsen, Jr., J. Stuart Hunter, John D. Spengler, Paul Switzer, Naihua Duan, Tim S. Stuart, Gerald Van Belle, David G. Hoel, Victor Hasselblad, James H. Ware, Sidney Marks, Norman E. Breslow, Charles E. Land, Wayne R. Ott.

Groundwater Pollution: An Emerging Threat to a Natural Resource (7 Jan., 2:30 p.m., CH): Groundwater hydrology, organic chemical contaminants, legal and institutional problems.

Curtis C. Travis, Elizabeth L. Etnier, Gordon D. Bennett, David E. Burmaster, Robert H. Harris, David W. Miller, James T. B. Tripp.

External Threats to Ecosystems of the National Parks (8 Jan., 9:00 a.m., CH): Hydrologic regulation, barrier island parks, exotic plant and animal species, grizzly bear, anthropogenic atmospheric inputs.

J. Robert Stottlemeyer, R. Roy Johnson, Paul Jeffrey Godfrey, Susan P. Bratton, Clifford J. Martinka.

Environmental Assaults on the Nervous System and Human Behavior: A New Health Challenge (8 Jan., 1:30 p.m., CH): Behavioral deficits, neurobehavioral testing, teratology, neurochemistry, regulatory goals.

Bambi Batts Young, Bernard Weiss, W. Kent Anger, Charles V. Vorhees, Ellen K. Silbergeld, Lawrence W. Reiter.

10. Food and Agriculture

Estimating the Value of Endangered Species of Plants: Responsibilities of the Scientific Community (4 Jan., 9:00 a.m., CH): Extinction, impairment of ecosystem function, economic analysis, preserving endangered plants, scientific value of plants, medical value of plants, priorities for conserving.

Rolf Martin, Paul R. Ehrlich, Ghilleen T. Prance, Anthony C. Fisher, Oliver Ray Stanton, Edward S. Ayensu, Norman R. Farnsworth, Bruce MacBryde.

Technical and Policy Aspects of Water Use in Agriculture (4 Jan., 2:30 p.m., CH): Dryland agricultural production, drought strategies, water conservation, irrigated agriculture.

William L. Powers, Floyd W. Smith, Donald A. Wilhite, Marvin E. Jensen, Henry P. Caulfield.

Agricultural Land Use: Emerging Pressures (5 Jan., 9:00 a.m., CH): Loss of prime farmland, shifts in production, effects of higher grain prices, effects of energy shortages, impact of restrictions, competition and conflicts over water use.

Grant F. Walton, Sylvan H. Wittwer, Fred H. Sanderson, Herman Bouwer, Charles L. Siemon.

The Urban-Rural Connection: New Links Between Food Producers and Consumers (5 Jan., 2:30 p.m., CH): Farming on the urban fringe, rural skills as a cultural heritage, urban waste management, regional food economy.

William Lockeretz, Milton C. Hallberg, J. Patrick Madden, Roger J. Blobaum, Samuel Kaymen, Jerome Goldstein, Susan E. Redlich.

Political Ecology of Food (6 Jan., 9:00 a.m., 2:30 p.m., CH): Global food trends, Mexico, Peru, Poland, welfare of the poor, food policies, government intervention, agricultural exports and the environment, political process.

Frank C. Miller, John W. Bennett, John W. Mellor, Gordon Appleby, Charlotte Chase, Nyle Brady, William W. Murdoch, Chris Hodges, Pierre Crosson, Barbara Lewis, Orville G. Bentley, Terry Roe.

Plant Responses to Environmental Stress (8 Jan., 9:00 a.m., CH): Cold acclimation and freezing injury, responses to drought, tomato, temperate woody plants, grasses.

John F. Kelly, Peter L. Steponkus, Cecil R. Stewart, Robert C. Herner, Les H. Fuchigami, C. Robert Olien.

11. Medical Sciences

Medical Frontiers: Substitute Organs (4 Jan., 9:00 a.m., WH): Artificial pancreas, kidney, heart, and joints.

Leah M. Lowenstein, Pierre M. Galletti, Robert L. Berger.

Can We Prevent Organ Grafts from Failing? Studies on Large Populations as Guides to Policy and Practice (4 Jan., 2:30 p.m., WH): Renal transplantation, clinical investigations, blood transfusions, statistical modeling, matching of donors and recipients.

Henry Krakauer, G. Melville Williams, Benjamin A. Barnes, Samuel W. Greenhouse, Paul I. Terasaki, R. Clifton Bailey, Everett K. Spees, Reed Hawthorne, William K. Vaughn.

Advances in Control of Dental Caries (5 Jan., 9:00 a.m., WH): Prevalence, etiology, prevention, new methods, acceptance of preventive procedures.

William H. Bowen, Janet A. Brunelle, Robert J. Fitzgerald, Leon M. Silverstone, Michael F. Cole, Alice M. Horowitz.

Research Advances in Sickle Cell Disease (5 Jan., 2:30 p.m., WH): Molecular aspects, pathophysiology, drug development, prenatal diagnosis, the clinical course.

Gertrude C. Ridgel, Clarice D. Reid, Alan N. Schechter, Jeanne A. Smith, Ronald L. Nagel, Yuet W. Kan, Marilyn H. Gaston.

Role of Gamete Surface Components in Fertilization, Contraception, and Fertility (6 Jan., 9:00 a.m., WH): Invertebrate fertilization, mammalian fertilization, sperm morphology and function, egg surface, antigenicity.

Eli D. Schmell, William J. Lennarz, Barry R. Zirkin, Paul M. Wassarman, Anil B. Mukherjee.

Human Research and Its Regulation: An Evaluation of the New Federal Rules (6 Jan., 2:30 p.m., WH): HHS rules, national

commission, new regulations, federal regulation, biomedical research.

LeRoy Walters, Charles R. McCarthy, Patricia A. King, Alexander M. Capron, Ruth R. Faden, Robert J. Levine.

Frontiers in the Management of Cardiovascular Disease (6 Jan., 2:30 p.m., WH): Cardiopulmonary resuscitation, coronary angiography, bypass surgery, prostaglandins, can strokes be prevented?

George D. Zuidema, Myron L. Weisfeldt, Allan M. Ross, Edgar D. Charles, Edwin W. Salzman, Jesse E. Thompson.

Communication with Patients Leading to Health Enhancement (7 Jan., 9:00 a.m., WH): Epistemology, decision-making, dimensions of meaning, patient history.

Mark N. Ozer, Arthur F. Kohrman, Magoroh Maruyama, Arthur S. Elstein, Eric Cassell.

Torture, Medical Practice, and Medical Ethics (8 Jan., 9:00 a.m., WH): Codes of medical ethics, examination of torture victims, psychiatric sequelae, psychosocial rehabilitation, medical and psychological sequelae, Latin American survivors.

Michael H. Nelson, Viki Zunzunegui, Frederico Allodi, Case Korff, Jose Quiroga.

12. Biomedical Technology

Risk Estimates for Medical Diagnostic Radiation Procedures (4 Jan., 9:00 a.m., WH): Sequential design, A-bomb survivor studies, dosimetry and risk estimates, epidemiological studies.

M. Güven Yalcintas, Rana Yalcintas, Harald H. Rossi, Teddy I. Seidenfeld, Charles E. Land, Lawrence H. Lanzl, Elaine A. Zeighami.

The End of Isolation: Speech Prostheses (4 Jan., 2:30 p.m., WH): Augmentative communication, use of technologies in rehabilitation, human factors, training and utilization.

Macalyne Fristoe, Gregg C. Vanderheiden, Howard C. Shane, Judy K. Montgomery.

The Applications of Nuclear Magnetic Resonance (NMR) in Biology and Medicine (5 Jan., 9:00 a.m., 2:30 p.m., WH): ³¹P NMR, ¹³C NMR, human brain and limbs, cancer therapy, NMR imaging, blood flow and oxygenation, cellular metabolism, intracellular kinetics.

Robert S. Balaban, George K. Radda, Robert Shulman, Britton Chance, Jerry D. Glickson, David I. Hoult, Keith R. Thulborn, Sheila M. Cohen, Truman R. Brown.

Some Mathematical Questions in Biology (7 Jan., 9:00 a.m., 2:30 p.m., WH): Neuron form, neuronal plasticity, bursting pacemaker model, squid axon, calcium diffusion and buffering, ion diffusion, brain cell.

Robert M. Miura, Wilfrid Rall, Charles Stevens, John Rinzel, Richard E. Plant, Alwyn C. Scott, John A. Connor, C. Nicholson, J. M. Phillips.

High Technology in the Frontiers of Medicine: Too Expensive or Lifesaving? (8 Jan., 1:30 p.m., WH): Examples, clinical laboratory tests, data information sources, incentives to adopt too much or too little evaluation.

Robert S. Ledley, Michael Buas, Robert C. Rock, Clifton R. Gaus, Judith L. Wagner, Barbara J. McNeil.

13. Behavioral Sciences

The Brain Sciences and Education (4 Jan., 9:00 a.m., CH): Developmental plasticity in the brain, neurosciences.

Rita W. Peterson, Joseph I. Lipson, Colin Blakemore, Jeanne S. Chall, Michael S. Gazzaniga, Lauren B. Resnick.

Enduring and Reversible Effects of Early Experience (4 Jan., 2:30 p.m., CH): Behavioral inhibition, ontogenetic adaptations, nutritional factors, rhesus monkeys, infant development.

Lewis P. Lipsitt, Gilbert Gottlieb, Jerome Kagan, Robert E. Klein, Robert E. Lasky, John Townsend, Stephen J. Suomi, Richard M. Lerner, Robert N. Emde.

Beyond Cerebral Laterality: New Methods Reveal the Interaction of Many Areas of the Brain During Mental Activities (5 Jan., 9:00 a.m., CH): Primate neocortex, olfactory perception in rabbits, metabolic mapping, human brain, electrical patterns of human cognition, organization of language in the dominant hemisphere, human brain plasticity, alteration of neural function.

Alan S. Gevins, Edward Jones, Walter J. Freeman, John Mazziotta, David Caplan, Paul Bach-Y-Rita.

Aspects of Mathematical Performance by Males and Females (5 Jan., 2:30 p.m., CH): Educational variables, biological correlates, construction and use of tests, mathematically gifted, research context for studies.

Sheila M. Pfafflin, Ann C. Howe, Elizabeth Fennema, Anne C. Petersen, Thomas F. Donlon, Lynn H. Fox, Florence L. Denmark.

Alcohol Use in Different Populations: Treatment and Prevention at the Crossroads (6 Jan., 9:00 a.m., CH): Acetaldehyde metabolism, American Indian physiologic reactions, cultural and psychological and demographic variables, the Black community, Hispanic alcohol abuse, worldwide studies.

James M. Schaefer, Robert S. Pozos, Arthur R. Zeiner, Joan Crofut Weibel, Lewis M. King, Anthony M. Alcocer, Raoul Naroll.

Influence of Hypnosis and Related States on Memory: Forensic Implications (6 Jan., 2:30 p.m., CH): Demand characteristics, criminal cases, malleability of eyewitness memory, altering states of consciousness, contamination of evidence.

Martin T. Orne, Ulric Neisser, Milton V. Kline, Elizabeth F. Loftus, Lawrence C. Kolb, Bernard L. Diamond.

Management of Pain and Symptom Control in Terminally Ill Patients (7 Jan., 2:30 p.m., CH): Ethical and humanitarian concerns, pathophysiology and pharmacology, drug therapy for symptom control.

Arthur G. Lipman, Robert S. Beardsley, Edmund D. Pellegrino, Bradford D. Hare.

Measurement of Pain in Animals and Man (8 Jan., 9:00 a.m., WH): Psychophysical assessment, clinical and experimental pain responses, psychophysics of analgesia in animals, peripheral neural mechanisms, behavioral and physiological measures.

Richard H. Gracely, Laurence A. Bradley, Dennis D. Kelly, Ronald Dubner, M. Catherine Bushnell.

14. Anthropology and Development

Child Development and International Development: Research-Policy Interfaces (4 Jan., 9:00 a.m., CH): Child mortality, fertility and child development, maternal employment, literacy in the Third World, urban migration.

Daniel A. Wagner, Robert A. LeVine, Susan H. Cochrane, Patricia L. Engle, Mary Racelis Hollnsteiner, Peter Taçon, Francis X. Sutton.

Appropriate Technology: The New Elegance in an Age of Constraints (4 Jan., 2:30 p.m., CH): National Science Foundation, Department of Energy, National Center for Appropriate Technology, assessment, congressional interest, state program.

Philip L. Bereano, Robert Lamson, Edward H. Bryan, Harold Devoe, Edwin C. Kepler, John Andelin, George E. Brown, Jr., Robert Judd.

The Ecosystem Concept in Anthropology (5 Jan., 9:00 a.m., 2:30 p.m., CH): The concept in biology, archaeological research, S. Turkana project, human ecological research, central Moluccas, New England 1620-1850, limitations of the concept.

Emilio F. Moran, Eugene Odum, Michael Jochim, Michael A. Little, James E. Ellis, Neville Dyson-Hudson, Rada Dyson-Hudson, David M. Swift, Daniel Bates, Susan Lees, Frank Golley, Roy Rappaport, Roy F. Ellen, John Adams, Alice Kasakoff.

Environment and Development in East Africa (7 Jan., 9:00 a.m., CH): Institutions and resource management, Somalia, Tanzania, industrialization and rural livelihood.

Barbara P. Thomas, Charles W. Hays, Leonard Berry, Robert A. Simko, Ophelia C. Mascarenhas.

The Impact of Development on Peoples Who Occupy Land at Relatively Low Population Densities (7 Jan., 2:30 p.m., CH): Foraging peoples, Inuit hunter-gatherers, New World tropics, Canadian subarctic, northwest Kalahari foragers.

John E. Yellen, Richard B. Lee, Eric Alden Smith, John H. Bodley, Bruce P. Winterhalder, Alison S. Brooks.

Conflict, Resolution, and Revolution (8 Jan., 9:00 a.m., CH): New Guinea warfare, Spanish gypsies, Indian-White disputes, Guatemala, Japanese village, Sandinistas.

June Nash, Frances Rothstein, Paula Brown Glick, Miriam Kaprow, Gail H. Landsman, Thomas J. Maloney, Eugene E. Ruyle, Ted MacDonald, M. Barbara Leons.

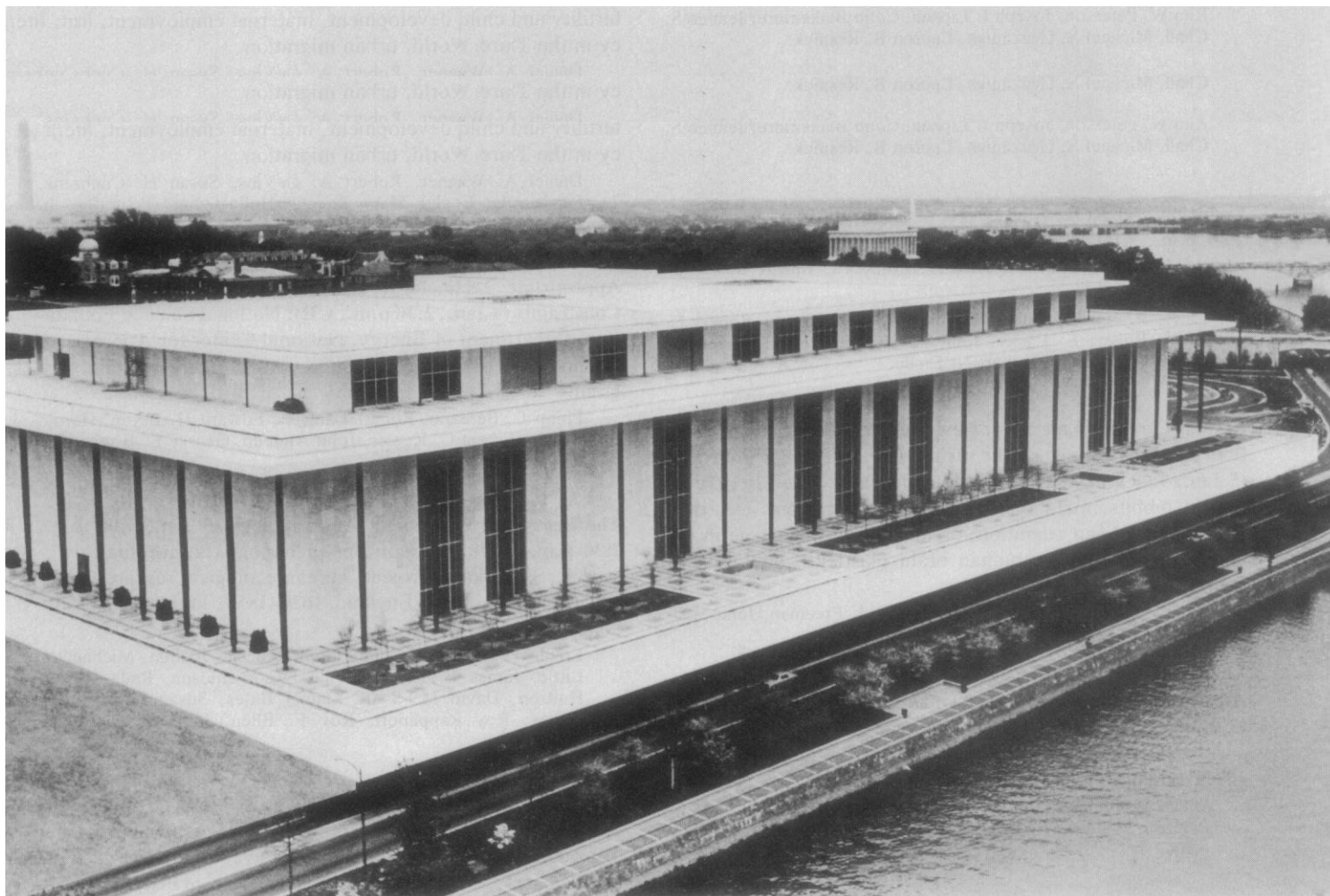
Therapeutic Epistemologies: Latin American Spiritual and Biomedical Healing (8 Jan., 1:30 p.m., CH): Puerto Rico, Mexican-Americans in Texas, Peruvian Amazon, Mexico, Colombia, holistic curing.

Marlene Dobkin de Rios, Joan Koss, Robert T. Trotter, Kaja Finkler, Michael Whiteford, Mansell Pattison.

15. Sociology and Political Science

Aging from Birth to Death: Biosocial Perspectives (4 Jan., 9:00 a.m., CH): Genetic perspectives, cardiovascular disease, psychological control, physiologic aging, economic fluctuations.

Matilda White Riley, David Glass, Gerald E. McClearn, J. Allan Herd, Judith Rodin, James F. Fries, Richard Suzman.



The spectacular John F. Kennedy Center for the Performing Arts, overlooking Washington's Potomac River, includes a Concert Hall, Opera House, Eisenhower Theater for drama, Terrace Theater, and the American Film Institute Theater. The white marble structure is 600 feet long and rises 135 feet above the Potomac. [Photo courtesy of the Washington Area Convention and Visitors Bureau]

Quality of Federal Statistics: Research, Programmatic, and Policy Implications (4 Jan., 2:30 p.m., CH): Census and survey data, administrative records, limitations of data for public policy, state and local issues, social science research.

Charles B. Nam, Barbara A. Bailar, Roger A. Herriot, Maria Elena Gonzalez, Beth Kilss, Fritz Scheuren, Dorothy M. Gilford, Norfleet W. Rives, Jr., Hal H. Winsborough.

Organizational Demography and Labor (5 Jan., 9:00 a.m., CH): An aging work force, careers within corporations, career attainment during growth and contraction, managerial staffing decisions.

Shelby Stewman, Bruce H. Mayhew, Jeffrey Pfeffer, Seymour Spilerman, James E. Rosenbaum.

Comparison of Voting Systems (5 Jan., 2:30 p.m., CH): Polls and information in elections, election procedures, multicandidate electoral systems, plurality voting, axiomatic approach.

Steven J. Brams, Peter C. Fishburn, Samuel Merrill III, William H. Riker, Philip D. Straffin, Jr.

Ethological Approaches to the Study of Politics (6 Jan., 9:00 a.m., CH): Types of political behavior, social status changes, media images of politicians, ethological politics, a crowded planet.

Roger D. Masters, Albert Somit, Carol Barner-Barry, Michael T. McGuire, Glendon Schubert, Lionel Tiger, John Wahlke.

Organizational Evolution: External Selection versus Internal Adaptation (6 Jan., 2:30 p.m., CH): Organizational ecology, organizational versus biotic evolution, how organizations adapt, discretion theory versus efficiency analysis, rationality and routinization.

Marshall W. Meyer, John H. Freeman, Michael T. Hannan, Harrison C. White, Oliver E. Williamson, Sidney G. Winter.

The Policy Implications of Changing Household and Family Patterns (7 Jan., 9:00 a.m., CH): Child care in the United States, patterns in divorce, teenage family formation, emerging research techniques.

Harold C. Wallach, Andrew Cherlin, Martin O'Connell, Oliver Moles, Kristin Moore, Nicholas Zill, Robert Parke.

Critical Issues in Crime Control Policy (7 Jan., 2:30 p.m., CH): Incapacitation strategy, white-collar and professional crime, biological factors, victimization policy, delinquency.

Edith E. Flynn, Alfred Blumstein, Herbert Edelhertz, Sarnoff A. Mednick, Albert J. Reiss, Jr., Marvin E. Wolfgang.

Social Power and Dominance in Women: Cultural and Developmental Perspectives (8 Jan., 9:00 a.m., 1:30 p.m., CH): Psychological well-being, the workplace, dominance as a male concept, gender and race and power, women's self-perceptions, age roles as an indicator of power, developing industry, matriarchs and martyrs, affect and achievement in women.

Liesa Stamm Auerbach, Carol D. Ryff, Grace K. Baruch, Rosalind C. Barnett, Dorothy Remy, Carol Gilligan, Evelyn Nakano Glenn, Janet Giele, Naomi Katz, Gunhild Hagestad, Patricia Grandjeans, Julianne Malveaux, Lillian E. Troll, Karen Sacks.

16. Economics, Industry, and Regulations

If Japan Can, Why Don't We? New Managerial and Methodological Issues in Quality and Productivity (4 Jan., 9:00 a.m., 2:30 p.m., WH): Quality engineering, productivity and quality control, economic growth, education, quality in the United States, developing countries, Japanese manufacturing.

Roshan L. Chaddha, K. O. Bowman, Douglas M. Muster, G. Taguchi, Armand V. Feigenbaum, Edward F. Denison, Reginald W. Revans, Everett M. Rogers, Ed Fuchs, J. M. Juran, K. K. Anand, Robert H. Hays.

Environmental Consequences of the Clean Air Act Reauthorization (5 Jan., 9:00 a.m., WH): The Administration, Congress, industry, public interest groups, scientific community.

Averett S. Tombes, J. Paul Gilman, Anne M. Gorsuch, Henry A. Waxman, John Quarles, David G. Hawkins, George Woodwell.

The Changing Regulatory Climate: Implications for Environmental Research (5 Jan., 2:30 p.m., WH): How can environmental research be improved, policy and R&D planning, research and the implementation regulations, assessing the net benefits, upgrading environmental assessment.

Steven C. Ballard, Michael D. Devine, Curtis Moore, Thomas E. James, Mohamed T. El-Ashry, Thomas D. Crocker, Steven E. Plotkin.

Regulatory Reform as It Affects Science and Technology (6 Jan., 9:00 a.m., WH): Regulatory reform and managing risk, economic considerations, air pollution, drug development, risk analysis.

Daniel W. Fulmer, Michael S. Baram, Lester B. Lave, Mary E. Mogee, Sumner N. Claren, Fred Wilson, M. Granger Morgan, Michael Levin, George C. Eads, Judith Jones, Marvin Kusters, Thomas Hopkins.

Processes and Issues in the Formulation of a National Industrial Strategy (6 Jan., 9:00 a.m., 2:30 p.m., WH): Industrial innovation, competitive assessment, the pattern of trade, planning model, boosting technology, pitfalls of government intervention.

Theodore W. Schlie, Robert Parsons, Lou G. Tornatzky, Myles B. Boylan, William A. Hetzner, Timothy J. Hauser, C. Michael Aho, Richard Nelson, Theodore Jenkins, Richard Goodman, Richard N. Langlois, Margaret E. Dewar, Jeffrey Hart, Herbert I. Fusfeld, Richard Faust.

After 75 Years of the FDA: What Will Be the Impact of Governmental Regulations on Developing Drugs from New Technologies? (6 Jan., 2:30 p.m., WH): Industry, science, legal and regulatory issues.

Robert G. Pinco, David A. Knapp, Jere E. Goyan, Stuart Nightingale.

Risk Analysis, Risk Assessment, Risk Regulation (7 Jan., 9:00 a.m., WH): Perceived risk, environmental risk, market mechanisms, health effects, public risks.

Hans W. Gottinger, Wilhelm Krelle, Paul Slovic, James R. Meginniss, Peter C. Fishburn, Richard Zeckhauser, R. K. Sarin.

Statistical Modeling for Risk Assessment (7 Jan., 2:30 p.m., WH): Risk management, rare events, food constituents, exposure estimates, the courts and technological risk, limits of knowledge.

Turkan K. Gardenier, John S. Gardenier, William D. Rowe, Joseph V. Rodricks, Eula Bingham, Howard T. Markey, Max Singer, Marvin Schneiderman.

Common Foundations of Economics and Ecology (7 Jan., 2:30 p.m., WH): Scarcity, self-interest, selection, spontaneous order, macroeconomics of ecological systems, interest rate, a general system.

David J. Rapport, Kenneth E. Boulding, Jack Hirshleifer, Bruce Hannon, Alan Covich, Magoroh Maruyama, Leslie A. Real.

Verification and the Assessment of Forecast Uncertainty (8 Jan., 9:00 a.m., WH): Econometric model, time series analysis, evaluating models, economic prediction.

John H. Herbert, David Freedman, Edwin Kuh, Arnold Zellner, James B. Ramsey, Victor Zarnowitz.

17. History and the Philosophy of Science

Science and Belief: I. The Interface (4 Jan., 9:00 a.m., WH): Belief and inquiry in American society, geological and theological perspectives, a third alternative.

Joseph M. Dasbach, Rolf M. Sinclair, Langdon Gilkey, James W. Skehan, S.J., Stephen G. Brush.

Science and Belief: II. Problems for Science Education (4 Jan., 2:30 p.m., WH): Science, rationality and the creation/evolution dispute, Kentucky, Iowa, Georgia, the dangerous position of the science teacher, a two-model course.

Robert W. Hanson, Dorothy Nelkin, Wayne A. Moyer, William E. Ellis, Stanley L. Weinberg, Kenneth S. Saladin, Charles C. Brooks, Craig E. Nelson, William M. Thwaites.

Science and the Humanities (5 Jan., 9:00 a.m., 2:30 p.m., WH): The Commission on the Humanities, science and general education, continuing education, a common ground, physics, technology and literacy.

Gaines Post, Jr., Harry Woolf, Peter Buck, Michael S. Mahoney, James M. Banner, Jr., Lewis Thomas, Steven Weinberg, William O. Baker, Nannerl O. Keohane.

Multiple Criteria Decision-making (MCDM) (5 Jan., 9:00 a.m., 2:30 p.m., WH): Multicriterion economic theory, suboptimal regulation, managerial frameworks in the federal agencies, policy analysis, power plant siting, second-order game theory, fuzzy multiple criteria, engineering and science, group decision-making, compromise solutions, linear programming.

Milan Zeleny, Nicholas Georgescu-Roegen, Lester B. Lave, Ambrose Goicoechea, Yacov Y. Haimes, Jared L. Cohon, Kenneth E. Boulding, Po-Lung Yu, Christer Carlsson, Wolfram Stadler, Ching-Lai Hwang, Thomas L. Vincent, Ralph E. Steuer, Joel N. Morse, Andrzej Wierzbicki, George Leitmann.

Science, Art, and Archeology (6 Jan., 9:00 a.m., WH): The royal mummies, ancient objects, Rembrandt's creative process.

Saul Krasner, Jacqueline S. Olin, James E. Harris, Garman Harbottle, Maryan W. Ainsworth, Thomas W. Chase.

Subjective Science? (6 Jan., 2:30 p.m., WH): Craniology, women and medicine, sociobiology, policy-makers.

Shirley M. Malcom, Michele L. Aldrich, Rayna D. Green, Stephen Jay Gould, Estelle R. Ramey, H. B. Graves III, Mervyn M. Dymally.

What Happened to the Idea of Moving Continents After Wegener Proposed It? (7 Jan., 9:00 a.m., WH): Continental European response, reversal of the Earth's magnetic field, Russian response, paleontologists' response.

Harold L. Burstyn, Henry Frankel, Albert V. Carozzi, Neil Opdyke, Ekaterina Miljutina, Stephen Jay Gould.

The Laboratories of Alexander Graham Bell (7 Jan., 2:30 p.m., WH): Brantford, teacher of deaf children, Baddeck, Bell Laboratories.

J. William McGowan, Lilian Grosvenor Jones, R. H. Spencer, George W. Fellendorf, Donald Arseneau, Dean Gillette.

Systems Methodology in Modern Science (7 Jan., 2:30 p.m., International Inn): Autopoiesis, evolution and epistemology, unifying theories, subjectivity, intelligence in technologies.

Milan Zeleny, Heinz Von Foerster, Nicholas Rescher, Dan Rose, Brian R. Gaines, Manfred Kochen, John Chalmers, Kenneth E. Boulding, Robert Rosen.

18. Science Education and Understanding

The Changing Role of the Mathematical and Computer Sciences in Precollege Education (4 Jan., 9:00 a.m., CH): The computer/calculator age, quality education, changes in mathematics curricula, statistical bridges, technology for instruction.

Truman A. Botts, Richard D. Anderson, Peter J. Denning, James T. Fey, Stephen E. Fienberg, Alphonse Buccino.

The Developing Crisis in the Mathematics Classroom: Causes and Some Cures (4 Jan., 2:30 p.m., CH): Inadequate preparation, qualifications of education majors, secondary-school mathematics curriculum, how to teach mathematics.

Henry L. Adler, Richard D. Anderson, Joan R. Leitzel, W. Timothy Weaver, Zalman P. Usiskin, Harold R. Jacobs.

Saving and Using Our Human Scientific Resources (5 Jan., 9:00 a.m., CH): America's minorities, Atlanta Resource Center, access to a profession, Appalachian Technical Association, removing the age switch.

Esther A. H. Hopkins, Anna J. Harrison, Mervyn M. Dymally, Thomas Cole, William J. Skawinski, Albert J. Fritsch, Phyllis A. Brauner.

Science and Engineering Education for Minorities: An Agenda for the '80s (5 Jan., 2:30 p.m., CH): Private sector role, priorities, national productivity.

Arlene P. Maclin, Leroy Colquitt, Lloyd M. Cooke, H. Guyford Stever, John B. Slaughter, Robert Finnell, Joseph Martinez, Shirley M. Malcom, W. Barry McLaughlin, Melvin Webb.

Science and Policy—Science and Culture: Science in General Education (6 Jan., 9:00 a.m., WH): Before and after college, outside the classroom.

Ezra Shahn, Stanley Goldberg, F. James Rutherford, Dennis Flanagan, Elizabeth Cutter, Stephen Jay Gould, Lynn Miller.

Talk with the Public: Expanding Opportunities for Scientists and Engineers in Science-Technology Centers (6 Jan., 2:30 p.m., WH): Involvement by scientists, communicating with the public, Fernbank experience, science centers and the public.

Sheila Grinell, William G. Wells, Jr., F. James Rutherford, Victor Weiskopf, John S. Rigden, Kay Davis, Joel N. Bloom.

A Challenge for American Education: Scientific Literacy in Japan, the Germanies, and the Soviet Union (7 Jan., 9:00 a.m., CH): Contemporary Japan, the two Germanies, Soviet challenge.

Joseph I. Lipson, Margrete Siebert Klein, Vivian Edmiston Todd, Kay Michael Troost, Izaak Wirszup.

The Current Status and Alternative Futures of Science Education in the United States (7 Jan., 2:30 p.m., CH): Secondary schools, community and junior colleges, elementary schools, alternative futures.

Donald W. McCurdy, Robert E. Yager, Arthur Cohen, Pamela Ebert-Flattau, Vincent N. Lunetta.

Engineering Manpower and Education Needs in the '80s (8 Jan., 9:00 a.m., 1:30 p.m., CH): Congressional perspective, effective utilization, military view, professional societies, needs of industry, what response, faculty recruitment and retention, manpower and education planning, research equipment and facilities needs, technology transfer for profit.

Stephen Kahne, Donald F. Marlowe, George E. Brown, Jr., Hans C. Cherney, William J. Hilsman, Thelma Estrin, Robert P. Stambaugh, Joseph M. Pettit, Daniel C. Drucker, Bruno A. Boley, John C. Crowley, Benson P. Lee.

The Changing Environment for Science Communication (8 Jan., 9:00 a.m., 1:30 p.m., WH): Covering science on a

Schedule of Contributed Papers

At the Washington Meeting, contributed papers will be presented in **poster session format** only; there will be no slide sessions. Abstracts for the individual papers will be found in the *Abstracts of Papers* volume, which is available on site to all registrants. The poster sessions will be held at the Washington Hilton Hotel and are scheduled as follows:

- **Poster Session I-A (4 Jan., 11:30 a.m.–1:00 p.m.).**
American Junior Academy of Science (A): Research Papers by High School Students.
- **Poster Session I-B (4 Jan., 1:30 p.m.–3:00 p.m.).**
American Junior Academy of Science (B): Research Papers by High School Students.
- **Poster Session II-A (5 Jan., 11:30 a.m.–1:00 p.m.).**
Biological Sciences; Agriculture.
- **Poster Session II-B (5 Jan., 1:30 p.m.–3:00 p.m.).**
Medical Sciences; Health Care.

- **Poster Session III-A (6 Jan., 11:30 a.m.–1:00 p.m.).**
Clinical Psychology; Neurology.
- **Poster Session III-B (6 Jan., 1:30 p.m.–3:00 p.m.).**
Experimental and Cognitive Psychology; Education.
- **Poster Session IV-A (7 Jan., 11:30 a.m.–1:00 p.m.).**
Social Sciences.
- **Poster Session IV-B (7 Jan., 1:30 p.m.–3:00 p.m.).**
Mathematics and Computing; Physical Sciences; Energy.

national level, the local press, risks and benefits, working with the media, how good is the message, news about science, public's right to know.

Sharon Dunwoody, Sharon M. Friedman, Carol L. Rogers, Cristine Russell, David W. Crisp, Dennis O'Leary, Carl E. Sagan, Howard J. Lewis, William Bennett, Jon Franklin, George W. Tresselt.

19. Science and Technology Policy

The Support of Scientific Research in the Eighties (3 Jan., 1:30 p.m., CH): National Science Foundation, Atomic Energy Commission, Department of Energy, Department of Defense, National Institutes of Health, private foundations.

Rolf M. Sinclair, D. Allan Bromley, Donald N. Langenberg, Alvin W. Trivelpiece, Thomas Malone, Richard Lyman, George Millburn.

The Politics of Science and the Role of Strategic Planning (4 Jan., 9:00 a.m., 2:30 p.m., CH): View from industry, view from Congress, view from the states, public sector organizations, federal agencies, pitfalls and evolution of strategic planning.

Phyllis Kahn, Rhett Speer, William G. Wells, Jr., Charles W. Steger, Jr., Irwin Feller, Walter A. Hahn, Peter Gove, Steven H. Flajser, Richard Hodes, Robert C. Ketcham, Edmund M. Burke, Robert C. Stuart, Vary T. Coates, Ethan T. Smith.

Who Controls Scientific Data? (5 Jan., 9:00 a.m., 2:30 p.m., CH): Intellectual property, clinical trials, publication of data, peer review, public's right to know, sharing statistical and research data, professional and legal issues, access to federal statistical data.

Rosemary A. Chalk, Stephen E. Fienberg, Dorothy Nelkin, Robert S. Gordon, Jr., Arnold S. Relman, Sidney M. Wolfe, Peter Raven-Hansen, Jerome M. Clubb, Joe S. Cecil, J. Timothy Sprehe.

Managing Peaceful Change: Seen East/West or North/South, It's One World! (6 Jan., 9:00 a.m., 2:30 p.m., CH): International security, a developing country's perspective, financing security and modernization, science and technology in industrialization, life sciences, appropriate science and technology, scientists in developing countries.

Rodney W. Nichols, J. William McGowan, Herman Pollack, Ivan L. Head, Edmundo Flores, Robert Perry, Nyle Brady, H. B. G. Casimir, Thomas R. Odhiambo, Y. Nayudamma, Abdus Salam, James Malone, John Sewell.

International Science Programs: Issues, Constraints, and Opportunities (7 Jan., 9:00 a.m., CH): Benefits to basic science, applied systems analysis, desertification, technology transfer, mood of Congress.

Dorothy S. Zinberg, Jean M. Johnson, Walter A. Rosenblith, Roger E. Levien, Priscilla Reining, Steward S. Flaschen, Paul C. Maxwell.

Policy Outlook for Science and Technology (7 Jan., 2:30 p.m., CH): Technical impacts, critique, users' responses.

Susan G. Hadden, John Logsdon, Kenneth Prewitt, James Suttle, Richard A. Rettig, Norman Hackerman, Dennis Barnes, Donald Langenberg, Edward McGaffigan.

Science and the Career Public Service (8 Jan., 9:00 a.m., CH): Federal personnel system, legislative branch, government manager.

Albert H. Teich, Thomas J. Wilbanks, Reginald M. Jones, Don K. Price, Richard E. Stephens.

Arctic Science Policy for the Next Two Decades (8 Jan., 1:30 p.m., CH): View from Congress, Alaska, marine science, terrestrial environment, energy development.

J. Thomas Dutro, Jr., Louis DeGoes, Frank H. Murkowski, T. Neil Davis, Vera Alexander, Albert W. Johnson, F. Geoffrey Larminie, David M. Hickock.

20. Arms Control and Security

Biological and Health Effects of the Nuclear Industry and Nuclear Weapons: A Current Evaluation (4 Jan., 9:00 a.m., 2:30 p.m., CH): Uranium mining and milling, low-level radiation, nuclear power production, power plant accidents, evaluation, Hiroshima and Nagasaki, psychological issues, medical problems of survivors, nuclear war, preventive medicine model.

Carl J. Johnson, Joseph K. Wagoner, Alice M. Stewart, George W. Kneale, Thomas F. Mancuso, Bernd Franke, Karl Z. Morgan, John C. Cobb, Stuart C. Finch, Robert J. Lifton, Herbert L. Abrams, Bernard T. Feld, Helen M. Caldicott.

Chemical and Biological Warfare: Past, Present, and Future (5 Jan., 9:00 a.m., CH): Limits of unilateral restraint, legal constraints.

Arthur H. Westing, Charles H. Bay, Matthew S. Meselson, Jonathan King, Robert P. Mikulak.

Soviet Policies and U.S. Responses on Arms Control and National Security (5 Jan., 2:30 p.m., CH): Perceptions of each other's arms control and national security policies.

Everett Mendelsohn, Georgi Arbatov, Stephen F. Cohen, Raymond Garthoff, David Holloway, James Leonard.

Do ABMs Have a Future? (6 Jan., 9:00 a.m., CH): Characteristics and capabilities, ABM Treaty, future options, congressional and public concerns.

Herbert Scoville, Jr., Jack Ruina, Barry Carter, Anne H. Cahn.

The Relevance of Military Capability: What It Can and Cannot Do (6 Jan., 2:30 p.m., CH): Economic limits, providing real security, influencing others, securing the nation's interest.

Lloyd J. Dumas, John K. Galbraith, Richard Barnet, Roger Fisher.

Striking a Balance: Scientific Freedom and National Security (7 Jan., 9:00 a.m., CH): Staunching scientific information flow, the Atomic Energy Act, cryptography.

Mary M. Cheh, Peter J. Denning, Bobby R. Inman, Harold P. Green, Daniel C. Schwartz, Paul N. McCloskey.

Scientists and the Arms Race (7 Jan., 2:30 p.m., CH): "The Day After Trinity," J. Robert Oppenheimer.

Harold A. Feiveson, Martin Sherwin, Charles Weiner.

Paucity or Plenty: Natural Resources Availability, Global Security, and U.S. National Interests (8 Jan., 9:00 a.m., CH): Which natural resource supplies, U.S. foreign policy, sharing the Earth.

Bill L. Long, James L. Malone, Julian L. Simon, Erik Eckholm, Emery N. Castle, Nyle Brady.

Technology for Defense: What's Needed? (8 Jan., 1:30 p.m., CH): Maintaining the military balance, alternatives, missions for high technology, informing the public.

Gerald P. Dinneen, Patricia A. McFate, Thomas Moss, Rodney W. Nichols, William J. Perry, Richard L. Garwin, Noel Gayler, Charles Corddry.

Meeting Information

Listed below are the Washington hotels which are used by the AAAS for housing and program activities during the Annual Meeting. The two-letter codes in parentheses identify session locations in the preliminary program.

Washington Hilton (WH): Public lectures and symposia; exhibits; contributed papers (poster sessions); business meetings; social functions; registration (advance and on site); information desk; message center; tour and banquet ticket desk; welcome center (hospitality); resource center for disabled registrants; headquarters office; newsroom; employment information; Science Film Festival.

Capital Hilton (CH): Symposia; business meetings; social functions; registration (advance and on site); information desk; message board; welcome center (hospitality); headquarters office.

Highland Hotel: Housing only.

Holiday Inn—Connecticut Avenue: Housing only.

Special AAAS shuttle buses will operate between the Washington Hilton and the Capital Hilton hotels throughout the daytime and into the evening hours during the meeting (see also "Ground Transportation").

For locations of the hotels, see map on page 545 of this issue.

Meeting Registration

Registration categories and fees are listed on the advance registration form on page 000. As a special service for meeting registrants, **AAAS now offers facilities for charging registration fees to VISA or MasterCard.** For your convenience, the advance registration form provides space for credit card information.

Advance registrants, please note: We will not mail the entire registration packet before the meeting. Instead, we will send you in early December an expanded preconvention program, your badge, registration receipt, and a voucher redeemable on site for the program book, condensed program (foldout), abstract volume and, as a bonus for early registration, your free copy of the 1982 AAAS Calendar. Present your voucher at one of the advance registrants' desks located in the Washington Hilton (Concourse Level) and the Capital Hilton (Upper Lobby). Registration hours are as follows:

Sunday, 3 January	2:00 p.m. – 6:00 p.m.
Monday through Thursday,	
4–7 January	8:00 a.m. – 6:00 p.m.
Friday, 8 January	8:00 a.m. – 12 noon

Registration Refunds

The AAAS will refund advance registration fees for all cancellations received by letter or telegram prior to 28 December 1981. **No refunds will be made on cancellation notices received after that date.** Refunds will be mailed from the AAAS offices in Washington after the Annual Meeting.

Tax Deduction for Educational Expenses

U.S. Treasury regulation §1.162–5 permits an income tax deduction for educational expenses (registration fees and cost of travel, meals, and lodging) incurred to (i) maintain or improve skills required in one's employment or other trade or business or (ii) meet express requirements of an employer or a law imposed as a condition to retention of employment, job status, or rate of compensation. This is true even for education which leads to a degree.

Hotel Reservations

The four Washington hotels AAAS will use for housing and meetings have set aside—at guaranteed reduced rates—blocks of guest rooms for the attendants of the AAAS Annual Meeting. **These rates are guaranteed only when reservations are made through the AAAS Housing Bureau prior to 14 December 1981.** Please read the hotel reservation form on page 547 carefully; room assignments will be delayed if any information is omitted from the form. Please note that the AAAS Housing Bureau cannot accept any reservations by telephone.

Do not be a "No-Show"! If you have made a hotel reservation and find that you cannot attend the meeting, write to the Housing Bureau (or call the hotel) and cancel.

Ground Transportation

Airport-to-Hotel: Three major airports serve the Greater Washington Metropolitan Area. Buses operate daily between the airports and the meeting hotels, as noted below (fares quoted may be subject to change):

Washington National Airport, 4–5 miles from city center. Buses, running every 30 minutes, stop at both the Washington Hilton and the Capital Hilton; **fare, \$3.25.**

Taxi, approx. \$6.00.

Dulles International Airport, 26 miles from city center. Buses, running on an hourly schedule, stop at both the Washington Hilton and the Capital Hilton; **fare, \$7.75.**

Taxi, approx. \$27.00.

Baltimore-Washington International Airport, about 40 miles from city center. Buses, running every 45 minutes, stop at Capital Hilton only; **fare, \$7.00.**

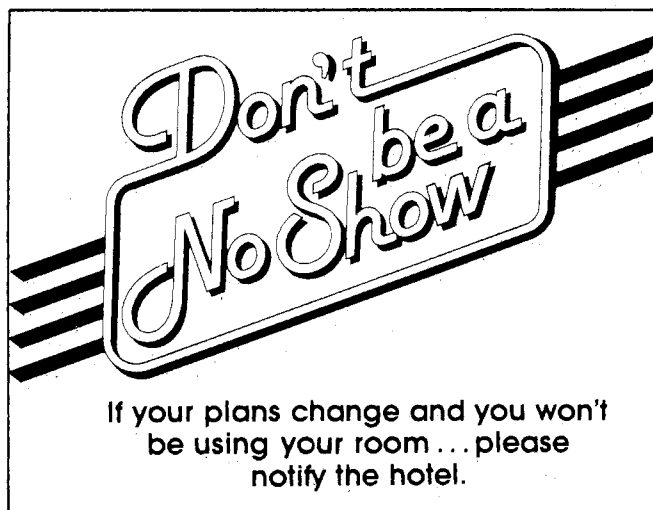
Taxi, approx. \$36.00; insist that driver quote fare before you enter vehicle.

Taxis: Washington taxis operate on a zone system (no meters). Zones begin in the central city and radiate outward. Rates start at \$1.55 for one person and increase from zone to zone. For example, the Capital Hilton is located in zone 1 and the Washington Hilton in zone 2; thus, the cab fare between the two hotels is \$2.25. There is an extra charge of 75¢ for each additional person sharing the vehicle from point of origin to final destination. Cabs are also permitted to pick up passengers en route if they go in the same general direction as the passengers already occupying the vehicle; these additional passengers pay the full fare as applicable from the point of pickup. During afternoon rush hour, 4:00–6:30 p.m., a surcharge of 65¢ is in effect. **The taxi fares quoted above may be subject to change.** Inquiries or complaints about taxi fares should be directed to the Public Vehicles Division, D.C. Department of Transportation, 202/727-5401.

AAAS shuttle buses between the Washington Hilton and the Capital Hilton will be operating throughout the daytime and into the evening hours during the Annual Meeting. Service will begin at midday on Sunday, 3 January, and conclude at 6:00 p.m. on Friday, 8 January. Schedules will be posted at all meeting hotels.

Resources for Disabled Registrants

The AAAS, in cooperation with the Washington Advisory Committee, is again making every effort to make the Annual Meeting fully accessible to disabled individuals. In addition to hotel rooms which



can accommodate wheelchairs, and accessible meeting areas, the following resources will be available:

- A Resource Center, located in the Washington Hilton Hotel, staffed with volunteers to offer assistance on request.
- Assistance in movement within and between meeting hotels as needed.
- Transportation service to and from airports and train and bus terminals, as needed.
- Interpreters for the hearing-impaired at all public lectures and for other sessions on request.
- Emergency repair service for wheelchairs.
- Special tour and sight-seeing information for disabled persons.
- Audiotaped highlights of the meeting program for persons with visual impairments.

Persons needing special hotel accommodations, interpreting services, and other assistance are strongly urged to so indicate on the advance registration and housing forms. Your early response will help us to plan and serve you better. For additional information, contact Virginia Stern, AAAS Project on the Handicapped in Science, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036 (phone: 202/467-4497).

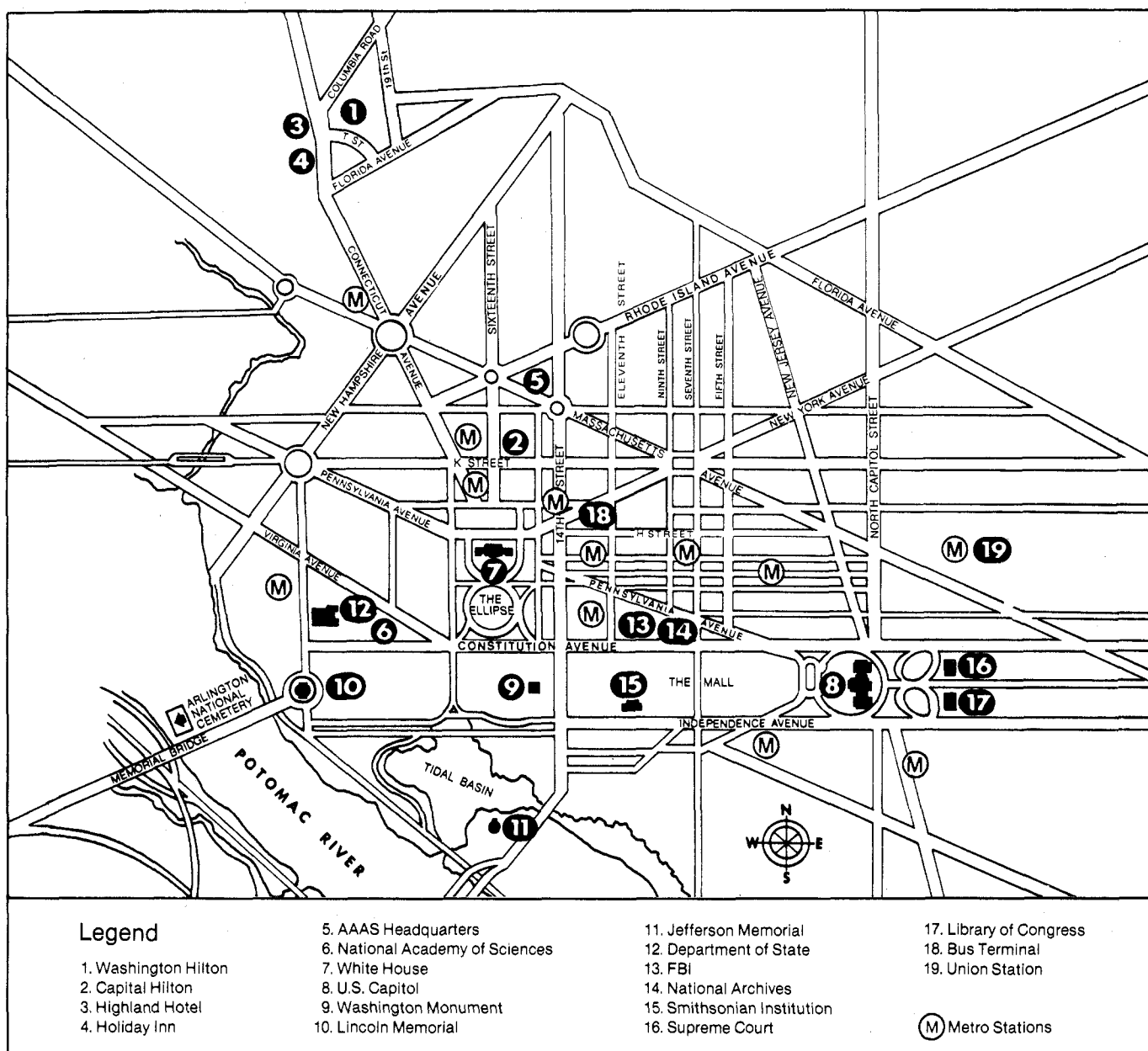
Employment Information Center

In the Exhibit Hall at the Washington Hilton, there will be bulletin boards for posting "positions wanted" and "positions open" notices. Also available will be separate tables for conducting interviews. AAAS will not coordinate interactions between prospective employers and employees. Interested persons will have access to the Employment Information Center during exhibit hours, which are as follows:

4 January	10:00 a.m. - 6:00 p.m.
5-6 January	10:00 a.m. - 4:00 p.m.
	5:30 p.m. - 7:00 p.m.
7 January	10:00 a.m. - 5:00 p.m.

Child Care Services

For meeting attendants who require baby-sitters for infants and small children, or companion care for children aged 8 years and up, we have obtained the services of the **Child Care Agency (phone 202/783-8573)**. The agency is open Monday through Friday, 9:00 a.m. to 5:00 p.m.; 24 hours' notice is requested. All sitters are over age 21. **Rates:** The hourly rate is \$3.50 for one child (4 hours minimum) plus sitter's transportation cost; add 25¢ per hour for each additional child.





Annual Meeting
Washington
3-8 January 1982

ADVANCE
REGISTRATION
(D)

MAIL TO:
AAAS—DEPT. R
1515 Massachusetts Ave., NW
Washington, D.C. 20005

Name of Registrant: _____
(Last Name) (First and Initial)

Registrant's Institution or Company: _____

Registrant's Mailing Address: _____
[For receipt of program(s), badges, and Science (for new applicants)]
(Street) _____
(City/State or Province) _____ (Zip Code) _____

Name of Spouse Registrant: _____
(Last Name) (First and Initial)

Other Additional Registrants: _____
(With same mailing address. Use new form if address differs.)

Convention Address: _____
(Where you can be reached) (Hotel and/or Phone No.)
Check days attending: Sun Mon Tue Wed Thu Fri

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

- Please check appropriate boxes, complete remainder of form (type or print), and enclose payment or charge to credit card below.
- Preconvention Program, badge, and voucher for full Program and Abstracts will be mailed to registrants in early December.
- Full Program and Abstract Volume can be picked up at *Advance Registrants' Desks* at the Washington Hilton or the Capital Hilton.
- Registrations received after 14 December will be held at the AAAS Information Booth at the Washington Hilton.
- Refund requests for registration fees must be made by letter or telegram prior to 28 December 1981 and will be honored after the Annual Meeting. No refunds are made on cancellation notices received after this date.
- Special one-day attendance registration will be available at on-site Registration Desks only.

Registration Category	Regular		Student or Retired	
	Single	Double	Single	Double
<input type="checkbox"/> AAAS Member	<input type="checkbox"/> \$34	<input type="checkbox"/> \$50	<input type="checkbox"/> \$17	<input type="checkbox"/> \$25
<input type="checkbox"/> Non-Member:				
<input type="checkbox"/> Meeting registration only	<input type="checkbox"/> \$43	<input type="checkbox"/> \$60	<input type="checkbox"/> \$21	<input type="checkbox"/> \$30
<input type="checkbox"/> Register and join: Single membership	<input type="checkbox"/> \$77	<input type="checkbox"/> \$93	<input type="checkbox"/> \$44	<input type="checkbox"/> \$52
<input type="checkbox"/> Register and join: Double membership		<input type="checkbox"/> \$105		<input type="checkbox"/> \$64

Students: Fulltime undergraduate or graduate students only.

Double Membership (registrant & spouse) includes single subscription to *Science* (51 issues per year).

1981 Membership Dues: Regular Member, \$43; Student or Emeritus, \$27; Spouse or Emeritus without *Science*, \$12.

Inquire for Canadian and other foreign rates.

Specify name of new member for single membership: _____

Charge to my ☐ VISA or ☐ MASTERCARD

Account No. _____ Expiration Date _____

Cardholder's Name _____ Signature _____
(Please print)

SURVEY OF ATTENDANTS

Annual Meeting, Washington, D.C. 3-8 January 1982

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

Principal Professional Interest		Principal Professional Activity		Institutional Affiliation Type	
11	<input type="checkbox"/> Physical, mathematical	21	<input type="checkbox"/> Teaching, education	31	<input type="checkbox"/> University, 4-year college
12	<input checked="" type="checkbox"/> Biological, medical	22	<input type="checkbox"/> Health practice	32	<input type="checkbox"/> Other educational
13	<input type="checkbox"/> Engineering	23	<input type="checkbox"/> Other practice, consulting	33	<input type="checkbox"/> Industrial, commercial
14	<input type="checkbox"/> Social, behavioral	24	<input type="checkbox"/> Research, development	34	<input checked="" type="checkbox"/> Other Private
15	<input checked="" type="checkbox"/> Science policy	25	<input type="checkbox"/> Administration	35	<input checked="" type="checkbox"/> Government
16	<input type="checkbox"/> (other)	26	<input type="checkbox"/> (other)	36	<input type="checkbox"/> (other)

Highest Educational Level		Age		Number of Past AAAS Meetings Attended		Distance Traveled to Meeting	
41	<input type="checkbox"/> Doctoral Degree	51	<input checked="" type="checkbox"/> Under 26 years	61	<input type="checkbox"/> None	71	<input type="checkbox"/> Under 51 miles
42	<input checked="" type="checkbox"/> Master's Degree	52	<input type="checkbox"/> 26 to 35 years	62	<input checked="" type="checkbox"/> One	72	<input type="checkbox"/> 51 to 150 miles
43	<input checked="" type="checkbox"/> Other professional	53	<input type="checkbox"/> 36 to 45 years	63	<input type="checkbox"/> Two	73	<input type="checkbox"/> 151 to 400 miles
44	<input type="checkbox"/> Bachelor's Degree	54	<input type="checkbox"/> 46 to 55 years	64	<input type="checkbox"/> Three	74	<input type="checkbox"/> 401 to 1000 miles
45	<input type="checkbox"/> (other)	55	<input checked="" type="checkbox"/> 56 to 65 years	65	<input type="checkbox"/> Four	75	<input checked="" type="checkbox"/> 1001 to 3000 miles
		56	<input type="checkbox"/> Over 65 years	66	<input type="checkbox"/> Five or more	76	<input type="checkbox"/> Over 3000 miles

MAIL TO: AAAS Housing Bureau
1575 Eye Street, N.W.
Suite 250
Washington, D.C. 20005

HOTEL RESERVATIONS

**Annual Meeting
Washington
3-8 January 1982**



Send confirmation to:

Name _____ Street _____
City _____ State _____ Zip _____ Phone No. _____

Other occupants of room:

Name _____ Name _____

Choice of hotel: 1. _____ 2. _____ 3. _____

Room: ☐ Single ☐ Double ☐ Twin **Suite:** ☐ 1 Bedroom ☐ 2 Bedrooms **Preferred Rate:** \$ _____

Please indicate special housing needs due to a handicap: ☐ Wheelchair accessible room.

Other: _____

Arrival Date: _____ **Time:** _____ ☐ a.m. ☐ p.m. Be sure to list definite arrival and departure date and time. Reservations will be held only until 6 p.m. unless accompanied by 1 night's deposit.

Departure Date: _____ **Time:** _____ ☐ a.m. ☐ p.m.

- All hotel reservations must be submitted to the AAAS Housing Bureau in writing (use form above; type or print).
- Reservations must be received by the Housing Bureau **not later than 14 December 1981**; reservations received after that date are conditional upon space availability at the hotels.
- Rooms are assigned on a first come, first served basis. If room rate requested is no longer available, the next available higher rate will be assigned.
- Confirmation will come directly from the hotel. All changes and cancellations must be made in writing (not by phone) through the AAAS Housing Bureau.

HOTEL RATES*

Hotel	Single	Double & Twin	Parlor + 1 Bedrm.	Parlor + 2 Bedrms.	Parking (rates subject to change)
Washington Hilton <i>Headquarters Hotel</i> 1919 Connecticut Ave., N.W. (No. of rooms: 1,000)	\$51 68 81	\$66 83 96	\$175 and up	\$271 and up	\$5.00 per 24 hrs. with in & out privileges for registered guests only. Inquire for hourly rates.
Capital Hilton 16th and K Streets, N.W. (No. of rooms: 500)	\$45 63 81	\$65 83 96	\$225 and up	\$300 and up	\$4.75 per 24 hrs. (no in & out privileges) at PMI Garage on L St. adjacent to hotel. Inquire for other rates.
Highland Hotel 1914 Connecticut Ave., N.W. (No. of rooms: 75)	\$45	\$55	\$75	_____	No parking on premises. Commercial parking in Universal Bldg. across street @ \$4.50 per 24 hrs. (no in & out privileges).
Holiday Inn 1900 Connecticut Ave., N.W. (No. of rooms: 100)	\$45	\$55	_____	_____	Limited indoor parking (cars only) free of charge for registered guests only.

*Add 10% D.C. sales tax and 80¢ per night room occupancy tax.

Charges for roll-away beds: Washington Hilton and Capital Hilton, \$15/night; Highland Hotel, \$10/night; Holiday Inn, \$8/night.

Children are accommodated free of charge in same room with parents if no extra beds are required. Age limits are as follows: Washington Hilton and Capital Hilton, no age limit; Highland Hotel, 14 and under; Holiday Inn, 19 and under.

Buy Your Airline Tickets Now!

Air fares, unlike aircraft, seem to be going in only one direction—up. The AAAS Annual Meeting starts on the last day of the New Year's weekend, when post-holiday travel is at its peak. Protect yourself by purchasing your airline tickets now. Thus, you will not only secure a seat on the flight of your choice, you will also save money by paying the currently applicable price. Be sure to inquire about discount fares such as "super saver" and others; these fares often require reservations or purchase of tickets well in advance and a minimum length of stay.