



# Annual Meeting Denver

20-25 February 1977

## Meeting Program—Part II

For further details, see the Preliminary Program, *Science*, 5 November, pages 599 to 608, and Tours and Cultural Events, *Science*, 19 November, pages 827 and 828.

HOTEL CODES: Denver Hilton . . . DH; Holiday Inn . . . HI; Cosmopolitan . . . CO.

The theme of the forthcoming AAAS Annual Meeting in Denver is "Science and Change: Hopes and Dilemmas" and it is exemplified in the ten Public Lectures (see the Preliminary Program, *Science*, 5 November, pages 599 to 608) and 121 symposia. Details about the first 55 symposia were presented in the 3 December issue of *Science*, pages 1039 to 1042.

Listed below are the 66 symposia which make up the second half of the Meeting Program, grouped by category into medicine and health, anthropology, technological implications, behavioral science, education, economic and social science, science and public policy, and history and philosophy of science. I am sure that you will find the list impressive with many things you want to experience in person. Plan to come and bring the family for a unique winter experience in the Rockies. Housing and Registration forms will also be found in the 3 December issue of *Science*.—ARTHUR HERSCHMAN

### 9. Medicine and Health

**Health Services for Rural Areas (21 Feb., HI):** Family practice center, medical school outreach, community decisions, guidance, incentives.

Bond L. Bible, S. Jack Locke, Ben N. Saltzman, M. Gene Aldridge, Richard M. Spears, Sholom Pearlman.

**Mechanisms of Orofacial Motor Control: Masticatory and Speech Functions (21 Feb., HI):** Muscle spindle function, biting force, neural mechanisms, nervous system damage.

James H. Abbs, Eric S. Luschei, Louis J. Goldberg, Ronald W. Netsell.

**Behavioral Research in Medicine and Health: Careers and Training (22 Feb., HI):** Biobehavioral approach, coronary prone behavior, sociocultural approach, interdisciplinary approach, federal role, implications.

Pamela C. Ebert, William Bevan, Henry W. Riecken, Neal E. Miller, David C. Glass, M. Margaret Clark, Carl Pfaffmann, Stephen M. Weiss, David Mechanic.

**Organ Transplantation and Tumor Immunity (22 Feb., HI):** Kidney as a model, liver transplantation, portal hepatotrophic concept, splanchnic hormones, shared antigens, active immunotherapy, tumor-associated antigens, transfer factor.

Charles W. Putnam, Thomas E. Starzl, Ariel C. Hollinshead, Richard Weil, III, Lawrence Koep, Percy Minden, Evan Hersh, Robert Yonemoto, Barbara Jacobs.

**Financial Incentives Promoting Practice in Underserved Areas—Do They Work? (23 Feb., HI):** Scarcity area practice,



From Albert D. Richardson's *Beyond the Mississippi* (American Publishing Co., Hartford, Conn., 1867) [State Historical Society of Colorado]

loan forgiveness programs, Illinois' program, Colorado's program.

Ellen P. Sax, Walter J. McNerney, Charles E. Lewis, Jack L. Gibbs, Sholom Pearlman.

**Medical Decision-Making (23 Feb., HI):** Probabilities, utilities, perceptual inference, cost-benefit analysis.

John A. Swets, Harvey V. Fineberg, Emmett B. Keeler, Milton C. Weinstein, Charles E. Metz, Barbara J. McNeil.

**Pharmacokinetics: Implications for Patient Care (23 Feb., HI):** Absorption, distribution, metabolism, excretion of drugs, optimizing dosage, therapeutic efficacy, reduction in side effects.

Raymond Jang, John G. Wagner, Thomas F. Patton, Curt R. Freed, Thomas N. Tozer, Stuart Feldman, Michael E. Winter, Clarence T. Ueda.

**Scientific Information and the Public Policy: Regulating the Use of Psychotropic Drugs (24 Feb., III):** Social dimensions, emerging needs, formulation of policy, legislation, opportunities and barriers.

James J. Bosco, Stanley S. Robin, J. Richard Crout, Carl Taylor, Jane Frank, Keith Connors.

**Health Goals and Health Indicators (24 Feb., HI):** National Health Policy, health care needs, health planning, health data, health status indicators, psychological well-being, methodological perspectives.

Jack Elinson, Anne Mooney Hudson, Odin W. Anderson, Samuel Wolfe, Harry Cain, Dorothy P. Rice, Athilia E. Siegmann, Mari-

lyn Bergner, Norman Bradburn, Mata K. Nikias, Thomas W. Bice.

**Perinatal Factors and Developmental Hazards (24 Feb., HI):** Reproductive casualty, neonatal experience, crib death, taste and smell.

Frances Degen Horowitz, Arnold J. Sameroff, P. Herbert Leiderman, Lewis P. Lipsitt, Trygg Engen, Heinz W. Berendes.

**Continuing Evaluation of the Use of Fluorides (25 Feb., HI):** Historical perspective, normal fluoride intake, human plasma, caries prevention, osteoporosis, renal clearance, anesthetics, cell cultures.

Erling Johansen, Donald R. Taves, Sholom Pearlman, Reidar F. Sognaes, Warren S. Guy, Thomas M. Marthaler, Harold C. Hodge, John A. Gray, Jennifer O. Jowsey, Gary M. Whitford, William J. Johnson, Russell A. Van Dyke, John W. Suttie.

## 10. Anthropology

**An Account of the Visual Mode: Man versus Ape (21 Feb., DH):** Sign language elements, fingerspelled sequences, technical sign vocabulary, culture and code, sign language and culture, chimpanzees, lowland gorilla.

Fred C. C. Peng, William C. Stokoe, Richard Blasdel, Frank Caccamise, Nancy Frishberg, Gordon W. Hewes, Roger S. Fouts, Francine Patterson.

**Effects of Early Experience on Development in Human and Nonhuman Primates (22 Feb., DH):** Fear, human affects, language monkey, first and second siblings, sex roles.

Phyllis C. Dolhinow, Joseph J. Campos, Robert N. Emde, I. Charles Kaufman, James J. McKenna.

**Differences in Nutritional Requirements Among and Within Human Populations: Their Significance (22 Feb., DH):** Fatness and fertility, genetic aspects, vitamin E and malaria, Pima Indians and diabetes, sucrose intolerance.

Irving I. Gottesman, Rose E. Frisch, Baruch S. Blumberg, John W. Eaton, Peter H. Bennett, H. H. Draper.

**Ethnoscience in Native America (23 Feb., DH):** Historical overview, ethnobotanical studies, subsistence in Amazonia, mathematical development.

Rayna Green, Richard Ford, Robert Bye, Brent Berlin, Michael P. Closs, Clara Sue Kidwell, Keewaydinoquay Peschel, Joseph Mitchell, Urbiratan D'Ambrosio.

**Migration: New Directions and Policy in America (24 Feb., DH):** Migration trends, mobility expectations, residential preferences, impacts of migration, migration policy.

Edwin H. Carpenter, Vincent H. Whitney, Glenn V. Fuguitt, James J. Zuchies, Gordon F. DeJong, Peter A. Morrison, Everett S. Lee.

**Administration of Fertility Control Programs: A Fourth Dimension (24 Feb., DH):** Participative management, community versus clinical approaches, community involvement, rural development programs.

Nirmala Narula, Gaines B. Turner, Allen Jedlicka, David C. Korten, Rolf P. Lynton, Everett M. Rogers, Arch T. Dotson.

**Frontiers of Folklore (25 Feb., DH):** Context of folklore, performance, enactment, overview.

William R. Bascom, Alan Dundes, Dan Ben-Amos, Harold Scheub, Roger D. Abrahams, Richard Bauman.

**American Mountain People (25 Feb., DH):** Folk culture, mountain environment, mountain music, storytelling, in-migration.

Stuart M. Leiderman, Ted Landers, Rosemary Landers, Joel Davidson, Sherri Davidson.

## 11. Technological Implications

**Indigenous Scientific and Technological Research in Developing Countries: Where, How Much, What Kind, What Directions? (21 Feb., HI):** Issues involved, Indonesia, Mexico, university in the Third World, anthropological research, appropriate technology, village level technology, arid countries.

Dilmus D. James, Allen Jedlicka, James H. Street, Iskandar Alisjahbana, Felino Harahap, Miguel S. Wionczek, J. W. Powell, George N. Appell, Thomas Fox, E. F. Schumacher, A. K. Roy, Robert Bulfin, Millidge Walker, Robert Pierson, Edgar Owens.

**Can the Appropriate Technology Movement Really Significantly Enhance Freedom and Quality of Life? (22 Feb., HI):** Rural communities, urban communities, enhancing freedom, institutional barriers.

Craig A. Decker, Joseph F. Coates, Mary Ann MacKenzie, David Morris, John Todd, Langdon Winner.

**Beyond Gutenberg: Communication Without Paper? (23 Feb., HI):** On-line intellectual community, scientific information, computer-readable data, newly discovered information, integrated communication system.

Harold E. Bamford, Jr., Murray Turoff, William Paisley, Roger K. Summit, David L. Staiger, George K. Chacko.

**Hand-Held Calculators—Trends and Impacts (23 Feb., HI):** The consumer, calculator technology, educational impact, social implications.

Thomas N. Pyke, Jr., George E. Lindamood, Leonard J. Donohoe, Max S. Bell.

**The Consequences of Reduced Building Ventilation (25 Feb., HI):** Energy saved, airborne infections, indoor air pollution, sampling in confined atmospheres.

Charles M. Hunt, Tamami Kusuda, George F. Mallison, S. David Shearer, James J. DeCorpo.

**Political and Social Aspects of Remote Sensing from Space (25 Feb., HI):** Technical capability, international cooperation, international law, politicized science, business view.

George A. Rabchevsky, Roger M. Hoffer, Frederick J. Doyle, James V. Zimmerman, Ronald F. Stowe, Merrill Conitz, Paul M. Maughan.

## 12. Behavioral Science

**Psychoanalytic Research: The Naturalistic and the Experimental Behavioral Science Methods (21 Feb., HI):** Nonhuman research, objective-behavioral science approach, gender identity, intuitive approach.

Norman D. Tabachnick, I. Charles Kaufman, Robert J. Stoller, Herbert J. Schlesinger.

**Creativity (21 Feb., HI):** Emotional blocks, interdisciplinary, sensory imagination, common patterns.

Eileen Sullivan, Milton Christian, Eugene Sagan, Sidney J. Parnes, Robert H. McKim, William J. Gordon, Donald Koberg.

**Individual Differences, Cognition, and Learning (22 Feb., HI):** Language processing, individual differences, verbal IQ, information processing.

Wilbert J. McKeachie, James G. Greeno, Michael Cole, Earl B. Hunt, Richard E. Snow.

**Values of Screening and Assessment for Early Intervention in the Management of the Special-Needs Child (22 Feb., HI):** The newborn, metabolic disorders, at-risk children, educational planning, issues and policies.

Selcuk T. Sahin, T. Berry Brazelton, Harvey L. Levy, Allen C. Crocker, John H. Meier.

**Found: Long-Term Gains from Early Intervention (23 Feb., HI):** Center-based studies, New Haven project, sleeper effects, home-based early intervention programs.

Bernard Brown, John H. Meier, Francis H. Palmer, Victoria Seitz, Sheldon H. White, Robert D. Hess.

**Toward the Human Use of Human Beings: A Cybernetic Approach to Assessment of Children (23 Feb., HI):** Infant-child interaction, psychological testing, cybernetic testing, assessment.

Mark N. Ozer, Frank Baker, T. Berry Brazelton, Irving E. Sigel, Bernard Brown, William Powers.

**Families Across the Life Cycle: Issues and Perspectives (24 Feb., HI):** Adolescent experience, early marriage, reciprocal socialization, status passage, school-age children, empty nest parent.

Helen K. Grace, Paul A. Reichelt, Kathleen Astin Knaf, Karen Skerrett, Katherine Cavallari Malm, Dorothy Camilleri, Janice K. Janken.

**Encounter Groups and Social Change (24 Feb., HI):** Search for community, development of communes, humanistic psychology, destructive *gemeinschaft*.

Kurt W. Back, James W. Fernandez, Benjamin D. Zablocki, M. Brewster Smith, Richard Sennett.

**Somatosensory Experiences in Infancy and Childhood: Implications for Later Development (24 Feb., HI):** Human development, therapeutic techniques, gross motor activities, schizophrenia.

Betty P. Broadhurst, James W. Prescott, Foster W. Cline, Carl R. Guthals, Lorna Jean King, Gordon K. Farley, Jan Vanderburgh.

**Violence at Home and at School (25 Feb., HI):** Violence toward children, child abuse, family stress, violence and vandalism, classroom violence, reduction of violence.

Rodger W. Bybee, F. James Rutherford, Richard J. Gelles, Brandt F. Steele, Elizabeth Elmer, Donald Bross, Robyn J. Ducharme, C. Henry Kempe, Birch Bayh, Michael Marvin, Tilford Cole, Judy Eruland, Robert Hussey, Madge Zietlow.

### 13. Education

**Research Techniques and Reports by High School Science Students (21 Feb., CO):** Reports from students from around the country.

Frank W. Starr, Elemer Bernath, Carol McClain, Linda M. Reider, Anabel W. Preece, Beth Carlberg, Alton Johnson, Rene M. Filipowski, Philip Mitchell, Jayne Thorson, Lynn Fisher, Peter Sandborn, John Spaltro, Randy C. Elliott, Suzanne Kae Chaffee, Robert David Nabow, David Barbour, Roderick Nygaard.

**Minorities, Women, and the Handicapped in Science: A Workshop on Programs that Work (21 and 22 Feb., CO.; 23 Feb., DH):** Tests, programs: accessibility, funding, evaluation, engineering, biomedicine, science education, ethnoscience, ethnomedicine, handicapped, math anxiety, summer science program, projects that work.

Shirley M. Malcom, Mary Budd Rowe, Janet W. Brown, Luis Nieves, Robert C. Larson, James L. Angel, Nicholas Hobbs, Frederick Fay, Joel Aronson, Phyllis Stearner, John Gavin, S. Maria Hardy, Warren Washington, Doris Hadary, Albert Snow, Rayna D. Green, Robert Menschel, Edward C. Keller, Lucy Sells, Etta Falconer, Lynne Harrington Brown, Stanley G. Sunderwirth, Bernard Kahrahr, Allan Franklin, Alex Cruz, James Turner, Golden Harris, Caroline Urvater.

**Multidisciplinary Training in Science (23 Feb., CO):** Ecological problems, energy/environmental problems, the policy world, complexity, science education, societal dimensions, systems analysis.

David Pimentel, George Sprugel, Owen Carroll, David L. Jameson, Richard L. Perrine, Laura M. Lake, Jean Johnson, Kenneth E. F. Watt.

**Fungibility: A New Dimension in Biological Curricula (24 Feb., CO):** Doctoral education, physical science interface, allied health profession, employment opportunities.

Richard Trumbull, Robert E. Gordon, David M. Gates, Martin D. Brown, George A. Gries.

**Implications of Changeover to Metric Measurements (24 Feb., CO):** South Africa, international trade, construction trades, the scientist and engineer, metric education, teacher education.

Frances J. Laner, Richard K. Milheim, Joseph M. Lightman, Andrew Lally, William J. Jaffe, Arthur H. Livermore, Vincent G. Sindt.

**Public Knowledge of Science—The National Assessment of Educational Progress [NAEP] (25 Feb., CO):** General trends, knowledge of science, science assessments.

Ezra Glaser, Robert C. Larson, Mary Budd Rowe, Judith M. Sauls, Norris Harms, Edward C. Bryant, Morris H. Hansen, Arthur H. Livermore, Marie D. Eldridge.

**Science, Technology, Policy, and Values: The Interface with Engineering (25 Feb., CO):** Technology-policy education, educational goals, government, engineering, industry.

Kan Chen, Robert P. Morgan, Robert W. Dunlap, J. C. Mathes, Joseph F. Coates, David R. Reyes-Guerra, Robert N. Mills.

### 14. Economic and Social Sciences

**Prospects for, and Patterns of, Future U.S. Economic Growth (21 Feb., HI):** Alternative growth paths, new dimensions, productivity, changing basis for growth, new concept of growth, emerging counter-economy, price system, government intervention, future growth paths.

Robert D. Hamrin, S. Fred Singer, John W. Kendrick, Nathaniel J. Mass, Carl H. Madden, Hazel Henderson, Walter Mead, William D. Nordhaus, Kenneth E. Boulding, Steve H. Hanke.

**National and International Cooperation: The Institutional Limits to Growth (22 Feb., HI):** National overload, private institutions, the U.N., global consciousness.

Stephen H. Schneider, C. S. Kiang, Amitai Etzioni, Lewis Branscomb, Noel Brown, W. M. Tu, Warren Bennis.

**Can Research Institutions Accommodate Interdisciplinary Researchers? (22 Feb., HI):** Quality review, transdisciplinary science, research universities.

Stephen H. Schneider, Michael H. Glantz, Jerome Weingart, Harrison Brown, Margaret Mead, Lee Schipper.

**Technological Change, Progress or Retrogression: Private Benefit versus Social Cost (23 Feb., HI):** Discontinuity, subtle factors, private and social benefit, cure or prevention.

Manoucher Parvin, Thomas Victorisz, Sanford Bordman, Joseph F. Coates, John Walsh, William T. Hogan, S.J., Melvin Kranzberg, Guillermo A. Calvo.

**Environmental Issues and the Social and Behavioral Sciences (24 Feb., HI):** Leisure environments, energy and social issues, the city, identity development and crisis, land use.

Irwin Altman, William R. Burch, Jr., Samuel Z. Klausner, Harold M. Proshansky, Joachim F. Wohlwill.

**Covert Discrimination and Women in the Sciences (25 Feb., HI):** Individual and the institution, legislative and non-legislative issues, psychological barriers.  
Judith A. Ramaley, Elske Smith, Doris Wooten, Carol Bonosaro, Irene Frieze, Ellen Weaver.

## 15. Science and Public Policy

**Federal Funds for Research: Who Gets What, When, and How? (21 Feb., HI):** Budget-making, research organizations, federally funded R&D.

T. Dixon Long, Herman Postma, Walter Rosenblith, Ronald Konkel, Ray Thornton.

**Why Run Scared? (21 Feb., HI):** Adventure and misadventure, science court experiment, balanced judgment in toxicology.

Homer J. Hall, Anna J. Harrison, Arthur Kantrowitz, Leon Goldberg.

**Emerging National and International Policy on Information (22 Feb., HI):** Information systems, national copyright policy, computers and communication, responsible computer systems, international information sharing.

Laurence B. Heilprin, Elizabeth B. Adams, Andrew A. Aines, George K. Chacko, Joseph C. R. Licklider, Arthur J. Levine, Donald A. Dunn, Ruth M. Davis, Barbara A. Ringer, Donald G. Fink.

**Scientists and Congress: Making a Difference (22 Feb., HI):** Congressional agenda, ozone-fluorocarbon controversy, the political arena, swine flu, and congressional science fellowships.

Richard A. Scribner, N. Richard Werthamer, Charles A. Mosher, William Moomaw, Thomas Moss, R. Darryl Banks, Audrey Buyrn, Christopher Coccio, Barry M. Casper.

**Knowledge for Policy-Making: Integrating Information, Opinion, and Values (23 Feb., HI):** Intermediate knowledge, research applied to national needs, holistic technology assessments.

Richard A. Scribner, Christopher Wright, L. Vaughn Blankenship, Patrick Kelly, Don E. Kash, Jack M. Nilles, Donald Michael.

**Judgment and Choice in Public Policy Decisions (23 Feb., HI):** Social decision-making, human judgment, societal risk taking.

Kenneth R. Hammond, Joseph F. Coates, Ward Edwards, Paul Slovic, Kenneth E. Boulding.

**The Utilization of Social Science Information by Congress (24 Feb., HI):** Social impact assessment, social legislation, social indicators, congressional oversight, evaluating social R&D.

Lawrence Froman, C. P. Wolf, Genevieve J. Knezo, Harrison W. Fox, Jr., Osmund T. Fundingsland, Pamela C. Ebert, Oliver C. Moles, Sally Schurr.

**Utilization of Scientific Knowledge in Planning and Implementing Public Policy (24 Feb., HI):** Usable social research, relevant scientific data, knowledge utilization, minority students, science policy implications.

Donald C. Pelz, Carol H. Weiss, E. W. Kelley, Nathan S. Caplan, Kiyoshi Ikeda, Robert F. Rich, F. Tomlinson Sparrow, Howard R. Davis.

**Energy Analysis: A New Public Policy Tool (25 Feb., HI):** Information for policy-makers, environmental work, second law efficiencies, economic costs, energy RD&D planning.

Martha W. Gilliland, H. T. Odum, Marc H. Ross, David A. Pilati, Richard H. Williamson.

## 16. History and Philosophy of Science

**Technology and Public Policy: A Retrospective View (21 Feb., DH):** The atomic bomb, Jacksonian era relations, submarine telegraphy, the telephone, wastewater systems.

Joel D. Goldhar, David Bearman, Joel A. Tarr, Harvey Brooks, Richard G. Hewlett, Merritt R. Smith, Vary T. Coates, Ithiel de Sola Pool.

**Two Martian Centenaries: The Real Moons and the Illusory Canals of Mars (21 Feb., DH):** Discovery of the moons, surfaces of the moons, dynamics of the moons, modern observations.

Carl Sagan, Richard Berendzen, Owen Gingerich, Joseph Ververka, Thomas C. Duxbury, George Born, Michael Mendillo, David DeVorkin, Bradford Smith.

**Contemporary Religious Movements in America: Religious Minorities in a Secular Society (22 Feb., DH):** Religion, secularization and modernization, typology of nontraditional movements, types of conversion, attitudinal changes, social context.

Gillian Lindt, Dick Anthony, Thomas L. Robbins, James T. Richardson, J. Stillson Judah, Benton Johnson, Eileen Barker.

**Solutions to Problems Encountered in Running an Academy of Science (22 Feb., CO):** Membership drive, Oklahoma, Montana, visiting scientist, fund raising, advisory panel, technical writing, Texas, publications.

Lauren C. Gilman, Lora M. Shields, R. James Becker, Lynn E. Elfner, James F. Lovell, William Brumley, Robert C. Duty, Ruth W. Melvin, Richard J. Aridon, James R. Batt, M. Gabrielle Maze, Robert W. Hanson, George W. Griffith, Michael J. Carlo, Harvey A. Miller.

**New Light on Newton: To Honor the 250th Anniversary of His Death (23 Feb., DH):** Newton's years of discovery, Newton's dynamics, absolute space, optical lectures, algebraic versus geometric techniques.

Ernan McMullin, Richard S. Westfall, James E. McGuire, Alan Shapiro, Michael Mahoney.

**The Epistemic Status of Human Emotions (24 Feb., DH):** Animal emotions, children, emotions in human knowing, pictorial communication, emotions and mythology.

Anthony Leeds, John P. Scott, Mathilda S. Holtzman, John M. Kennedy, Robert C. Solomon, Wallace L. Chafe, Noretta Koertge.

**The Many Faces of Information Science (25 Feb., DH):** Information transfer, theoretics of information, information structures, knowledge transfer, signs and symbols.

Edward C. Weiss, William Goffman, Marshall C. Yovits, Naomi Sager, Donald J. Hillman, Vladimir Slamecka.

**The General Systems Paradigm: Model for a Changing Science (25 Feb., CO):** Reductionism and incrementalism, complementary epistemology, holistic and interdisciplinary approaches.

Heinz Von Foerster, Kenneth E. Boulding, Richard F. Ericson, Joseph Goguen, Hazel Henderson, Margaret Mead, James G. Miller, Anatol Rapoport, Francisco Varela, Ernst Von Glasersfeld.

**Race, Sex, and the Maturing of Social Theory (25 Feb., DH):** Biological and physical sciences, slavery, family, kinship, racism, and sexism.

Eleanor Leacock, Ethel Tobach, Herbert Gutman, Niara M. Sudarkasa, Jessie Bernard.

# Science

## Annual Meeting Denver

ARTHUR HERSCHMAN

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