

Welcome to Philadelphia

and the 152nd Annual Meeting of the American Association for the Advancement of Science

It's a pleasure to welcome you most cordially to Philadelphia, which for more than two centuries has quietly enjoyed a primacy in education and the sciences, and especially the life sciences, that is not only a tradition but is also still a contemporary reality. Many of our country's great scientists lived in Philadelphia and left artifacts of their work in the form of institutions that still flourish today.

We are delighted, therefore, that the some 200 sessions of this 152nd National Meeting of the AAAS offer — among other wide-ranging scientific topics — a considerable number touching on health, the life sciences, and related disciplines and technologies.

Those attending are to be exposed to the microcosm and the macrocosm, and a great deal between the two, as participants move from the level of biological cellular reality through biomedical imaging to Halley's Comet — and even to space medicine and interstellar communication. Indeed, for those able to attend all the sessions, the intellectual voyage would trace a trajectory that embraces most of humanity's present urgent concerns, from farm policy to aging, from computer science to arms control, from population and resources to questions of scientific freedom and responsibility.

The Philadelphia Advisory Committee has arranged for you to visit Philadelphia's historical places and institutions, many of which mark the Nation's earliest ventures into science, philosophy, education, and the arts. We are especially pleased that the National Meeting will offer opportunities for thousands of young people from Philadelphia area high schools to participate in the AAAS Youth Symposium.

We extend our thanks to the members of the Philadelphia Advisory Committee, and to their hardworking subcommittees, who have taken great pains to supplement the excellence of the scientific agenda with amenities that we hope will make your visit to Philadelphia memorable, comfortable, and entertaining — and not without its lighter moments.

So on behalf of the City of Brotherly Love, we send you greetings and our warmest welcome.

SHELDON HACKNEY
President
University of Pennsylvania, and
Co-chairman, Philadelphia
Advisory Committee

HENRY WENDT
President and CEO
SmithKline Beckman Corporation, and
Co-chairman, Philadelphia
Advisory Committee

AAAS Annual Meeting

Philadelphia, 25–30 May 1986

Preconvention Program

AN EXCITING SCHEDULE OF SYMPOSIA, LECTURES, WORKSHOPS, and special events awaits you at the Franklin Plaza, Hershey Philadelphia, and Holiday Inn—Center City Hotels. This outstanding program for the 1986 AAAS Annual Meeting has been developed through the efforts of the AAAS Sections, Divisions, committees, affiliated societies, and individual members such as yourself. Come join our hosts—the Philadelphia Advisory Committee, co-chaired by Sheldon Hackney, president of the University of Pennsylvania, and Henry Wendt, president and chief executive officer of SmithKline Beckman Corporation—May 25–30 in the City of Brotherly Love!

Plenary Lectures

Keynote Address: Noninvasive Medicine: Where Is It Taking Us? (25 May, 8:30 p.m., Franklin Plaza).

BRITTON CHANCE (*Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia*).

George Sarton Memorial Lecture: Machines, Megamachines, and Systems: Freedom and Necessity in the Modern World (26 May, 1:00 p.m., Franklin Plaza).

THOMAS P. HUGHES (*Professor of History and Sociology of Science, University of Pennsylvania, Philadelphia*).

Sigma Xi Lecture: Giving and Receiving a "Gift of Life": Ethical and Social Policy Issues in Transplantation and Artificial Organs (26 May, 8:30 p.m., Franklin Plaza).

JUDITH P. SWAZEY (*President, The Acadia Institute, Bar Harbor, ME*).

The Media and Arms Control (27 May, 1:00 p.m., Franklin Plaza).

ROBERT C. TOTH (*National Security Correspondent, The Los Angeles Times, Washington Bureau, Washington, DC*).

Debate: The Responsibility of the Scientist Toward the World, the Nation, and the Future of Science (27 May, 8:30 p.m., Franklin Plaza).

KENNETH E. BOULDING (*Professor Emeritus of Economics, University of Colorado, and Co-President Emeritus, Academy of Independent Scholars, Boulder*) and JOHN P. MCTAGUE (*Acting Science Advisor to the President and Acting Director, Office of Science and Technology Policy, Washington, DC*).

Independence and Interdependence: University Research and the Larger Society (28 May, 1:00 p.m., Franklin Plaza).

PAUL E. GRAY (*President, Massachusetts Institute of Technology, Cambridge*).

Puzzles and Surprises in Condensed Matter Physics (28 May, 1:00 p.m., Hershey Philadelphia).

PHILIP W. ANDERSON (*Joseph Henry Professor of Physics, Princeton University, Princeton, NJ*).

AAAS President's Lecture: Natural Philosophy in the Constitution (28 May, 8:30 p.m., Franklin Plaza).

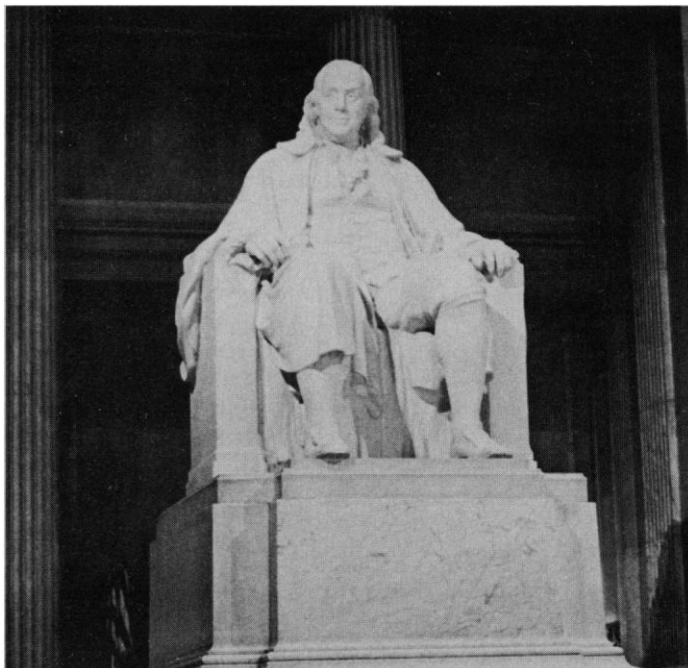
GERARD PIEL (*President, AAAS, and Chairman of the Board, Scientific American, Inc., New York, NY*).

Phi Beta Kappa Lecture: The Costs of Pleasure and the Benefits of Pain (29 May, 1:00 p.m., Franklin Plaza).

RICHARD L. SOLOMON (*Professor Emeritus of Psychology, University of Pennsylvania, Philadelphia*).

A Centennial Tribute to Niels Bohr (29 May, 8:30 p.m., Franklin Plaza).

MARTIN J. KLEIN (*Eugene Higgins Professor of History of Physics and Professor of Physics, Yale University, New Haven, CT*).



This giant statue of Benjamin Franklin, his only national memorial, presides in the Memorial Hall of the Franklin Institute at 20th and the Parkway. (This and other photographs in this section are courtesy of the Philadelphia Convention & Visitors Bureau)

Symposia

1. General Interest

1-1. Frontiers of the Natural Sciences, 1986 (26 May, 2 sessions). Organized by ROLF M. SINCLAIR (*National Science Foundation*). Speakers:

ELIOT STELLAR, HERBERT WILE, JACK SHERMAN, EDEL WASSERMAN, PATRICIA E. CLADIS, JEANNE NERBONNE, IRWIN SHAPIRO

1-2. The Frontiers of the Social Sciences: Integration of the Economic and Other Social Sciences (27 May, 2 sessions). Organized by AMITAI ETZIONI (*George Washington University*). Speakers:

ALEX INKELES, RICHARD NISBETT, LESTER THUROW

1-3. Directions in Engineering Research: An Assessment of Opportunities and Needs (28 May). Organized by JACK L. KERREBROCK (*Massachusetts Institute of Technology*) and RALPH D. COOPER (*National Research Council*). Speakers:

ALLEN E. PUCKETT, LEO J. THOMAS, JR., RICHARD H. GALLAGHER, WALTER R. LYNN, THOMAS E. EVERHART, DAVID A. HODGES, WILLIAM R. SCHOWALTER, DANIEL C. DRUCKER

1-4. Engineering Research Centers: A New Approach to Funding University-Based Research (28 May). Organized by F. KARL WILLENBROCK (*Southern Methodist University*). Speakers:

W. DALE COMPTON, NAM SUH, MISCHA SCHWARTZ, SUSAN HACKWOOD, DANIEL I. C. WANG, LEO YOUNG

1-5. Science for the Naked Eye; or, The Physics of Everyday Experience, XIII (29 May, 2 sessions). Organized by ROLF M. SINCLAIR (*National Science Foundation*). Speakers:

PAUL KURTZ, RICHARD E. CYTOWIC, SHIRLEY CORRIHER, HANS BERLINER, JOHN LANGFORD, ROBERT BYCK

1-6. Chemistry Is Fun—and Fruitful (30 May). Organized by ROBERT C. BRASTED (*University of Minnesota*). Speakers:

ROBERT C. BRASTED, H. ANTHONY NEIDIG, ARTHUR C. BREYER, DAVID A. KATZ

2. Expert Systems ♦ Computing

2-1. Expert Systems: Theory and Practice (A Tutorial) (28 May, 2 sessions). Organized by ELLIOT R. SIEGEL (*National Library of Medicine*). Speakers:

BRUCE G. BUCHANAN, EDWARD H. SHORTLIFFE

2-2. Expert Systems in Geology (29 May). Organized by RICHARD B. MCCAMMON (*U.S. Geological Survey*). Speakers:

WILLIAM J. CAMPBELL, LARRY H. ROELOFS, GARY C. BORCHARDT, REID G. SIMMONS, LESLIE F. MARCUS, PHILIPPE K. LAMPIETTI, WILDER F. BELLAMY, EUGENE L. BOUDETTE, LAWRENCE J. DREW, RICHARD B. MCCAMMON

2-3. Expert Systems in Agriculture (30 May). Organized by FRANK D. WHISLER (*Mississippi State University*) and ELLIOT R. SIEGEL (*National Library of Medicine*). Speakers:

JOHN W. ROACH, RAJESH S. VIRKAR, MICHAEL J. WEAVER, CHARLES R. DRAKE, THOMAS W. FERMIAN, RICHARD S. MICHALSKI, BRUCE KATZ, ROBERT M. PEART, JOHN R. BARRETT, RON H. THIEME, J. WILLIAM UHRIG, DONALD N. BAKER, HAL E. LEMMON

2-4. Biomedical Imagery: Functional Mapping and Real Intelligence, I (26 May). Organized by ROBERT S. LEDLEY (*Georgetown University*) and DONALD L. MCEACHRON (*Drexel University*). Speakers:

ROBERT S. LEDLEY, A. EVERETTE JAMES, RANDY H. MOSS, JAMES G. SMIRNIOTPOULOS, OLEH J. TRETIK

2-5. Biomedical Imagery: Functional Mapping and Real Intelligence, II (26 May). Organized by DONALD L. MCEACHRON (*Drexel University*) and ROBERT S. LEDLEY (*Georgetown University*). Speakers:

RICHARD DiROCCO, DANIEL M. DORSA, GEORGE F. WOOTEN, BRUCE R. ROSEN, JOEL GREENBERG

2-6. Trends in Supercomputers: Architecture and Application (28 May, 2 sessions). Organized by RAUL H. MENDEZ (*Naval Postgraduate School*) and K. O. BOWMAN (*Oak Ridge National Laboratories*). Speakers:

JACK WORLTON, STEVEN A. ORSZAG, RAUL H. MENDEZ, STEVE SQUIRES, JOHN THOMAS BARTON, STEVE PERRENOD, KENT STEINER, KOICHI IKUMI, TADASHI WATANABE, KUNIO KUWAHARA, OLAF LUBECK, MARGARET SIMMONS

2-7. The Status of the NSF Supercomputer Initiative (29 May). Organized by GLIGOR TASHKOVICH (*Cornell University*) and DENNIS M. JENNINGS (*National Science Foundation*). Speakers:

KENNETH G. WILSON, LAWRENCE A. LEE, DENNIS M. JENNINGS, ALBERT B. HARVEY, KENNETH M. KING, SIDNEY KARIN, LARRY L. SMARR

2-8. Complexity Theory and Problem Solving (27 May). Organized by MANFRED KOCHEN (*University of Michigan*). Speakers:

LEONID A. LEVIN, RAY J. SOLOMONOFF, JOSEPH F. TRAUB, SHMUEL WINOGRAD

2-9. Nonlinear Phenomena, Computer Graphics, and Mathematics (27 May). Organized by MEL S. BERGER (*University of Massachusetts*). Speakers:

MEL S. BERGER, ROY PLASTOCK, JAMES YORKE, BENOIT MANDELBROT, DOUGLAS C. DWOYER, MARY ADAMS, DAVID HOFFMAN

2-10. Computers and Society: Is There a Computer Revolution? (29 May). Organized by PETER LYMAN (*Michigan State University*). Speakers:

JAMES B. RULE, PAUL ATTEWELL, LEE SPROUL, D. LINDA GARCIA, JOHN LADD

3. Materials Science and Engineering

3-1. Physics of Condensed Matter (28 May, 2 sessions). Organized by EUGEN MERZBACHER (*University of North Carolina*) and JILL C. BONNER (*University of Rhode Island*). Speakers:

MICHAEL E. FISHER, NEIL W. ASHCROFT, ROBERT B. LAUGHLIN, JILL C. BONNER, JOSEPH W. SERENE, MILDRED DRESSSELHAUS, JAN F. HERBST, RICHARD E. VOSS, MITCHELL J. FEIGENBAUM, JERRY P. GOLLUB, GEOFFREY M. GRINSTEIN, ROBERT O. POHL

3-2. Quasicrystals (29 May). Organized by RALPH D. AMADO (*University of Pennsylvania*). Speakers:

DIETER FOSTER, PAUL J. STEINHARDT, ROBERT J. SCHAEFER, WILLIAM THURSTON, PAUL A. HEINEY

3-3. The Changing World of Materials (27 May, 2 sessions). Organized by WITOLD BROSTOW (*Drexel University*). Speakers:

L. ERIC CROSS, BERNARD KEAR, DIRAN APELIAN, C. D. GRAHAM, JR., HARRY C. GATOS, ROY L. MCCULLOUGH, GEORGE H. SIGEL, RUDOLPH PARISER, DAVID N. HARPP, ROBERT E. GREEN, JR., WITOLD BROSTOW, DAVID P. TURNER, MICHAEL E. GROSS, WLODZIMIERZ KLONOWSKI, WILLIAM C. FORSMAN, MING Y. CHEN, JENNIFER KNOWLTON, D. LYNN JOHNSON

3-4. The Replaceable Human Body: New Parts for Old Using Ceramics and Polymers (26 May). Organized by DONALD ULRICH (*U.S. Air Force Office of Scientific Research*) and FRANK KARASZ (*University of Massachusetts*). Speakers:

JAMES M. ANDERSON, EUGENE P. GOLDBERG, SHALABY W. SHALABY, PAUL DUCHEYNE, ARTHUR E. CLARK

3-5. Chemically Solvable Problems (30 May, 2 sessions). Organized by SEYMOUR Z. LEWIN (*New York University*). Speakers:

RACQUEL Z. LEGEROS, MICHELLE MILLAR, STEPHEN KOCH, JACQUELINE K. BARTON, BEN S. FREISER, ELSA REICHMANIS, AARON BLOCH

3-6. Reaction Chemistry in Supercritical Fluids (26 May). Organized by MICHAEL J. ANTAL, JR. (*University of Hawaii*). Speakers:

THOMAS G. SQUIRES, T. AIDA, SANDRA C. GREER, MICHAEL T. KLEIN, SUSAN H. TOWNSEND, MARTIN A. ABRAHAM, STEPHEN C. PASPEK, MICHAEL J. ANTAL, JR., ANDREW BRITTAI, CARLOS DEALMEIDA, WILLIAM MOK, SUNDARESH RAMAYYA, VAL J. KRUKONIS

3-7. Applications of Lasers in Medicine and in Industry (29 May). Organized by HENRY MCGEE, JR. (*Virginia Polytechnic Institute and State University*). Speakers:

ERIK STORM, THOMAS F. DEUTSCH, M. S. PAQUETTE, PETER HACKETT

4. Astronomy ♦ Space Science and Technology

4-1. Dark Matters: Exotic Particles and the Structure of the Universe (29 May). Organized by GARY STEIGMAN (*Bartol Research Foundation, the Franklin Institute*). Speakers:

JOHN P. HUCHRA, JUAN M. USON, WILLIAM H. PRESS, EDWARD WITTEN

4-2. Brown Dwarfs (29 May). Organized by R. S. HARRINGTON (*U.S. Naval Observatory*). Speakers:

SARAH L. LIPPINCOTT, PAUL C. JOSS, JOHN W. STEIN, GEORGE D. GATEWOOD, JOHN N. BAHCALL

4-3. Comet P/Halley and Voyager at Uranus (30 May). Organized by ROBERT H. KOCH (*University of Pennsylvania*), DAVID MORRISON (*University of Hawaii*), and EDWARD C. STONE (*California Institute of Technology*). Speakers:

RAY L. NEWBURN, JR., JURGEN RAHE, BRADFORD A. SMITH, TOBIAS C. OWEN, DAVID MORRISON, LARRY W. ESPOSITO, EDWARD C. STONE

4-4. Phobos and Deimos: First Steps Toward the Habitation of Mars (30 May). Organized by S. FRED SINGER (*George Mason University*). Speakers:

THOMAS O. PAINE, S. FRED SINGER, ELBERT A. KING, BRIAN O'LEARY, JAMES R. FRENCH, JAMES E. OBERG

4-5. Interstellar Communication and Travel (28 May, 2 sessions). Organized by JAMES R. POWELL (*Brookhaven National Laboratory*) and CHARLES R. PELLIGRINO (*Adelphi University*). Speakers:

ROBERT JASTROW, WILLIAM NEWMAN, JILL TARTER, JOHN RATHER, JAMES R. POWELL, ROBERT FORWARD, ISAAC ASIMOV, CHARLES R. PELLIGRINO

4-6. Moving Industry into Space (26/27 May, 3 sessions). Organized by MORRIE SCHNEIDERMAN (*Wester' Shore R&D Centre*), MICKEY FARRANCE (*Lockheed Missiles & Space Co.*), and KAZUHIKO KAWAMURA (*Vanderbilt University*). Speakers:

DAVID WEBB, BILL NELSON, ANTONIA HANDLER CHAYES, ALVIN M. STRAUSS, CHRISTOPHER TRUMP, CHARLES WILLIAMS, RICHARD RANDOLPH, MARTIN ROTHBLATT, JOHN VANDERHOFF, WALTER VOGEL, ALLAN H. BROWN, ROD C. TENNYSON, BARBARA MORGAN

4-7. Medicine and Drug Therapy in Space (27 May). Organized by STUART FELDMAN (*University of Houston*) and NITZA M. CINTRON (*NASA*). Speakers:

WILLIAM G. KRAMER, NITZA M. CINTRON, CHARLES D. WOOD, JAMES S. LOGAN

5. Geology ♦ Ecology

5-1. The Changing Health of Our Planet: Observing the Earth from Space (27 May, 2 sessions). Organized by WILLIAM W. KELLOGG and FRANCIS P. BRETHERTON (*National Center for Atmospheric Research*). Speakers:

F. KENNETH HARE, JAMES J. MCCARTHY, JOHN E. KUTZBACH, CHARLES R. BENTLEY, ROGER REVELLE, RALPH J. CICERONE, DAVID M. GATES, MOUSTAFA T. CHAHINE, GEORGE E. BROWN, JR., FRANCIS P. BRETHERTON

5-2. The Parkfield Prediction Experiment (26 May, 2 sessions). Organized by ALLAN G. LINDH (*U.S. Geological Survey*). Speakers:

WILLIAM H. BAKUN, ALLAN G. LINDH, THOMAS V. McEVILLY, PETER MALIN, SAM BLAKESLEE, CATHERINE POLEY, ROGER BORCHERDT, BRYAN TUCKER, TONY SHAKEL, PAUL SEGALL, RUTH HARRIS, JOHN FILSON, JAMES F. DAVIS, KERRY SIEH, CHRIS SCHOLZ, JAMES R. RICE, RENATA

Symposium Proposals for AAAS Chicago Meeting

The 1987 Annual Meeting will be held 14–19 February in Chicago, less than 9 months after the Philadelphia Meeting. Send in your symposium suggestions now! (Proposal deadline: 15 April 1986.) See "Call for 1987 Symposium Proposals" on page 1607 in this issue of *Science*, or contact the AAAS Meetings Office (1333 H Street NW, Washington, DC 20005; telephone, 202/326-6448) for proposal forms.

DMOWSKA, ROBERT O. BURFORD, S. S. SCHULTZ, L. E. SLATER, JOHN BREDEHOEFT, E. ROELOFFS, F. RILEY, ALAN T. LINDE, I. SELWYN SACKS, MALCOLM JOHNSTON, G. DOUGLAS MYREN, GEORGE ALEXANDER, DENNIS MILETI, JAMES GOLTZ

5-3. Onshore Impact of Worldwide Sea-Level Rise (26 May). Organized by JOHN L. PLACE (*U.S. Geological Survey*). Speakers: JOHN C. KRAFT, STEPHEN P. LEATHERMAN, WILLIAM H. PATRICK, TIMOTHY W. KANA, H. JESSE WALKER

5-4. The Reconstruction of Disturbed Arid Ecosystems (30 May, 2 sessions). Organized by EDITH B. ALLEN (*Utah State University*). Speakers:

DAVID T. BELL, WALTER C. OECHEL, EDWARD J. DEPUTT, EDWARD F. REDENTE, KENNETH R. ROBERTSON, LOUIS R. IVERSON, PAUL G. RISSE, ZEV NAVEH, JAMES A. MACMAHON, MICHAEL F. ALLEN, WALTER G. WHITFORD

5-5. Groundwater Pollution in Karst Terrain (29 May). Organized by WILLIAM B. WHITE (*Pennsylvania State University*). Speakers:

JAMES F. QUINLAN, RALPH O. EWERS, JANET S. HERMAN, PAMELA E. BELL, DAVID A. HUBBARD, JR., NICHOLAS C. CRAWFORD, E. C. ALEXANDER, JR., S. R. GROW, B. J. WHEELER, M. A. DAVIS, R. S. ADAMS, JR., R. J. MANSER, P. R. BOOK, WILLIAM B. WHITE

5-6. Microcommunity Ecology (26 May). Organized by JAMES R. PHILIPS (*Babson College*). Speakers:

JAMES R. PHILIPS, W. WAYNE MOSS, BARRY M. O'CONNOR, BRUCE G. STEVENSON, DANIEL L. DINDAL

6. Cell Biology ♦ Evolution

6-1. Growth Factor, Oncogenes, and Cancer (27 May, 2 sessions). Organized by HILARY KOPROWSKI (*Wistar Institute*). Speakers:

CARLO M. CROCE, JOHN GROFFEN, K. STAM, N. HEISTER-KAMP, INDER M. VERMA, GEORGE F. VANDE WOUDE, MICHAEL DEAN, MORAG PARK, DONALD G. BLAIR, STUART A. AARONSON, MICHAEL B. SPORN, ANITA B. ROBERTS, PETER PARKER, WILLIAM P. HANRATTY, WEBSTER K. CAVENEE

6-2. Rules for Designing Proteins (29 May). Organized by JONATHAN KING (*Massachusetts Institute of Technology*). Speakers: PETER KIM, LILA GIERASCH, MARTHA TEETER, JONATHAN KING, CARL PABO

6-3. Electrofusion and Electroporation of Cells and Protoplasts (28 May). Organized by THOMAS C. ROZZELL (*U.S. Office of Naval Research*) and CAROL A. JORDAN (*Science Applications International*). Speakers:

HERBERT A. POHL, ARTHUR E. SOWERS, JAMES A. SAUNDERS, BENJAMIN F. MATTHEWS, V. ADRIAN PARSEGGIAN, THOMAS C. ROZZELL

6-4. Pharmaceutical Development of Biotechnology Products (26 May, 2 sessions). Organized by ARTHUR R. MLODOZENIEC (*University of Kentucky*). Speakers:

ANTHONY A. SINKULA, ARTHUR R. MLODOZENIEC, THOMAS R. MALEFYT, DAVID N. BREMS, LOUIS LASAGNA, RODNEY PEARLMAN, ERIC S. SHARPS, R. L. JULIANO

6-5. How Many Kinds of Animals? Opportunity and Constraint in the Evolution of Organic Form (28 May).



At the Fels Planetarium of the Franklin Institute, visitors can enjoy regularly scheduled demonstrations showing celestial phenomena projected on the stainless steel dome.

Organized by R. D. K. THOMAS (*Franklin and Marshall College*) and W.-E. REIF (*University of Tübingen*). Speakers:

DAVID M. RAUP, P. W. ATKINS, MICHAEL LABARBERA, PERE ALBERCH, W.-E. REIF, R. D. K. THOMAS, CAROLE S. HICKMAN, A. SEILACHER

6-6. Nautilus: The Biology and Paleobiology of a Living Fossil (28 May). Organized by BRUCE SAUNDERS and PAUL BOND (*Bryn Mawr College*) and NEIL LANDMAN (*American Museum of Natural History*). Speakers:

BRUCE SAUNDERS, ERIC J. DENTON, PETER WARD, MARTIN J. WELLS, JOHN ARNOLD, NEIL LANDMAN, JOHN A. CHAMBERLAIN, JR., WILLIAM R. MUNTZ, DAVID WOODRUFF

6-7. The Creation-Evolution Controversy, 1986 Update (30 May). Organized by STANLEY L. WEINBERG (*National Center for Science Education*). Speakers:

JOEL CRACRAFT, MORRIS GOODMAN, LAURIE R. GODFREY, FRED EDWARDS, THOMAS H. JUKES, WILLIAM BENNETTA

7. Medical Physiology

7-1. Some Mathematical Questions in Biology: Modeling Circadian Rhythms (28 May, 2 sessions). Organized by GAIL A. CARPENTER (*Northeastern University*). Speakers:

RICHARD PLANT, STEVEN H. STROGATZ, D. G. M. BEERSMA, GAIL A. CARPENTER, RÜTGER A. WEVER, RICHARD E. KRONAUER, JAMES T. ENRIGHT

7-2. Human Chronobiology: Emerging Impact in the Clinic and the Workplace (30 May). Organized by DAVID F. DINGES

and PETER C. WHYBROW (*University of Pennsylvania*). Speakers:
DAVID J. KUPFER, ALFRED J. LEWY, CHARLES A. CZEISLER,
MARTIN C. MOORE-EDE, DONALD I. TEPAS

7-3. Arteriovenous Diffusion and Gas Exchange in Mammalian Organs (26 May). Organized by RICHARD M. EFFROS (*Harbor-UCLA Medical Center*). Speakers:

RICHARD M. EFFROS, JAMES B. BASSINGTHWAIGHTE,
JOHANNES PIIPER, OVE LUNDGREN, BRIAN R. DULING, CARL A. GORESKY

7-4. Snoring and Sleepiness: New Observations on Old Problems (26 May). Organized by DAVID N. F. FAIRBANKS (*George Washington University*). Speakers:

DAVID N. F. FAIRBANKS, RICHARD E. WALDHORN, SAMUEL J. POTOLICCHIO, JR., MERRILL M. MITLER, WILLARD B. MORAN, JR.

7-5. Diabetes: Immunologic Aspects (27 May). Organized by CLYDE F. BARKER (*University of Pennsylvania Medical School*). Speakers:

GIAN F. BOTTAZZO, ALI NAJI, DAVID E. R. SUTHERLAND,
CLYDE F. BARKER, CALVIN R. STILLER

7-6. Calcium Biology, Homeostasis, and Pathophysiology in Hereditary or Acquired Disorders of Calcium Metabolism (27 May). Organized by JOHN T. POTTS, JR. (*Massachusetts General Hospital*). Speakers:

HOWARD RASMUSSEN, MICHAEL F. HOLICK, JOHN T. POTTS, JR., STEPHEN M. KRANE

7-7. Magnesium in Health and Disease (29 May). Organized by HERTA SPENCER (*V.A. Medical Center, Hines, IL*) and BURTON M. ALTURA (*SUNY Downstate Medical Center*). Speakers:

BURTON M. ALTURA, RUTH SCHWARTZ, KAUL CHADDA,
KENNETH WEAVER, HERTA SPENCER

7-8. Health Effects of Marine Oils and Polyunsaturated Fats from Other Sources (29 May). Organized by GLEN D. LAWRENCE (*Long Island University*). Speakers:

HOWARD SPRECHER, GARRETT A. FITZGERALD, MICHAEL DAVIDSON, LAURA BRADEN, K. FRANK AUSTEN

8. Medical Science ♦ Health Policy

8-1. Medical Practice and Malpractice: Who Shall Set the Standards? (28 May, 2 sessions). Organized by THOMAS EHRLICH (*University of Pennsylvania*). Speakers:

THOMAS EHRLICH, CLARK C. HAVIGHURST, JERRY WILEY,
ARNOLD J. ROSSOFF, PATRICIA DANZON, JAMES R. POSNER,
W. ROBERT PENMAN, MARK V. PAULI

8-2. Organization of Knowledge in Biology: New Modeling Perspectives (29 May). Organized by MANFRED KOCHEN (*University of Michigan*) and JAMES WILLETT (*National Institutes of Health*). Speakers:

STEPHEN HELLER, TEMPLE F. SMITH, DEREK LEROITH,
PETER E. FRIEDLAND

8-3. Use of Nonmammalian Animal Models in Research and Testing (29 May). Organized by THOMAS D. SABOURIN (*Battelle Columbus Division*). Speakers:

LAVERN J. WEBER, RICHARD KOCAN, DAVID POWELL, KEVIN STARK, MARSHA LANDOLT, JAMES M. MCKIM, PATRICIA K. SCHMIEDER, WILLIAM E. HAWKINS, ROBIN M. OVERSTREET,
WILLIAM M. WALKER, JOHN W. FOURNIE, JOHN A. BANTLE

8-4. The Use of Animals in Biomedical Research and Safety Testing (30 May). Organized by ANDREW N. ROWAN (*Tufts University*). Speakers:

ARTHUR L. CAPLAN, DAVID B. MORTON, GARY B. ELLIS, W. JEAN DODDS

8-5. AIDS Epidemic: Uncertainty, Risk, and Civil Liberties (26 May). Organized by DAVID P. WILLIS (*Milbank Memorial Fund*) and RONALD BAYER (*The Hastings Center*). Speakers:

RONALD BAYER, LEWIS H. KULLER, LARRY GOSTIN, J. D. HAMMOND, ARNOLD F. SHAPIRO, PAUL STARR, CHARLES E. ROSENBERG, BARUCH S. BLUMBERG, STUART SHAPIRO

8-6. Genetic Predisposition to Disease (28 May). Organized by DAPHNE KAMELY (*U.S. Environmental Protection Agency*). Speakers:

GILBERT S. OMENN, MARY-CLAIRE KING, HARRY V. GELBOIN, LAWRENCE GROSSMAN, J. GRANT BREWEN, NEIL A. HOLTZMAN

8-7. Research Implications of Post-Polio Sequelae (27 May). Organized by DEBORAH BREWER (*Post-Polio League for Information and Outreach*), RICHARD L. BRUNO (*Felician College*), and MARTHA ROSS REDDEN (*AAAS*). Speakers:

RICHARD L. BRUNO, M. MAZHER JAWEED, RICHARD R. OWEN, MURRAY GOLDSTEIN, DEBORAH BREWER

8-8. Controlled Drug Delivery by Implantation: Prospects and Legal/Ethical Dilemmas (27 May). Organized by RONALD A. SIEGEL (*University of California, San Francisco*). Speakers:

ROBERT LANGER, PERRY J. BLACKSHEAR, R. KEITH CAMPBELL, LAURENCE R. TANCREDI, DAVID N. WEISSTUB

8-9. Determinants of Oral Pathogenicity (30 May). Organized by GORDON H. ROVELSTAD (*American College of Dentists*), STEPHAN E. MERGENHAGEN (*National Institutes of Health*), and NORTON S. TAICHMAN (*University of Pennsylvania*). Speakers:

NORTON S. TAICHMAN, JORGEN SLOTS, MARIA K. YEUNG,
BRUCE J. SHENKER, JOSEPH M. DI RIENZO, JOANNE HALLER,
FELICIA CIANGIARULO

8-10. Living and Talking Without a Larynx (27 May). Organized by EHUD YAIRI (*University of Illinois*). Speakers:

EHUD YAIRI, JAMES C. SHANKS, SHIRLEY J. SALMON, ERIC D. BLOM

9. Aging ♦ The Family

9-1. The Biology of Aging for Nonbiologists (27 May). Organized by RICHARD C. ADELMAN (*University of Michigan*). Speakers:

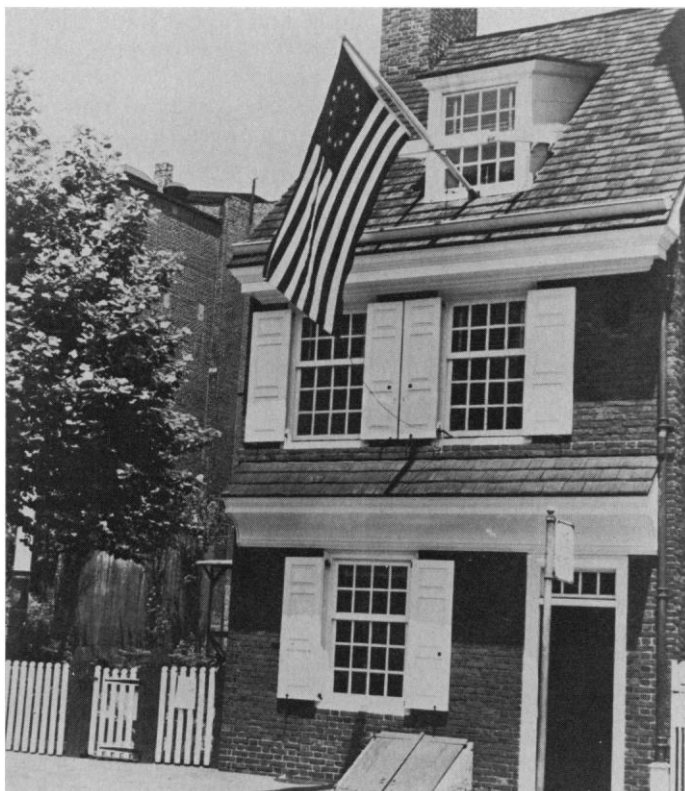
RICHARD C. ADELMAN, VINCENT J. CRISTOFALO, EDWARD J. MASORO, JOHN O. HOLLOSZY

9-2. Health Promotion and Disease Prevention in the Second Half of Life (27 May). Organized by GILBERT S. OMENN (*University of Washington*) and MICHAEL K. GEMMELL (*Association of Schools of Public Health*). Speakers:

T. FRANKLIN WILLIAMS, ANNE SOMERS, WILLIAM F. BRIDGERS, JOSEPH F. BOYLE

9-3. Family Care-Giving and the Elderly: Implications for Long-Term Care Public Policy (28 May). Organized by RAYMOND T. COWARD (*University of Vermont*). Speakers:

RAYMOND T. COWARD, VICTOR G. CICIRELLI, NATHAN L. LINSK, SUZANNE E. OSTERBUSCH



The Betsy Ross House.

9-4. Biocultural Evolution of Longevity: Genes, Sex, and Social Organization (29 May). Organized by EVELYN J. BOWERS (*Rutgers Medical School*) and SOLOMON H. KATZ (*University of Pennsylvania*). Speakers:

EVELYN J. BOWERS, RICHARD C. CUTLER, WALTER X. BALCAVAGE, SOLOMON H. KATZ, VINCENT CRISTOFALO, ROBIN FOX

9-5. Barriers to the Design, Development, and Adaptation of New Technology for Elders (28 May). Organized by SAMUEL I. DOCTORS (*California State University-Hayward*) and JUDITH B. COHEN (*University of California-San Francisco*). Speakers:

JUDITH B. COHEN, ROBERT HAROOTYAN, MARGRET WYLDE, MARK FRIEDMAN, SAMUEL I. DOCTORS

9-6. The Political Economy of Changing Age and Family Structures (29 May). Organized by JOSEPH E. POTTER (*Harvard University*) and KENNETH M. CHOMITZ (*The World Bank*). Speakers:

SUSAN C. WATKINS, GREG J. DUNCAN, MARY JO BANE, CHRISTINE ROSS, BARBARA BOYLE TORREY

9-7. The Social and Psychological Worlds of Children in Divorce (30 May). Organized by THOMAS J. TIGHE and BERT S. MOORE (*University of Texas-Dallas*). Speakers:

FRANK F. FURSTENBERG, JR., S. PHILIP MORGAN, PAUL A. ALLISON, ELEANOR E. MACCOBY, ROBERT MNOOKIN, CHARLENE DEPNER, ROBERT E. EMERY, RICHARD A. WARSHAK, J. SANTROCK, ROBERT B. MCCALL

9-8. Women's Work and Child Welfare in the Third World (30 May). Organized by JOANNE LESLIE and MAYRA BUVINIC (*International Center for Research on Women*). Speakers:

JEANINE ANDERSON, PATRICE L. ENGLE, ISABEL NIEVES,

JOACHIM VON BRAUN, VICTOR VALVERDE, CHLOE O'GARA, BARRY M. POPKIN, WILHELM FLIEGER, DAVID K. GUILKEY, DORIAN POWELL

10. Brain, Behavior, and Cognition

10-1. Neurobehavioral Influences on Immunity: An Emerging Field (26 May, 2 sessions). Organized by JAY M. WEISS (*Duke University*). Speakers:

JAY M. WEISS, JANICE KIECOLT-GLASER, HYMIE ANISMAN, ROBERT ADER, ANDREW A. MONJAN, NICHOLAS R. HALL, YAHUDA SHAVIT, JOHN E. MORLEY, DAVID L. FELTEN

10-2. Behavioral Neuropsychology: Treatments of the Brain Injured (29 May). Organized by ARTHUR MACNEILL HORTON, JR. (*V.A. Medical Center, Baltimore*) and LAWRENCE C. HARTLAGE (*University of Arkansas*). Speakers:

ARTHUR MACNEILL HORTON, JR., LAWRENCE C. HARTLAGE, PAUL S. FISHMAN, RICHARD J. WYATT

10-3. Cognitive and Psychosocial Dysfunctions Associated with Sex Chromosome Abnormalities (27 May). Organized by DANIEL B. BERCH (*Cincinnati Center for Developmental Disorders*). Speakers:

BRUCE G. BENDER, ARTHUR ROBINSON, SHIRLEY G. RATCLIFFE, CHARLES NETLEY, DANIEL B. BERCH, KAREN L. KIRKENDALL, JOANNE F. ROVET, ELIZABETH MCCAULEY, THOMAS KAY, JOANNE ITO, HELMUTH NYBORG

10-4. Neurobiological Aspects of Violent Action (27 May). Organized by ANNELIESE A. PONTIUS (*Harvard Medical School*). Speakers:

DAVID M. BEAR, ANNELIESE A. PONTIUS, DOROTHY OTNOW LEWIS, DANIEL C. POLLOCK, SHAHRAM KHOSHBIN

10-5. Brain Damage: A Window on the Mind (29 May). Organized by GRACE H. YENI-KOMSHIAN (*University of Maryland*). Speakers:

ELEANOR M. SAFFRAN, ALFONSO CARAMAZZA, MARCIA C. LINEBARGER, DANIEL BUB

10-6. The Understanding of Melody and Rhythm (30 May). Organized by THOMAS J. TIGHE and W. JAY DOWLING (*University of Texas-Dallas*). Speakers:

SANDRA E. TREHUB, ALF G. H. GABRIELSSON, MARI RIESS JONES, W. JAY DOWLING, EDWARD C. CARTERETTE

10-7. Depression: Risk and Treatment (28 May). Organized by MARTIN E. P. SELIGMAN (*University of Pennsylvania*). Speakers:

AARON T. BECK, MYRNA M. WEISSMAN, IRENE ELKIN, STANLEY D. IMBER, STUART SOTSKY, JOHN WATKINS, MARTIN E. P. SELIGMAN, M. KATHRYNE JACOBS, MARTIN B. KELLER

10-8. Self-Deception in Everyday Life (28 May). Organized by DANIEL GOLEMAN. Speakers:

RICHARD J. DAVIDSON, JAMES W. PENNEBAKER, MICHAEL J. MAHONEY, ROBERT JERVIS, ROBERT TRIVERS

10-9. The Science of Psychotherapy (27 May). Organized by BONNIE B. GORDON and PERRY TURNER (*AAAS*). Speakers:

AARON BECK, JOSEPH WOLPE, BERNICE ROSMAN, ROBERT MICHELS, HANS H. STRUPP

11. Agriculture Research and Policy

11-1. New Frontiers in Agricultural Research (26 May). Or-

ganized by SHU-I TU and THOMAS KUMOSINSKI (*U.S. Department of Agriculture-Agricultural Research Service*). Speakers:

THOMAS J. ARMY, EDWARD B. KNIPLING, ROGER M. SPANSWICK, ROBERT A. NIEDERMAN, THOMAS F. KUMOSINSKI, HELMUT PESSEN, HAROLD M. FARRELL, JR., MICHAEL N. LIEBMAN

11-2. Seeds and Sovereignty: Debate over Control of Plant Genetic Resources (28 May). Organized by JACK KLOPPENBURG, JR. (*University of Wisconsin*). Speakers:

JACK KLOPPENBURG, JR., DANIEL L. KLEINMAN, WILLIAM L. BROWN, FRANCISCO BERRIOS E., M. S. SWAMINATHAN, THOMAS J. ORTON, DANIEL J. GOLDSTEIN

11-3. Public Health Impact of Subtherapeutic Use of Antibiotics in Food Animals (27 May, 2 sessions). Organized by VIRGIL W. HAYS (*University of Kentucky*) and GERALD B. GUEST (*U.S. Food and Drug Administration*). Speakers:

GARY L. CROMWELL, DIANE J. FAGERBERG, EDWARD H. KASS, ROBERT V. TAUXE, VICTOR LORIAN, JOHN R. WALTON

11-4. Beneficial Chemicals from Native Plants (26 May). Organized by MARTIN JACOBSON (*U.S. Department of Agriculture*). Speakers:

JOHN A. ROTHFUS, GEOFFREY A. CORDELL, PHILIP E. SHAW, JAMES A. KLOCKE, WALTER E. PARHAM

11-5. A Proposed New Structure for U.S. Food and Agricultural Policy (28 May). Organized by SANDRA S. BATIE and J. PAXTON MARSHALL (*Virginia Polytechnic Institute and State University*). Speakers:

RANDALL A. KRAMER, HOWARD McDOWELL, PAUL W. BARKLEY, C. FORD RUNGE

11-6. Social and Institutional Impacts of Biotechnology on Agriculture: Now and in the Future (29 May). Organized by JOSEPH J. MOLNAR (*Auburn University*) and CLAIR E. TERRILL (*U.S. Department of Agriculture*). Speakers:

JACK KLOPPENBURG, JR., WILLIAM B. LACY, HENRY W. KINNUCAN, CLAIR E. TERRILL

11-7. Technology, Public Policy, and the Changing Structure of U.S. Agriculture (29 May). Organized by B. R. EDDLEMAN (*Mississippi State University*). Speakers:

ROY G. CREECH, MICHAEL J. PHILLIPS, JAMES W. RICHARDSON, RONALD D. KNUTSON, B. R. EDDLEMAN, W. BURT SUNDQUIST

11-8. The Farm Crisis and the Future of American Agriculture (27 May). Organized by FREDERICK H. BUTTEL (*Cornell University*) and DON A. DILLMAN (*Washington State University*). Speakers:

MICHAEL D. BOEHLJE, NEIL E. HARL, DON A. DILLMAN, DON F. HADWIGER, R. J. HILDRETH

12. Environmental Concerns

12-1. Chesapeake Bay Fisheries and Contaminant Problems (26 May). Organized by LENWOOD W. HALL, JR. (*Johns Hopkins University*). Speakers:

HERBERT M. AUSTIN, JOHN E. OLNEY, GEORGE R. HELZ, RONALD J. KLAUDA, L. EUGENE CRONIN

12-2. Ecology and Restoration of the Delaware River Basin (26 May). Organized by DEAN A. ROSEBERY (*Northeast Missouri State University*). Speakers:

DEAN ROSEBERY, EDWARD R. BREZINA, ARTHUR J. LUPINE,

ROBERT L. GOODELL, RALPH W. TINER, JR., BILL O. WILEN, HAROLD H. HASKIN, LOUIS E. SAGE

12-3. Indoor Radon: Geology, Transport, and Remediation (29 May). Organized by B. K. KOTHARI and C. KUNZ (*New York State Department of Health*). Speakers:

ARTHUR SOCOLOW, CHARLES T. HESS, JOSEPH RIZZUTO, RICHARD SEXTRO, ARTHUR SCOTT

12-4. Evaluating the Neurotoxic Risk Posed by Chemicals in the Workplace and Environment (27 May). Organized by JOHN S. YOUNG (*Johns Hopkins University*) and WARREN R. MUIR (*Hampshire Research Associates, Inc.*). Speakers:

BARBARA F. BASS, JOHN L. O'DONOGHUE, ELLEN K. SILBERGELD, WILLIAM F. SETTE

12-5. Ethics, Evidence, and the Management of Technological Hazards (27 May). Organized by RACHELLE D. HOLLANDER (*National Science Foundation*) and DEBORAH G. MAYO (*Virginia Polytechnic Institute and State University*). Speakers:

RACHELLE HOLLANDER, WILLIAM E. COLGLAZIER, ROGER E. KASPERSON, VALERIE MIKÉ, DEBORAH G. MAYO, JACK CAMPBELL, JUNE FESSENDEN-RADEN, LESLEY RUSSELL, ROBERT MOOLENAAR, SHELDON SAMUELS, ELLEN SILBERGELD

12-6. The Impact of Three Mile Island: A Seven-Year Retrospective (29 May). Organized by DEAN ABRAHAMSON (*University of Minnesota*) and HAROLD P. GREEN (*George Washington University*). Speakers:

VICTOR GILINSKY, ROLAND J. JENSEN, CHARLES KOMANOFF, CHARLES PERROW

12-7. The Public Health Implications of the Bhopal Disaster (30 May). Organized by CHARLES LEVENSTEIN (*University of Connecticut*). Speakers:

RASHID SHAIKH, CHARLES LEVENSTEIN, JANE IVES, SHARON KLEEFIELD, ALLEN L. WHITE, DANIEL WARTENBERG, ELLEN A. EISEN, ANTHONY CORTESE, DAVID M. OZONOFF

13. Population and Resources

13-1. Shifts in Thinking About Population-Resources-Environmental Interrelationships, 1976-1986 (27 May). Organized by CHARLES V. KIDD (*AAAS*). Speakers:

ROGER LEVIEN, SAMUEL H. PRESTON, BEN WATTENBERG, DAVID PIMENTAL, SYLVAN H. WITTWER, RUPERT CUTLER, RUTH PATRICK

13-2. The Uses of Social Science Data: Assessing the Survey Research on Southeast Asian Refugees (28 May). Organized by DAVID W. HAINES. Speakers:

LINDA W. GORDON, NATHAN CAPLAN, JOHN K. WHITMORE, MARCELLA TRAUTMANN, BRUCE B. DUNNING, PAUL D. STARR, ALDEN E. ROBERTS, PAUL J. STRAND

13-3. Issues and Strategies in Drought, Hunger, and Famine (29 May). Organized by PRISCILLA C. REINING (*AAAS*). Speakers:

REBECCA HUSS-ASHMORE, RANDALL BAKER, ANNE FLEURET, DAVID LEWIS, JOHN WALSH

13-4. Irrigation in International Development: Benefits and Problems (29 May). Organized by DEAN F. PETERSON (*Utah State University*). Speakers:

ROGER REVELLE, ROBERTO LENTON, THOMAS F. WEAVER, E. WALTER COWARD, JACK KELLER, DEAN F. PETERSON, ROBERT CHAMBERS



Scenic view of Philadelphia showing City Hall with statue of William Penn atop the tower.

13-5. World Food Production and Distribution as a Factor in Geopolitics (27 May). Organized by DAVID R. WALKER (*Utah State University*) and JAMES W. ROWE (*AAAS*). Speakers:

SYLVAN H. WITTWER, NYLE C. BRADY, ARCHIBALD O. HALLER, MANOEL TOURINHO, SUZANNE DVORAK, JOHN W. MELLOR, RICHARD H. ADAMS, JR., BARBARA J. INSEL

13-6. Potential of New Biotechnologies for Health Care in Developing Countries (26 May, 2 sessions). Organized by JAMES W. ROWE (*AAAS*) and RAMIRO MARTINEZ-SILVA (*Pan American Health Organization*). Speakers:

H. BRADFORD MORSE, MOSELIO SCHAECHTER, RAMIRO MARTINEZ-SILVA, DAVID A. HAMBURG, ENZO PAOLETTI, ANTONIA PICCINI, MARION PERKUS, RUTH NUSSENZWEIG, G. P. TALWAR, RANGEL ALDAO, DOUGLAS M. MOORE, JERRY J. CALLIS, MANUEL LIMONTA-VIDAL, ADETOKUNBO LUCAS

13-7. Is There an Energy Crisis in the Future? (29 May). Organized by JAMES W. CURLIN (*Office of Technology Assessment, U.S. Congress*). Speakers:

DON E. KASH, PETER D. BLAIR, DANIEL A. DREYFUS, RICHARD E. ROWBERG, JAMES W. CURLIN

13-8. New Directions in Human Ecology (30 May). Organized by C. P. WOLF (*Social Impact Assessment Center*). Speakers:

RICHARD J. BORDEN, GERALD L. YOUNG, C. P. WOLF, WILLIAM R. BURCH, JR., JOHAN B. W. SCHÖLVINCK

14. Anthropology ♦ Sociology

14-1. Anthropology in the World Today: Six Roundtable

Discussions (26 May, 2 sessions). Organized by PRISCILLA C. REINING (*AAAS*). Speakers:

FRANK JOHNSTON, CLAUDE BOUCHARD, KENNETH WEISS, SOLOMON KATZ, WAYNE CALLAWAY, FRANCIS P. CONANT, DANIEL BATES, SUSAN LEES, ROBERT BAILEY, DANIEL GROSS, ANDREW VAYDA, RADA DYSON-HUDSON, DAVID SMITH, DELL HYMES, RAY McDERMOTT, PERRY GILMORE, STUART FLEMING, GEORGE RAPP, JR., PRUDENCE RICE, THOMAS SEVER, TAMARA STECH, PRISCILLA C. REINING, AIDAN SOUTHALL, CHRISTINE OBBO, RICHARD STREN, JOHN MASON, GLORIA DAVIS, EDWARD GREELEY, TWIG JOHNSON, JAMES KNIGHT

14-2. The Evolution of Culture in Animals and Humans: The Emergence of Symbolic Communication (30 May). Organized by JAMES W. FERNANDEZ (*Princeton University*). Speakers:

DONALD T. CAMPBELL, CECILIA HEYES, JAMES W. FERNANDEZ, JOHN PFEIFFER, DAVID RINDOS, JOHN T. BONNER

14-3. Human Reflections: The Anthropological Museum's Translation of Ideas (27 May). Organized by GREGORY L. POSSEHL (*University of Pennsylvania Museum*). Speakers:

GREGORY L. POSSEHL, CAROL BRECKENRIDGE, SUSAN A. KAPLAN, DAVID O'CONNOR, GILLIAN WAKELY, WILLIAM DAVENPORT

14-4. Controversies over the Nature of the Family in Human Prehistory (29 May, 2 sessions). Organized by SHERE D. HITE (*Hite Research Institute*) and ROBERT CARNEIRO (*American Museum of Natural History*). Speakers:

SHERE D. HITE, ADRIENNE ZIHLMANN, RICHARD POTTS, DONALD SYMONS, WILLIAM IRONS, RUBY ROHRLICH, MARIJA GIMBUTAS, ROBERT CARNEIRO, MARIA VON NOORDWIJK, CAROLYN FLEUHR-LOBAN, MEREDITH SMALL



Carpenters' Hall, the meeting place for the First Continental Congress.

14-5. Geophagy: Current Views on a Worldwide Practice (30 May). Organized by DONALD E. VERMEER (*Louisiana State University*) and SOLOMON H. KATZ (*University of Pennsylvania*). Speakers:

BERNADETTE M. MARRIOTT, JAMES C. SMITH, DENIS MITCHELL, DARLA E. DANFORD, JOHN M. HUNTER, DONALD E. VERMEER

14-6. Issues in the Scientific Study of Religions: Devotions of Self-Maintenance in Contemporary America (27 May). Organized by WARD H. GOODENOUGH (*University of Pennsylvania*). Speakers:

PHILIP HEFNER, WARD H. GOODENOUGH, ROBERT MOORE, THOMAS S. WEISNER, JANICE RADWAY, JOHN L. CAUGHEY

14-7. Studying Corporate Cultures (28 May, 2 sessions). Organized by WILLIS E. SIBLEY (*Cleveland State University*). Speakers:

MICHAEL MACCOBY, MANNING NASH, DONALD A. KENNEDY, HELEN B. SCHWARTZMAN, STEPHEN M. PERLMAN, ANTHONY DiBELLA, KATHLEEN GREGORY HUDDLESTON, PETER C. REYNOLDS, ALLEN D. JEDLICKA, JUNE C. NASH, DANIELA WEINBERG, KIRK L. GRAY

15. Sociology of Science

15-1. Gender Bias in Scientific Studies (29 May). Organized by MARSHA LAKES MATYAS and LESLIE HORNIG (AAAS), ALICE B. KEHOE (*Marquette University*), and SOLOMON H. KATZ (*University of Pennsylvania*). Speakers:

CECILY CANNAN SELBY, ELISE BOULDING, GLENN HAUSFATER, DEBORAH GEWERTZ, FREDERICK ERRINGTON, SANDRA SCARR, PATRICIA DRAPER, D. LAWRENCE WIEDER, JOHN W. BOWKER, ALICE B. KEHOE, EVELYN FOX KELLER, SOLOMON H. KATZ

15-2. Science and Scientists: Managing the Unmanageable, Leading the Unleadable (28 May). Organized by HAROLD WATERS (*National Institutes of Health*). Speakers:

RUTH L. KIRSCHSTEIN, KENNETH G. MANN, MICHAEL A. GIMBRONE, JR., DAVID KORN, DONALD S. COFFEY

15-3. Beyond the Hothouse: How Should the Real World Enter the Research Environment? (28 May). Organized by

PATRICIA A. ROSE (*Student Pugwash*). Speakers:

HAROLD GLASSER, MARGARET BRENNAN-GIBSON, FRANK DUBINSKAS, RICHARD S. WALLSTEIN

15-4. Enhancing Creativity in Federal Laboratories (27 May, 2 sessions). Organized by DAVID ATLAS (*University of Maryland*) and NOEL HINNERS (*NASA-Goddard Space Flight Center*). Speakers:

HANS M. MARK, WILMOT H. HESS, PHILIP S. CHEN, LEO YOUNG, DALLAS L. PECK, JEROME KARLE, D. ALLAN BROMLEY, TIMOTHY COFFEY, JOHN HOLMFELD, DAVID ATLAS, NOEL HINNERS

15-5. Qualitative and Quantitative Data Sources in the Social Study of Science (30 May). Organized by CHARLES U. LOWE (*National Institutes of Health*). Speakers:

HELEN H. GEE, JUDITH G. LARSEN, ROLF T. WIGIND, LAWRENCE BUSCH, WILLIAM B. LACY, CHARLES U. LOWE, EDWARD M. NADEL, EVERETT M. ROGERS, LEAH LIEVROUW, HENRY SMALL, NICHOLAS J. MULLINS, JUDITH L. STEED

15-6. Information as Ammunition: Can Science Inform Politics? (26 May). Organized by WILLIAM R. FREUDENBURG (*Washington State University*). Speakers:

RICHARD A. CARPENTER, LYNTON K. CALDWELL, PAUL J. CULHANE, H. PAUL FRIESEMA, EDWIN H. MARSTON, NICHOLAS C. YOST, WILLIAM R. FREUDENBURG

16. History and Philosophy of Science

16-1. One Hundred Years of Fluorine: From Isolation to Industrial Applications (28 May). Organized by JEFFREY L. STURCHIO (*Center for History of Chemistry*). Speakers:

DEREK A. DAVENPORT, JEFFREY L. STURCHIO, ROBERT M. JOYCE

16-2. Emerging Consensus in the Philosophy of Science (30 May). Organized by C. WADE SAVAGE (*University of Minnesota*). Speakers:

ROGER H. STUEWER, CLARK GLYMOUR, LARRY LAUDAN, WESLEY C. SALMON, C. WADE SAVAGE

16-3. The Role of Chance and Serendipity in Science (26 May, 2 sessions). Organized by PATRICK J. HANNAN (*U.S. Naval Research Laboratory*) and RUSTUM ROY (*Pennsylvania State University*). Speakers:

KURT NASSAU, LAWRENCE D. DAVID, ROY J. PLUNKETT, DAVID J. MILLER, THADDEUS K. WIEWIOROWSKI, PATRICK J. HANNAN, JAN F. HERBST, RONALD E. ROSSMAN, ANN L. PLAMONDON, JOHN F. CHRISTMAN, RUSTUM ROY

Student Accommodations

Limited housing for students who wish to attend the Annual Meeting will be available at the University of Pennsylvania.

For information call:

Mr. William G. Owen at (215) 898-6813

16-4. Perspectives on Values (29 May, 2 sessions). Organized by JOHN A. DILLON, JR. (*University of Louisville*). Speakers:

JONAS SALK, GERRIT BROEKSTRA, ROBERT SCHULMAN, HADLEY SMITH, JERZY A. WOJCIECHOWSKI, RUSSELL ACKOFF, ROGER S. JONES, VASSILIKI FALKEHAG, STERNE A. ROUFA, KENNETH E. BOULDING

16-5. The Knowledge Revolution, Transnationals, and the Third World (30 May). Organized by ARISTIDE H. ESSER (*Association for the Study of Man-Environment Relations*) and WILLIAM H. VANDERBURG (*University of Toronto*). Speakers:

WILLIAM H. VANDERBURG, JOHN CAVENAGH, ABBE MOWSHOWITZ, JERZY W. WOJCIECHOWSKI, ARISTIDE H. ESSER

17. Science: Education and Public Understanding

17-1. Recent Advances in Learning Theory and Implications for Science Education (29 May). Organized by JOSEPH D. NOVAK (*Cornell University*). Speakers:

CHERYL L. ACHTERBERG, AUDREY CHAMPAGNE, KATHLEEN FISHER, JAMES GREENO, JOSEPH D. NOVAK

17-2. Graduate Education for Careers in Science, Engineering, and Public Policy (28 May). Organized by CHRISTOPHER T. HILL (*Congressional Research Service*) and ALBERT H. TEICH (AAAS). Speakers:

BARRY D. GOLD, ALBERT H. TEICH, ROBERT P. MORGAN, SUSAN G. HADDEN, M. GRANGER MORGAN, JOHN P. ANDELIN, DANIEL ALPERT, DOROTHY S. ZINBERG

17-3. Gender and Racial/Ethnic Differences in Mathematics and Science Test Performance: What Do They Really Mean? (26 May). Organized by SHIRLEY M. MALCOM (AAAS). Speakers:

JOSEPHINE DAVIS, CAMILLA P. BENBOW, ELIZABETH STAGE, SUSAN S. KLEIN, MARLAINE E. LOCKHEED

17-4. Computers for Disabled People in Education and Employment (28 May). Organized by HERBERT W. HOFFMAN (*National Weather Service*) and VIRGINIA STERN (AAAS). Speakers:

LAWRENCE SCADDEN, CARYN NAVY, ROBERT MENCHEL, JOHN E. SCHATZLEIN, TED BARBER, JOHN EULENBERG

17-5. The Relationship of Parental Influence to Science Education (26 May). Organized by YOLANDA S. GEORGE (AAAS). Speakers:

WESTINA MATTHEWS, GEORGE H. BROWN, JEFFEREY A. OWINGS, LAWRENCE B. SCHIAMBERG, JANIS E. JACOBS, VIRGINIA THOMPSON, EUGENE D. GENNARO

17-7. Scientific and Technological Literacy: Concepts and Measures (28 May). Organized by JON D. MILLER (*Northern Illinois University*) and ALBERT H. TEICH (AAAS). Speakers:

F. JAMES RUTHERFORD, RUSTUM ROY, DAVID PERLMAN, GEOFFREY P. THOMAS, JON D. MILLER, DONALD E. BUZZELLI

17-8. The Unreported Stories: Mass Media and Science in Developing Countries (29 May). Organized by JAMES CORNELL (*Smithsonian Institution*). Speakers:

BRENNON JONES, SUBBIAH ARUNACHALAM, PODALI S. SHANKAR, ADLAI J. AMOR, FRANCOISE HARROIS-MONIN, JEAN-MARC FLEURY

Contributed Papers

The contributed papers will be presented in both poster and slide session formats. Sessions will be held in the Holiday Inn—Center City and the Hershey Philadelphia

Hotels. Abstracts for the individual papers will be found in *Abstracts of Papers*, available on-site to all registrants. The sessions are scheduled as follows:

Poster Sessions (12 noon–2:00 p.m.)

1. American Junior Academy of Science: Research papers by high school students (26 May)
2. Physical Sciences (27 May)
3. Social and Behavioral Sciences (28 May)
4. Biological and Medical Sciences (29 May)

Slide Sessions

- 5A. Education (26 May, 2:00 p.m.)
- 5B. Behavioral Science and Neuroscience (26 May, 4:00 p.m.)

- 6A. Physical and Information Sciences (27 May, 8:30 a.m.)
- 6B. Physiology (27 May, 8:30 a.m.)
- 6C. History and Sociology of Science (27 May, 2:30 p.m.)
- 6D. Biochemistry and Pharmacology (27 May, 2:30 p.m.)
- 7A. Environmental Toxicology (28 May, 8:30 a.m.)
- 7B. Earth Sciences (28 May, 2:30 p.m.)
- 7C. Electrofusion and Electroporation (28 May, 2:30 p.m.)
- 8A. Oncology and Cell Biology (29 May, 8:30 a.m.)
- 8B. Agriculture, Botany, and Zoology (29 May, 2:30 p.m.)

18. Scientific Freedom and Responsibility

18-1. National Security and First Amendment Protection of Scientific and Technical Information (27 May). Organized by VIVIAN WEIL (*Illinois Institute of Technology*). Speakers:

JAMES R. FERGUSON, ROBERT LADENSON, BENJAMIN S. DUVAL, JR., MARK LYNCH, LEE C. BOLLINGER

18-2. A Review and Assessment of Human Rights Statistics and Indicators (27 May). Organized by THOMAS B. JABINE, and by RICHARD P. CLAUDE (*University of Maryland*). Speakers:

RICHARD P. CLAUDE, MICHAEL STOHL, DAVID E. CARLETON, GEORGE LOPEZ, STEPHEN SAMUELS, RAYMOND D. GASTIL, DAVID L. BANKS, JUDITH I. DE NEUFVILLE, ROBERT F. BORUCH

18-3. Scientists in Exile: Issues and Perspectives on the Refugee Experience (28 May). Organized by SUSAN FORBES (*Refugee Policy Group*) and KATHIE MCCLESKEY (*AAAS*). Speakers:

SUSAN S. FORBES, DANIEL GOLDSTEIN, RODRIGO FERNANDEZ VASQUEZ, CRISTIAN ORREGO, GRETCHEN S. BOLTON, HENRYK PANUSZ

18-4. Science and Apartheid (26 May). Organized by MARY CHEH (*George Washington University*) and ERIC STOVER (*AAAS*). Speakers:

MAY CHEH, CHABANE MANGANYI, SOLOMON RATAEMANE, MAMPHELA RAMPHELE, DON FOSTER, FRANCIS WILSON

18-5. Sharing Research Data: Costs and Benefits (26 May). Organized by ROSEMARY CHALK (*AAAS*) and MIRON L. STRAF (*National Research Council*). Speakers:

MIRON L. STRAF, JOE S. CECIL, KAREEM AHMED, F. THOMAS JUSTER, DOROTHY NELKIN, ROSEMARY CHALK

18-6. Scientific Information Flow from the Third World: Do Scientific and Government Interests Conflict? (28 May). Organized by DAVID WILEY (*Michigan State University*), and BARRY D. GOLD and DENISE WEINER (*AAAS*). Speakers:

LOUIS W. GOODMAN, GERALD D. BERREMAN, CRAIG L. WILSON, MARTIN DISKIN, DAVID WILEY

19. Science, Arms Control, and National Security

19-1. U.S. and Soviet Missile Defense (26 May). Organized by KENNETH N. LUONGO and RICHARD A. SCRIBNER (*AAAS*). Speakers:

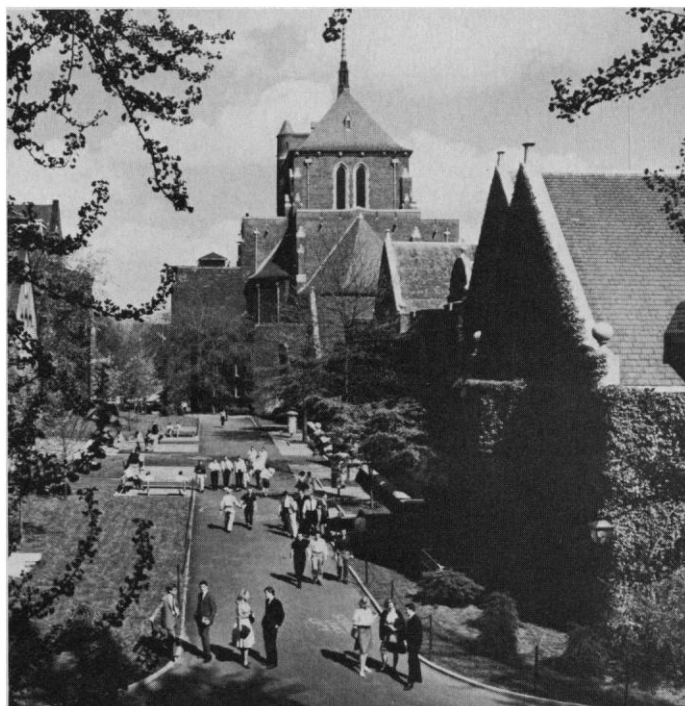
RODNEY W. NICHOLS, SIDNEY GRAYBEAL, SAYRE STEVENS, DAVID R. JONES, JONATHAN B. STEIN

19-2. Space Weapons: U.S. and Soviet Antisatellite Programs and the Prospects for Control (27 May). Organized by DONALD L. HAFNER (*Boston College*). Speakers:

PAUL STARES, ASHTON CARTER, KENT G. STANSBERRY, BRUCE MACDONALD

19-3. Strengthening the Prohibition Against Biological Warfare (27 May). Organized by EVERETT MENDELSON (*Harvard University*) and SUSAN WRIGHT (*University of Michigan*). Speakers:

MATTHEW S. MESELSON, VLADIMIR SHUSTOV, JAMES F. LEONARD, JULIAN P. PERRY ROBINSON, RICHARD A. FALK



The University of Pennsylvania, founded as a "charity school" by Benjamin Franklin in 1740, is now internationally renowned for its academic programs.

19-4. Examining Soviet Approaches to Arms Control and the Geneva Negotiations (28 May). Organized by JONATHAN DEAN (*Union of Concerned Scientists*) and RICHARD A. SCRIBNER (*AAAS*). Speakers:

A. A. KOKOSHIN, A. G. ARBATOV, JONATHAN DEAN, RALPH EARLE, LEON FEURTH

19-5. STARTs, Stops, and Talks: The Geneva Negotiations (28 May). Organized by RICHARD A. SCRIBNER (*AAAS*) and RODNEY W. NICHOLS (*Rockefeller University*). Speakers:

PAUL NITZE, RALPH EARLE, JONATHAN DEAN, LEON FEURTH

19-6. Arms Control Verification: Challenges for the 1990s (29 May). Organized by RICHARD A. SCRIBNER (*AAAS*) and SIDNEY GRAYBEAL (*Systems Planning Corporation*). Speakers:

JOSEPH S. NYE, JR., MICHAEL KREPON, SIDNEY GRAYBEAL, HOWARD STOERTZ, JR.

19-7. Strategic Antisubmarine Warfare: Emerging Counterforce Capabilities? (29 May). Organized by JOHN PIKE (*Federation of American Scientists*). Speakers:

THOMAS STEFANIC, BARRY POSEN, TED POSTOL

20. International Science and Technology

20-1. Science and Technology in the Caribbean (26 May). Organized by WALLACE C. KOEHLER, JR. (*University of Puerto Rico*). Speakers:

JUAN A. BONNET, JR., WALLACE C. KOEHLER, JR., AARON SEGAL, BRIAN A. THOMSON, WINTHROP W. WILTSHIRE

20-2. Innovations in Technology Transfer: International Comparisons (China, Europe, Japan, and the United States)

(29 May, 2 sessions). Organized by LISBETH LEVEY (AAAS). Speakers:

DALE R. CORSON, LIN LANYING, RICHARD P. SUTTMEIER, JORDAN BARUCH, P. F. CALLANAN, DONALD N. LANGENBERG

20-3. New Technologies, Trade, and the Reorganization of the International Economy (27 May). Organized by RICHARD L. FLORIDA and MARTIN KENNEY (*Ohio State University*). Speakers:

LESLIE S. HIRAOKA, RICHARD L. FLORIDA, MARTIN KENNEY, SHOKO TANAKA, THOMAS FERGUSON, PORUS OLPADWALA, ROBERT COHEN, SAM COLE

20-4. Transnational Industrial R&D: U.S. Giveaway or Strategic Necessity? (28 May). Organized by THEODORE W. SCHLIE (*Illinois Institute of Technology*). Speakers:

THEODORE W. SCHLIE, RICHARD OSBORN, JON OLSON, DAVID C. MOWERY, STEVEN KLEPPER, A. HELLMAN, AARON GELLMAN

20-5. International Impacts of Technology (28 May). Organized by ALAN L. PORTER (*Georgia Institute of Technology*). Speakers:

LARRY W. CANTER, GEORGE K. SAMMY, BRUCE M. KOPPEL, MICHAELA Y. SMITH, HENK A. BECKER

20-6. International Scientific Cooperation: Where It's at and Where It's Headed (30 May). Organized by EUGENE B. SKOLNIKOFF (*Massachusetts Institute of Technology*) and MITCHEL WALLERSTEIN (*National Research Council*). Speakers:

GLENN E. SCHWEITZER, PHILIP W. HEMILY, DAVID DIXON, STANLEY G. WOJCICKI, MITCHEL WALLERSTEIN

20-7. Scientists and Engineers Abroad (26 May). Organized by DOROTHY S. ZINBERG (*Harvard University*) and ALBERT H. TEICH (AAAS). Speakers:

ROBERT MORGAN, ELINOR G. BARBER, DOROTHY S. ZINBERG, F. KARL WILLENBROCK, SUMNER BENSON, MANFRED STASSEN

21. Science and Technology Policy

21-1. The Endless Frontier Revisited: A Report on the Science Policy Task Force (29 May). Organized by ALBERT H. TEICH (AAAS). Speakers:

PATRICIA B. MCFATE, DON FUQUA, EUGENE B. SKOLNIKOFF, FRANK B. SPROW, LINDA S. WILSON, DOROTHY S. ZINBERG

21-2. The Impact of Advances in Information Technologies on Science: Policy Issues (28 May). Organized by STEPHEN D. NELSON (AAAS) and MANFRED KOCHEN (*University of Michigan*). Speakers:

PATRICIA BATTIN, DONALD W. KING, EUGENE GARFIELD, NICHOLAS J. BELKIN

21-3. Governmental Management of Technological Change (30 May). Organized by ARTHUR M. SQUIRES (*Virginia Polytechnic Institute and State University*). Speakers:

STUART W. CHURCHILL, JAMES KANE, ELOISE E. CLARK, GEORGE BUGLIARELLO, SEYMOUR MELMAN, ARTHUR M. SQUIRES

21-4. Increased Spending for Defense R&D: Its Effects on University-Based Research (30 May). Organized by PATRICIA MCFATE (*The American-Scandinavian Foundation*). Speakers:

HARVEY BROOKS, WILLIS H. SHAPLEY, JAMES A. IONSON, ANGEL JORDAN, LINDA S. WILSON

21-5. The Role of Shared Research Facilities and Instrumentation (29 May). Organized by FRANK B. SPROW and W. B. WOOD (*Exxon Research and Engineering Company*). Speakers:

RICHARD S. NICHOLSON, JOHN C. CROWLEY, MARTIN BLUME, LARRY W. SUMNEY, GEORGE G. OLSON

21-6. Challenge to Science: Matching Resources to National and Global Needs (27 May, 2 sessions). Organized by LAWRENCE SENESH (*Academy of Independent Scholars*). Speakers:

JOHN PLATT, ALBERT H. TEICH, DONALD N. FREY, GEORGE E. BROWN, JR., SIMON RAMO, CHARLES SCHWARTZ, JOHN F. D'APRIX, MILTON D. STEWART, RAY CHAMBERLAIN, MARCIA L. RORKE, HAROLD C. LIVESAY

21-7. State Science Policies and the National Interest (26 May, 2 sessions). Organized by JACK J. BULLOFF (*New York State Legislative Commission on Science and Technology*). Speakers:

THERESA A. WALKER, JACK J. BULLOFF, CHARLES B. WATKINS, OLLIN J. DRENNAN, M. DAYNE ALDRIDGE, MAX S. POWER, JOHN S. TOLL, ROBERT H. PRY, WALTER H. PLO-SILA, VICTOR J. JOHNSON, CHRISTOPHER M. COBURN

Workshops

W-1. Workshop on Professional Societies and Professional Ethics. [24 and 25 May; requires a separate registration fee.] Organized by ROSEMARY CHALK (AAAS) and MARK S. FRANKEL (*Illinois Institute of Technology*). For more information and advance registration, call 202/326-6793. Speakers:

ROSEMARY CHALK, BARBARA MISHKIN, DAVID H. MILLS, WILLIAM W. MIDDLETON, P. E., MARK S. FRANKEL, CHARLES S. LEVY, ARTHUR N. LERNER, JUDITH P. SWAZEY

W-2. Conservation and Survival. [25 May.] Organized by BRIAN SPOONER (*University of Pennsylvania*). For more information and advance registration, call 202/326-6653. Speakers:

ARJUN APPADURAI, DAVID BROKENSHA, DENIS GLICK, WILLIAM GRIFF, FRANCIS E. JOHNSTON, JOHN PASSMORE, ROBERT RICKLEFS, RAJIV SETHI, BRIAN SPOONER, TERENCE TURNER

W-3. Future Directions of the Trilateral Arid Lands Agriculture Project: Egypt, Israel, and the United States. [25 May.] Organized by CYRUS M. MCKELL (*NPI, Inc., and Utah State University*). For more information and advance registration, call 202/326-6653. Speakers:

MOHAMED EL-ASSAL, ADEL EL-BELTAGY, DOV PASTERNAK, CYRUS M. MCKELL, GERALD L. KAMENS, JOE R. GOODIN

W-4. The Role of Community-Based Organizations (CBOs) in Science Education. [25 May.] Organized by YOLANDA S. GEORGE (AAAS). For more information and advance registration, call 202/326-6677. Speakers:

LUIS REYES, STEPHANIE G. ROBINSON, DEANNA BANKS BEANE, NAN ELLEN EAST, ELLEN SULLIVAN

W-5. Communicating Science to the Public: Strategies for Television. [25 May.] Organized by JONATHAN WARD (*NBC News*). For more information and advance registration, call 202/326-6440. Speaker:

JONATHAN WARD

W-6. Communicating Science to the Public: Writing Strategies for the Print Media. [25 May.] Organized by SHARON DUNWOODY (*University of Wisconsin-Madison*) and CAROL L. ROGERS (AAAS). For more information and advance registration, call 202/326-6440. Speaker:

SHARON DUNWOODY

Science Books & Films presents

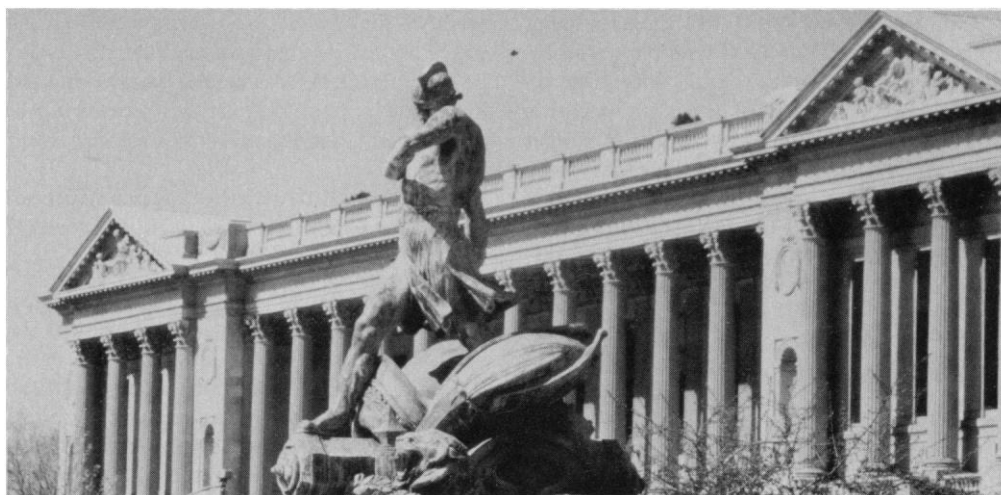
The SB&F Science Film Festival

Montgomery Auditorium, Free Library of Philadelphia
Logan Square: 19th and Vine

THE SB&F SCIENCE FILM FESTIVAL OFFERS AN IMPORTANT collection of films for all age groups dealing with a range of the natural and social sciences. Come and see films on physics, astronomy, biomedical sciences, nutrition, chemistry, AIDS, anthropology, biology, and much more. For parents, teachers, and students, we have an especially interesting series of films focusing on the social and emotional problems of children and teenagers. Admission is free.

Expected times are shown below; exact times and detailed information about the individual films will be available in the Annual Meeting Program and at the door. Join us for an exciting festival, from 10 a.m. to 3:30 p.m., Tuesday, 27 May, through Friday, 30 May, at the Free Library of Philadelphia.

We are especially pleased to acknowledge the cooperation of the Free Library of Philadelphia in providing their excellent facilities for this Festival.



The Free Library of Philadelphia.

Tuesday, 27 May

- 10:00 a.m. Colors, Chemistry, and Computers
- 10:17 a.m. Genetic Engineering: Understanding the Nature of Change
- 10:34 a.m. The Waist Land: Why Diets Don't Work
- 11:02 a.m. Epidemic: War on Drugs
- 11:20 a.m. A Million Teenagers
- 11:47 a.m. Being a Fat Child
- 12:02 p.m. Contract for Life: The S.A.D.D. Story
- 12:37 p.m. Please Don't Hit Me, Mom
- 1:42 p.m. Haight-Ashbury Cocaine Film: Physiology, Compulsion, Recovery
- 2:22 p.m. Radiation: An Introduction
- 2:42 p.m. Portraits of Anorexia

Wednesday, 28 May

- 10:00 a.m. Feeling Yes, Feeling No Series
- 10:47 a.m. First Cigarette
- 11:02 a.m. Before It's Too Late: A Film on Teenage Suicide
- 11:27 a.m. Date Rape: No Means No
- 11:57 a.m. One Too Many
- 12:35 p.m. How the Frog's Eye Sees
- 12:47 p.m. Egg-Laying Mammals: The Echidnas and Platypus

- 1:11 p.m. The Planar Double Pendulum
- 1:46 p.m. Benares: Steps to Heaven
- 2:21 p.m. Koalas: Out on a Limb
- 2:56 p.m. Little People

Thursday, 29 May

- 10:00 a.m. The Dragon and the Damsel
- 10:30 a.m. An Inkling of Beetles
- 10:47 a.m. Smoking: A Research Update
- 11:19 a.m. From Kepler to Einstein
- 12:24 p.m. The Solar Sea
- 1:29 p.m. Prisoners of Incest
- 2:27 p.m. Gifts from the Earth

Friday, 30 May

- 10:00 a.m. The Hero Who Couldn't Read
- 10:35 a.m. Maya: Treasures of an Ancient Civilization
- 11:07 a.m. Tell Them I'm a Mermaid
- 11:32 a.m. Starlife
- 11:57 a.m. Killer in the Village
- 12:58 p.m. Facing Our Science Fiction Future
- 1:23 p.m. Sugar and Spice and All Is Not Nice
- 2:50 p.m. Uppers, Downers, All Arounders

AAAS Science & Technology Exhibition

Franklin Plaza Exhibit Hall

Monday, 26 May 6:00 pm–8:00 pm
Tuesday, 27 May 10:30 am–2:30 pm, 5:00 pm–7:00 pm
Wednesday, 28 May 10:30 am–2:30 pm, 5:00 pm–7:00 pm
Thursday, 29 May 10:30 am–2:30 pm

Featured exhibitors include

Academia Book Exhibits
Academy of Natural Sciences
American Industrial Hygiene Association
American Institute of Physics
American Society of Mechanical Engineers
American University Press Services
Atomic Industrial Forum
BioSciences Information Service
Bureau of the Census
Calorie Control Council
Center for the History of Chemistry
Conference Book Service
DIALOG Information Services, Inc.
Discover Magazine/Time Inc.
Elsevier Science Publishers
Encyclopaedia Britannica USA
Entomological Society of America
IEEE Spectrum Magazine
Imported Publications, Inc.

Institute for Scientific Information
National Agricultural Library
National Diabetes Research Interchange
National Geographic Society
National Science Foundation
National Science Teachers Association
New Scientist Magazine
OMNI Publications International, Ltd.
Peace Corps
The Publishers Book Exhibit
Publishers' Showcase
Sigma Xi, The Scientific Research Society
Society for Advancement of Chicanos & Native
Americans in Science
U.S. Department of Energy
U.S. Geological Survey
Veterans Administration
Walter Reed Army Medical Center
World Future Society

Plus the AAAS, *Science*, and *Science 86* booths, the AAAS Photo Show, and more.

Meeting Information

Locations

The 1986 Annual Meeting will be held in four downtown Philadelphia locations:

Franklin Plaza Hotel, 2 Franklin Plaza (at Race Street between 16 & 17th). This is the headquarters hotel for the Meeting, with these activities: midday and evening lectures; symposia; workshops; business meetings and social functions; registration, information, and ticket sales desks; resource center with areas for AAAS members, disabled registrants, and minority scientists; speakers' ready room; message center; employment information; AAAS headquarters office and newsroom; AAAS Science & Technology Exhibition.

Hershey Philadelphia Hotel, Broad Street at Locust. Symposia and workshops, contributed paper sessions (slide presentations), business meetings, social functions, AAAS office.

Holiday Inn—Center City, 1800 Market Street. Symposia, contributed paper sessions (both slide and poster presentations), business meetings, social functions, AAAS office.

The Free Library of Philadelphia, Logan Square (19th and Vine Streets). *SB&F* Science Film Festival (Tuesday through Friday, 27–30 May).

Hotel Reservations

The AAAS has reserved a block of hotel rooms at special reduced rates at each of the three meeting hotels. **These special rates are guaranteed only when reservations are made through the Philadelphia Convention Bureau before 2 May 1986.** Please complete the housing form in this issue. Room assignments will be delayed if any information is omitted from the form.

Do not be a "No Show"! If you have made a reservation and find that you cannot keep your commitment, please write to the Convention Bureau or call the hotel and cancel.

Meeting Registration

Advance Registration. Register in advance to save money; on-site registration fees will be 15–20% higher. Registration categories and fees are shown on the advance registration form in this issue. **Registration fees may be charged to VISA or MasterCard.**

In mid-April, advance registrants will receive a badge and registration receipt and a voucher for the registration packet. Present the voucher at the Advance Registrants' desk at the Franklin Plaza to receive program and abstracts books, program summary, and other materials. The registration area at the Franklin Plaza Hotel will be open during the following hours:

Sunday, 25 May	12 noon–6:00 p.m.
Monday through Thursday, 26–29 May	8:00 a.m.–6:00 p.m.
Friday, 30 May	8:00 a.m.–1.00 p.m.

Registration Refunds. The AAAS will refund advance registration fees for all cancellations received by letter or telegram prior to 16 May 1986. **No refunds will be made on cancellations received after that date.** Refunds will be mailed from the AAAS offices in Washington after the Annual Meeting.

Tax Deductions for Educational Expenses. At press time, U.S. Treasury regulation §1.162-5 was still effective. It allows an income tax deduction for educational expenses (registration fees, 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 that leads to a degree. (Because of pending legislation, we advise you to check on the status of this regulation before claiming a tax deduction.)

Resource Center

Resources for Disabled Registrants. The AAAS, in cooperation with the Philadelphia Advisory Committee, is making every effort to make the Annual Meeting fully accessible to disabled individuals. In addition to accessible meeting rooms and hotel rooms which can accommodate wheelchairs, the following services will be provided through the Resource Center located in the Franklin Plaza Hotel: transportation to and from airports, train stations, and bus terminals; interpreters for the hearing-impaired at all plenary lectures and for other sessions on request; special tour and sightseeing information; audiotaped program highlights for the visually impaired; assistance in movement within and between hotels; and emergency repair for wheelchairs.

Persons needing special accommodations and services are strongly urged to so indicate on the registration and housing forms. **Your early response will help us serve you better.** For additional information contact Virginia Stern, AAAS Project on the Handicapped in Science, 1333 H Street, NW, Washington, DC 20005 (telephone, 202/326-6667).

Member Resources. AAAS members seeking general information about the Association's many activities or who have questions about their membership will find assistance in the Resource Center located in the Franklin Plaza.

Resources for Minority Scientists. Also located in the Resource Center at the Franklin Plaza, this area provides an opportunity for the exchange of information and printed materials pertinent to the participation of racial and ethnic minorities in the sciences and in the activities of the AAAS. Materials on education, employment, research, and organizations will be displayed.

Transportation

Ground Transportation: Airport to downtown. The airport high-speed rail line provides daily service downtown every half-hour from 6:00 a.m. to midnight. The line stops at 30th Street Station, Suburban Station (16th Street and JFK Boulevard, 4 blocks from the Franklin Plaza and 3 blocks from the Holiday Inn), and at Market East (10th and Market Street). Travel time is 23 minutes. The weekday peak rate is \$3.75 (before 9:30 a.m. and after 3:30 p.m.), at other times the rate is \$2.25. Cab fare is about \$15.

AAAS Shuttle Bus Service. Free shuttle buses for registrants will run between the three meeting hotels at regular intervals throughout the meeting. Registrants must display their registration badges when boarding. Shuttle bus schedules will be posted at the hotels.

Parking. The three meeting hotels charge the following parking rates (which may be subject to change):

Franklin Plaza: \$13/day for registered and unregistered guests.

Hershey Philadelphia: \$9/day for registered and unregistered guests.

Holiday Inn—Center City: \$3/day for registered guests; rates for unregistered guests range from \$4 to \$10, depending on length of stay.

Additional Services

Child Care. Registered guests who require baby sitters or other child care services should contact the Guest Services Desks at the Franklin Plaza (215/448-2000) or Hershey Philadelphia (215/893-1600; or the Front Desk at the Holiday Inn (215/561-7500).

Message Center. The AAAS Message Center, located in the Franklin Plaza Hotel, will be open during official registration hours. Messages may be left by calling the Franklin Plaza at 215/448-2000 and asking for the AAAS Message Center. The messages will be posted on a board in the registration area.

Downtown Philadelphia

KEY TO PHILADELPHIA MAP

Hotels

1. Franklin Plaza
2. Hershey Philadelphia
3. Holiday Inn-Center City

Institutions

4. Free Library of Philadelphia
5. Franklin Institute
6. Academy of Natural Sciences
7. University City Science Center
8. Academy of Music

Museums

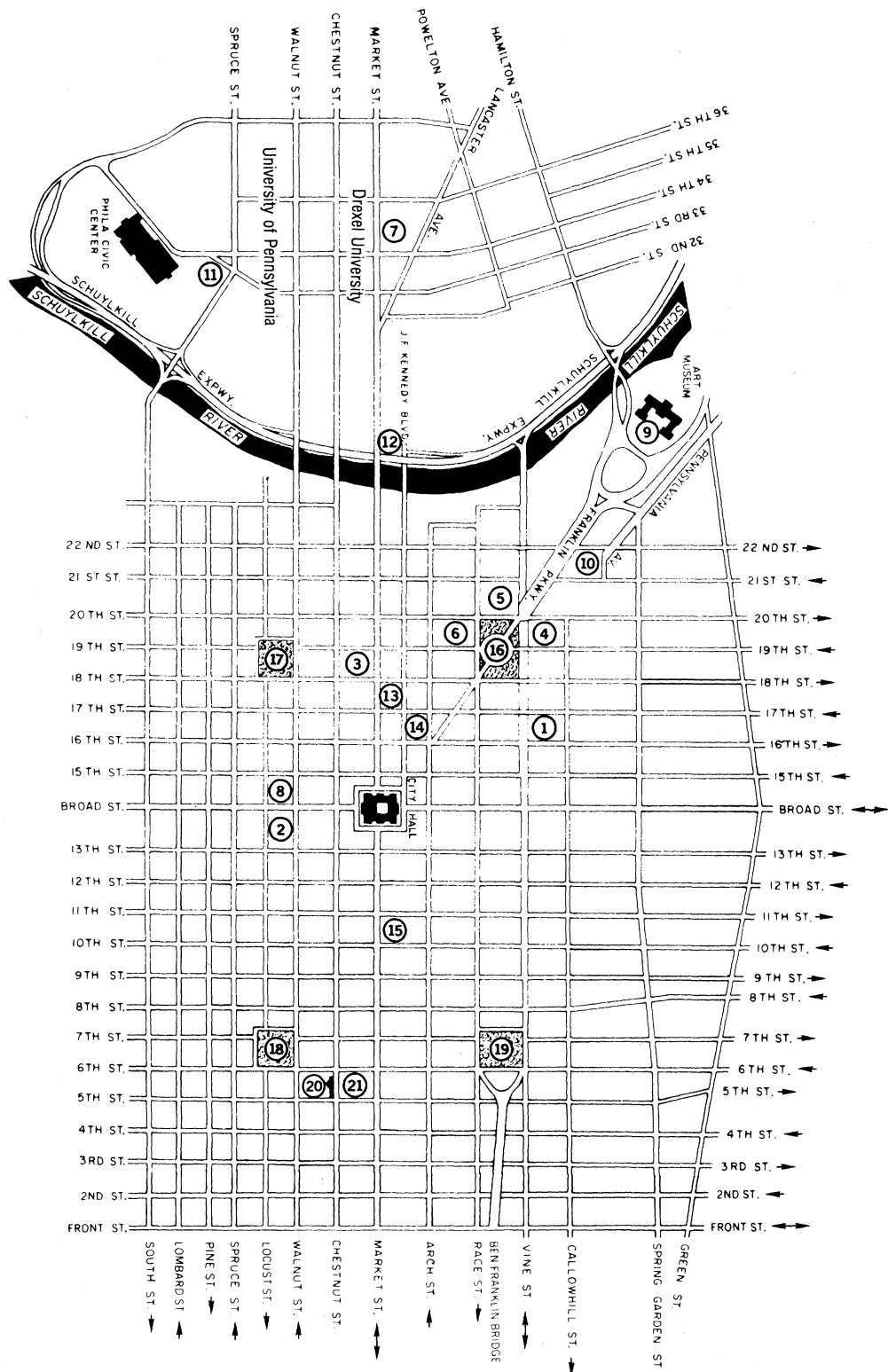
9. Philadelphia Museum of Art
10. Rodin Museum
11. University Museum (Univ. of Pennsylvania)

Transportation

12. Amtrak: 30th Street Station
13. Greyhound Bus Terminal
14. Suburban Station
15. Market East Station

Landmarks

16. Logan Square
17. Rittenhouse Square
18. Washington Square
19. Franklin Square
20. Independence Hall
21. Liberty Bell



Call for Symposium Proposals

Chicago Meeting • 14-19 February 1987

AAAS members are invited to submit symposium proposals for the next Annual Meeting in Chicago, 14-19 February 1987. Please complete the form below, attach a "Synopsis of Objectives" (about 200 words), and send it to us **not later than 15 April 1986**.

We are particularly interested in symposia dealing with the latest developments in science and technology, and the implications of these developments for society. Coordinated contributed paper sessions are also welcome; inquire for details with this submission.

All symposium proposals are subject to review. If the information submitted is inadequate for reviewing, the proposal will be returned. Endorsement (sponsorship) by a AAAS Section Committee expedites the review process. It is therefore in the interest of the proposer to send a *copy* of the proposal to the appropriate Section Secretary (see "AAAS News" section in *Science* for names) for endorsement at the

same time the original is sent to the AAAS Meetings Office.

Speakers should *not* be confirmed at this time; however, sufficient information about probable speakers and their topics should be provided to allow for evaluation of the proposal. Please note that AAAS does not pay honoraria to speakers.

Some Deadlines

June: You will be notified about acceptance, conditional acceptance, or nonacceptance of your proposal. Further information will be provided at that time.

July: Preliminary programs with confirmed speakers are due.

October: Final program copy, suitable for publication, is due.

**AAAS
ANNUAL MEETING
Chicago
14-19 February 1987**

PROPOSED SYMPOSIUM

Submit not later than 15 April 1986

Return this form to:
AAAS Meetings Office
1333 H Street, NW
Washington, DC 20005
Telephone: (202) 326-6450

PRINCIPAL ORGANIZER (who will receive correspondence):

TELEPHONE _____
(Area Code) (Number)

NAME _____ **AFFILIATION** _____

MAILING ADDRESS _____
(Street) (City & State) (Zip Code)

CO-ARRANGER (if applicable):

TELEPHONE _____
(Area Code) (Number)

NAME _____ **AFFILIATION** _____

MAILING ADDRESS _____
(Street) (City & State) (Zip Code)

TITLE OF SYMPOSIUM _____

SPONSORSHIP (AAAS Section, Office, or Affiliate only) _____ **No. of 3-hr. Sessions** _____

Presider _____

Affiliation _____

3. Speaker _____

Affiliation _____

Topic _____

1. Speaker _____

Affiliation _____

Topic _____

4. Speaker _____

Affiliation _____

Topic _____

2. Speaker _____

Affiliation _____

Topic _____

5. Speaker _____

Affiliation _____

Topic _____

**PLEASE ATTACH SYNOPSIS OF OBJECTIVES OF
PROPOSED SYMPOSIUM (APPROXIMATELY 200 WORDS).**