

NEWSLETTER



HISTORY OF SCIENCE SOCIETY

VOLUME 15 NUMBER 3
JULY 1986

NEW SOCIETY EXECUTIVE POSITION

ON 17 MAY 1986 AN AD HOC COMMITTEE consisting of William Coleman (chair), Frederick Gregory, Frederic Holmes, Ronald Numbers, Kathryn Olesko, and Edith Sylla met in Detroit and formulated a description of the proposed new executive officer of the Society. Favoring the course of evolution rather than of dramatic change, the committee proposed that the office of Secretary be transformed into that of Executive Secretary, incorporating the present duties of the Secretary and of the Program Coordinator, as well as certain additional tasks. The position is envisioned as a half-time compensated position with a term of five years, renewable, and with an associated budget to cover clerical support and other office expenses. The Executive Secretary would be an officer of the Society and a member of the Executive Committee and Council. A more detailed description of the proposed position, with proposed rewording of the statutes, rationale, job description, estimated budget, and possible schedules for transition to the new structure, has been composed by William Coleman for transmission to the ad hoc group that met in New York in March, to the Executive Committee, and thence to the Council for consideration at the October meeting in Pittsburgh. If the position is approved by the Council, the proposal is to begin a search for the first occupant of the position in January 1987. It is proposed that the search committee consist of the members of the Nominating Committee plus the President and Vice President. Copies of the proposal as it currently stands are available to anyone interested from the Secretary of the Society.



Charles Rosenberg will be editor of *Isis* through 1988. See page 11.

ELECTION IN THIS ISSUE CANDIDATES' BIOS INSIDE BALLOT TO COME BY MAIL

HSS EXECUTIVE COMMITTEE

PRESIDENT

EDWARD GRANT, Indiana University

VICE-PRESIDENT

WILLIAM COLEMAN, University of Wisconsin - Madison

SECRETARY

EDITH SYLLA, North Carolina State University

TREASURER

SPENCER R. WEART, American Institute of Physics

EDITOR

CHARLES ROSENBERG, University of Pennsylvania

The History of Science Society was founded in 1924 to secure the future of *Isis*, the international review that George Sarton (1884-1956) had founded in Belgium in 1912. The Society seeks to foster interest in the history of science and its social and cultural relations, to provide a forum for discussion, and to promote scholarly research in the history of science. The Society pursues these objectives by the publication of its journals *Isis* and *Osiris*, by the support and subvention of other forms of scholarly publication, by the organization of annual meetings and other programs, by the award of medals and prizes for outstanding contributions to the history of science, by the encouragement and sponsorship of local and regional sections of the Society, and by cooperation with other learned and scientific societies.

ALSO IN THIS ISSUE

ANNUAL MEETING PROGRAM 12-17

PREREGISTRATION AND
ROOM REGISTRATION

FORMS TO COME BY MAIL

HSS ASSOCIATE SCHOLARS

6



Thomas L. Hankins



Mary Jo Nye



William B. Ashworth, Jr.



Allen G. Debus



Mordechai Feingold

THE 1986 HSS ELECTION CANDIDATES' BIOGRAPHIES

FOR VICE-PRESIDENT

Thomas L. Hankins

Professor of History, University of Washington. Ph.D., Cornell, 1964. Specialties: physical sciences in the eighteenth and nineteenth centuries, biography. Professional activities: U.S. National Committee for the International Union of the History and Philosophy of Science—1977–present, Chair, 1982–1985. HSS—Council, 1971–1973; *Isis* Editorial Board, 1976–1980; *Osiris* Contributing Editor, 1980–present; Long-Range Planning Committee, 1978–1981; Zeitlin–Ver Brugge Prize Committee, Chair, 1985; Schuman Prize Committee, Chair, 1971; Nominating Committee, Chair, 1972. U.S. Delegation to the XVIIth International Congress, Berkeley—Chair, 1985; *Historical Studies in the Physical Sciences*, Eighteenth-Century Studies—Editorial Boards. Selected publications: *Jean d'Alembert* (1970); *Sir William Rowan Hamilton* (1980); *Science and Enlightenment* (1985); and articles including "Eighteenth-Century Attempts to Resolve the *Vis Viva* Controversy," *Isis*, 1965, 56:281–297; "Triplets and Triads: Sir William Rowan Hamilton and the Metaphysics of Mathematics," *Isis*, 1977, 68:175–193, awarded the Zeitlin–Ver Brugge Prize, 1980. "In Defence of Biography: The use of Biography in the History of Science," *History of Science*, (1979) 17: 1–16.

Mary Jo Nye

Professor of the History of Science, University of Oklahoma, Norman. Ph.D.,

University of Wisconsin, 1970. Specialties: history of nineteenth- and early twentieth-century science, especially history of atomism, methodology in physics and chemistry, French science and its institutions. Professional activities: HSS—Council, 1978–1981; Committee on Women, 1975–1982; Long-Range Planning Committee, 1980–1982; Program Co-Chair, joint meeting with American Historical Association, 1984; Nominating Committee, 1979, 1985; Committee on Publications, 1985–present; *Isis* Advisory Editor, 1979–1985. National Science Foundation Subpanel for History and Philosophy of Science, 1983–1984. U.S. National Committee for International Union of History and Philosophy of Science, 1986–present. Institute for Advanced Study—Member, 1981–1982. Publications: *Molecular Reality: A Perspective on the Scientific Work of Jean Perrin* (Macdonald & Elsevier, 1972); *Science in the Provinces: Scientific Communities and Provincial Leadership in France, 1860–1930* (Univ. California Press, 1986); (ed.) *The Question of the Atom: From Karlsruhe Congress to the First Solvay Conference, 1860–1911—A Selection of Primary Sources* (Tomash, 1984); and articles including "The Nineteenth-Century Atomic Debates and the Dilemma of an 'Indifferent Hypothesis,'" *Studies in the History and Philosophy of Science*, 1976, 7:254–268; "The Boutroux Circle and Poincaré's Conventionalism," *Journal of the History of Ideas*, 1979, 40:107–120; "Scientific Decline: Is Quantitative Evaluation Enough?" *Isis*, 1984, 75:697–708.

FOR COUNCIL

William B. Ashworth, Jr.

Associate Professor, Department of History, University of Missouri–Kansas City; Consultant for the History of Science, Linda Hall Library of Science and Technology. Ph.D., University of Wisconsin, 1975. Specialties: Renaissance and seventeenth-century science; scientific illustration and allegory; science and religion. Professional activities: International Consortium for Bucculentus Studies—Coordinator. Recent publications: "Catholicism and Early Modern Science," in *God and Nature*, ed. D. Lindberg and R. Numbers (Berkeley, 1986); "The Persistent Beast," in *The Natural Sciences and the Arts*, ed. A. Ellenius (Uppsala, 1985); "Marcus Gheeraerts and the Aesopic Connection in 17th-Century Scientific Illustration," in *Art Journal*, 1984, 44:132–138; "Bucculentus, Tertulian, and the Foundations of the Cooter Cosmos," in *It's Turtles All the Way Down, Mr. Russell!* (forthcoming).

Allen G. Debus

Morris Fishbein Professor of the History of Science and Medicine, University of Chicago. Ph.D., Harvard University, 1961; D.Sc. hon., Catholic University of Louvain, 1985. Specialties: Paracelsian tradition. Professional activities: HSS—Council, 1962–1965; Program Chair, annual meeting, 1972; Local Arrangements Committee, annual meeting, 1984. Midwest Junto—President, 1983–1984. Society for the History of Alchemy and Chemistry—Council, since 1967. Morris Fishbein Center for the Study of the History of Science and Medicine, University of Chicago—Director, 1971–1977. Publications: *The Chemical Philosophy: Paracelsian Science and Medicine in the 16th and 17th Centuries* (Science



Albert Van Helden



Sharon Kingsland



Jane Maienschein



Kathryn Olesko

History Publications, 1977), winner of Pfizer Award, 1978, and Kremers Award, 1978; *Man and Nature in the Renaissance* (Cambridge Univ. Press, 1978); *The English Paracelsians* (Oldbourne, 1965); series of editions of Renaissance and early modern scientific texts (Elias Ashmole, John Dee, Robert Fludd).

Mordechai Feingold

Assistant Professor of History and History of Science, Boston University. D. Phil., Oxford University, 1980. Specialties: early modern English and European science, history of universities, science and religion, patronage. Professional activities: Routledge & Kegan Paul—editor of a forthcoming monograph series devoted to the history, philosophy, and sociology of science. *The Eighteenth Century: A Current Bibliography*—intellectual history coeditor. Selected publications: *The Mathematicians Apprenticeship: Science, Universities and Society in England, 1560–1640* (Cambridge, 1984); *An Elizabethan Puritan Intellectual: John Rainolds, the Man and his Library* (forthcoming); editor, *Before Newton: The Life and Times of Isaac Barrow* (Cambridge, 1987).

Albert Van Helden

Professor of History, Rice University. Ph.D., Imperial College, University of London, 1970. Specialties: history of astronomy, especially telescopic astronomy; history of instruments; Scientific Revolution. Professional activities: HSS—Program Chair, annual meeting, 1985; Committee on Meetings and Programs, 1985–1986. Selected publications: *The Invention of the Telescope* (American Philosophical Society, 1977); *Divini and Campani: A Forgotten Chapter in the History of the Accademia del Cimento* (Annali del Istituto e Museo di Storia della

No petition candidates have been received. Ballots for the election will be sent separately to each HSS member in **late July or early August**. Please contact the HSS Secretary, Edith Sylla, Box 8101, North Carolina State University, Raleigh, NC 27695-8101, if you have not received a ballot by late August.

Scienza, 5; 1981); *Measuring the Universe: Cosmic Dimensions from Aristarchus to Halley* (Chicago, 1985).

Sharon Kingsland

Associate Professor of History of Science, Johns Hopkins University. Ph.D., University of Toronto, 1981. Specialties: history of population ecology. Professional activities: HSS—Schuman Prize Committee, 1984. National Endowment for the Humanities—proposal review panel, 1984. Selected publications: *Modeling Nature: Episodes in the History of Population Ecology* (Univ. Chicago Press, 1985); "Abbot Thayer and the Protective Coloration Debate," *Journal of the History of Biology*, 1978, 11:223–244; "The Refractory Model: The Logistic Curve and the History of Population Ecology," *Quarterly Review of Biology*, 1982, 57:29–52.

Jane Maienschein

Associate Professor of Philosophy, Arizona State University. Ph.D., Indiana University, 1978. Specialties: history of biology and medicine, particularly modern American biology. Professional Activities: HSS—Finance Committee, 1985–1988; Visiting Historians of Science Program National Committee, 1985–1988. AAAS—Nominating Committee, 1986–1989. American Society of Zoologists—Nominating Committee, History and Philosophy of Science Division, 1986–1987. History of Science in America—Governing Group, 1985–1986. Selected publications: (ed.) *Defining Biology: Lec-*

tures from the 1890s (Harvard Univ. Press, forthcoming); (ed., with James Collins and John Beatty) "Reflections on Ecology and Evolutionary Biology," special issue of *Journal of the History of Biology*, 1986, 19; "Preformation or New Formation—or Neither or Both?" in *A History of Embryology*, ed. T. J. Horder et al. (Cambridge Univ. Press, 1986), pp. 73–108; "History of Biology," *Osiris*, 1985, 1:147–162; "What Determines Sex: A Study of Converging Approaches," *Isis*, 1984, 75:457–480; "Shifting Assumptions in American Biology: Embryology, 1890–1910," *Journal of the History of Biology*, 1981, 14:89–113.

Kathryn Olesko

Assistant Professor of History, Georgetown University. Ph.D., Cornell University, 1980. Specialties: history of modern physics, physics education, historiography. Professional activities: HSS—Committee on Education, 1982–present; Chair, 1986; ad hoc committee on new Society position, 1986; Schuman Prize Committee, 1981, Chair, 1982; Committee on Women, 1975–1984; Vice-Chair, 1980, Chair, 1981, Acting Chair, 1982; Annual Employment Market Report, 1975–1980, 1984. ETS College Board Test Development Committee (European History AP Examinations), 1985–1986. National Research Council—Evaluation Panel for NSF Graduate Fellowships, 1984. Selected publications: *Physics as a Calling: Discipline and Profession in the Königsberg Seminar for Physics* (forthcoming); "The Mental World of *Physiklehrer*: Subject and



Ronald Overmann



Shirley A. Roe



Lorraine Daston



Gerald Holton



Karl Hufbauer

Method in History of Mentalities," *Recherches en Didactique des Mathématiques*, 1985; "Jesuit Contribution to Physics," *Encyclopedia of Jesuit History*; "Employment Trends in History of Science," *Isis*, 1981, 72:477-479. Current projects: German secondary-school physics instruction before 1870; the function of narrative in historical writing.

Ronald Overmann

Program Director, History and Philosophy of Science Program, National Science Foundation. Ph.D., Indiana University, 1974. Professional activities: Former Acting Program Director, Science Policy Research Program. American Political Science Association Congressional Fellow, 1982-1983, in the office of Senator George Mitchell of Main. Member of History of Science Society, the Philosophy of Science Association, and ex-officio member of the U.S. National Committee for the International Union for History and Philosophy of Science.

Shirley A. Roe

Visiting Scholar, Department of History of Science, and Special Assistant to the Dean of the Faculty of Arts and Sciences, Harvard University. Ph.D., Harvard University, 1976. Specialties: history of biology; history of philosophy of science; science in the Enlightenment. Professional activities: HSS—Schuman Prize Committee, 1985-1986, Chair, 1986. *Journal of the History of Biology*—Associate Editor, 1980-present; Joint Atlantic Seminar in the History of Biology—Co-Chair, 1982. Selected publications: *Science Against the Unbelievers: The Correspondence of Bonnet and Needham, 1760-1780*, with Renato G. Mazzolini (Voltaire Foundation, 1986); *Matter, Life, and Generation: Eighteenth-Century Embryology and the Haller-Wolff Debate* (Cambridge Univ.

Press, 1981); "Voltaire versus Needham: Atheism, Materialism, and the Generation of Life," *Journal of the History of Ideas*, 1985, 46:65-87; "Anatomia animata: The Newtonian Physiology of Albrecht von Haller," in *Transformation and Tradition in the Sciences: Essays in Honor of I. Bernard Cohen*, ed. Everett Mendelsohn (Cambridge Univ. Press, 1984), pp. 273-300; "John Turbeville Needham and the Generation of Living Organisms," *Isis*, 1983, 74:159-184. Current project: a book on biological materialism in the eighteenth century.

Thomas Settle

Associate Professor of History of Science and Technology, Polytechnic Institute of New York. Ph.D., Cornell University, 1966. Specialties: Italian science from L. B. Alberti to Vico, philosophy of science, sixteenth- and seventeenth-century science, technology, and society in Italy, nature of experimentation. (Thomas Settle is traveling in Europe; this information was supplied from the *Isis Guide*.)

FOR THE NOMINATING COMMITTEE—FROM COUNCIL

Lorraine Daston

Assistant Professor of History and History of Science, Princeton University. After January 1987, Department of History, Brandeis University. Ph.D., Harvard University, 1979. Specialties: Enlightenment science, history of mathematics (1600-1850), Renaissance natural history, nineteenth- and twentieth-century psychology. Professional activities: HSS—Schuman Prize Committee (member and Chair), Committee on Honors and Prizes, *Isis* Advisory Editor. Selected publications: "Prudence and Equity: Expectation

in Classical Probability Theory," *Historia Mathematica*, 1980, 7:234-260; "Unnatural Conceptions: The Study of Monsters in Sixteenth- and Seventeenth-Century France and England," (with Katharine Park) *Past and Present*, August 1981, 92:20-54; "The Theory of Will versus the Science of Mind," in *Psychology in Nineteenth-Century Thought*, ed. M. Ash and W. Woodard (Praeger, 1982), pp. 88-115; "Galilean Analogies: Imagination at the Bounds of Sense," *Isis*, 1984, 75:302-310. Current project: a book on the classical theory of probability during the Enlightenment.

Gerald Holton

Professor of Physics and Professor of History of Science, Harvard University; Visiting Professor, MIT. Ph.D., Harvard University, 1948. Specialties: history of modern physical sciences; scientific institutions; science, technology and society. Professional activities: HSS—Council 1959-1961, 1963-1965, 1981-present; President, 1983-1984; Chair of Fundraising Committee and of Committee on International Activities. U.S. National Committee for History and Philosophy of Science. Académie Internationale d'histoire des Sciences—Vice President. Founder of the quarterly journals *Daedalus* and *Science, Technology and Human Values* Radcliffe Institute for Independent Study—Advisory Board. Selected publications: *Thematic Origins of Scientific Thought: Kepler to Einstein* (Harvard Univ. Press, 1973); *Scientific Imagination: Case Studies* (Cambridge Univ. Press, 1978); *Introduction to Concepts and Theories in Physical Science* (with S. G. Brush) (Princeton Univ. Press, 1985 edition); co-editor, *Albert Einstein: Historical and Cultural Perspectives* (Princeton Univ. Press, 1982); *The Advancement of Science, and its Burdens: The Jefferson Lec-*



Rachel Laudan



Edith D. Sylla



Richard S. Westfall



Joan Cadden



Gerald L. Geison

ture and Other Essays (Cambridge Univ. Press, forthcoming).

Karl Hufbauer

Associate Professor, Department of History, University of California, Irvine. Ph.D., University of California, Berkeley, 1970. **Specialties:** early modern chemistry, twentieth-century physics and astronomy. **Professional activities:** West Coast HSS—President, 1980–1982. Selected publications: *The Formation of the German Chemical Community, 1720–1795* (Univ. California Press, 1982); "Astronomers Take up the Stellar-Energy Problem, 1917–1920," *Historical Studies in the Physical Sciences*, 1981, 11:277–303. **Current projects:** writing a history of solar science since Galileo on a NASA contract, examining the stellar-energy problem (1903–1941) as a case study of interdisciplinary theoretical science.

Rachel Laudan

Associate Professor, Science Studies Center, Virginia Polytechnic Institute and State University. Ph.D., University of London, 1974. **Specialties:** history of geology, history of technology, historiography. **Professional activities:** HSS—Council member, 1983–1986; *Isis* Advisory Editor, 1985–1988. Selected publications: (ed.) *The Nature of Technological Knowledge* (Reidel, 1984); "Redefinitions of a Discipline: Histories of Geology and Geological History," in Loren Graham et al., *Functions and Uses of Disciplinary History* (1983); "The Role of Methodology in Lyell's Geology," *Studies in History and Philosophy of Science*, 1982, 13:215–250; "Ideas and Organizations: The Case of the Geological Society of London," *Isis*, 1977, 68:527–538. **Current project:** a book on the history of geology from the Scientific Revolution to 1830.

Edith D. Sylla

Professor of History and Assistant Dean for Research and Graduate Programs, North Carolina State University. Ph.D., Harvard University, 1971. **Specialties:** history of medieval natural philosophy, mathematics, and logic; transition from late medieval to early modern science. **Professional Activities:** HSS—Schuman Prize Committee, Chair, 1974; Pfizer Award Committee, Chair, 1979; Committee on Honors and Prizes, Chair, 1981–1984; Council, 1982–1984, Secretary, 1986–present. AAAS—Section L Nominating Committee, 1984–1986, Chair, 1985–1986. Triangle History of Science Group—Program Secretary, 1980–1982. Selected publications: "Medieval Concepts of the Latitude of Forms: The Oxford Calculators," *Archives d'Histoire Doctrinale et Littéraire du Moyen Age*, 1973, 40:223–283; "Autonomous and Handmaiden Science: St. Thomas Aquinas and William of Ockham on the Physics of the Eucharist," in *The Cultural Context of Medieval Learning*, ed. John Murdoch and Edith Sylla (Reidel, 1975); "Compounding Ratios: Bradwardine, Oresme, and the first Edition of Newton's Principia," in *Transformation and Tradition in the Sciences: Essays in Honor of I. Bernard Cohen*, ed. Everett Mendelsohn (Cambridge Univ. Press, 1984).

Richard S. Westfall

Professor of History of Science, Indiana University. Ph.D., Yale University, 1955. **Specialties:** the Scientific Revolution, Isaac Newton. **Professional Activities:** HSS—President, 1977–1978. Selected Publications: *Force in Newton's Physics* (Macdonald, 1971), Pfizer Award, 1972; *Never at Rest* (Cambridge Univ. Press, 1980), Pfizer Award, 1983.

FOR THE NOMINATING COMMITTEE—AT LARGE

Joan Cadden

Associate Professor of History, Kenyon College. Ph.D., Indiana University, 1971. **Specialties:** medieval science—theories of the elements, life sciences and medicine, women in science and medicine. **Professional activities:** HSS—Nominating Committee, 1973, 1976; Schuman Prize Committee, 1973–1975, chair, 1975; Council, 1975–1978; Zeitlin–Ver Brugge Prize Committee, 1986. Selected publications: "Albertus Magnus' Universal Physiology: The Example of Nutrition," in J. A. Weisheipl, ed., *Albertus Magnus and the Sciences* (Toronto, 1981); "It Takes All Kinds: Sexuality and Gender Differences in Hildegard of Bingen's *Book of Compound Medicine*," *Traditio*, 1984, 40:149–174; "Medieval Scientific and Medical Views of Sexuality: Questions of Propriety," *Medievalia et Humanistica* (forthcoming). **Current project:** a book on medieval medical and natural philosophical ideas about sexuality, sex difference, and reproduction.

Gerald L. Geison

Professor and Director of the Program in History of Science, Princeton University. Ph.D., Yale University, 1970. **Specialties:** history of biology and medicine. **Professional activities:** HSS—Council, 1982–1985; *Osiris*, Contributing Editor. Selected publications: *Michael Foster and the Cambridge School of Physiology* (1978), articles for the *Dictionary of Scientific Biography*, including a monographic essay on Louis Pasteur. Edited and contributed to three books: *Professions and Professional Ideologies in America* (1983); *Professions and the French State, 1700–1900* (1984); and *Physiology in the*



Owen Hannaway

American Context, 1850-1940 (forthcoming in 1987).

Owen Hannaway

Professor and Chair of the History of Science Department, Johns Hopkins University. Ph.D., Glasgow, 1966. Specialties: history of chemistry and the history of early modern science. Professional activities: HSS—Council, 1983-1985; Program Committee Co-chair, annual meeting (Philadelphia, 1982); Pfizer Award Committee; Zeitlin-Ver Brugge Prize Committee. Selected publications: *The Chemists and the Word* (Johns Hopkins Univ. Press, 1976). Current project: work on the origins of laboratories and on the place of humanism and neoscholasticism in the development of sixteenth- and seventeenth-century science and technology.

Sandra Herbert

Professor, Department of History, University of Maryland—Baltimore County. Ph.D., Brandeis, 1968. Specialties: history of biological, earth, and social sciences; Darwin studies. Professional activities: HSS—Council, 1977-1979, 1982-1984; Program Chair, 1978, annual meeting. Selected publications: author of studies on Charles Darwin and editor of *The Red Notebook of Charles Darwin*.



Sandra Herbert

NEWS OF THE SOCIETY

First HSS Associate Scholars Announced

The History of Science Society is pleased to announce the first two in a series of continuing awards to unaffiliated scholars. Robert Marc Friedman (Ph.D. Johns Hopkins, 1979), currently at the Office for History of Science, Uppsala University, Sweden, has been awarded a grant to help further his research on the history of modern American meteorology and to pursue job interviews at several American universities. Miriam R. Levin (Ph.D. University of Massachusetts, 1980) is an Associate Fellow of the Institute for Advanced Study in the Humanities, University of Massachusetts, Amherst, and an Associate of Five Colleges, Inc. She has been awarded funds to help defray the costs of research in Sweden on the arts and the adaptation of new technologies to contemporary culture. Specifically, she plans to focus on the seeming discrepancy between the handcrafted character of Swedish domestic goods and textiles and the high degree of technological sophistication that exists in industrial design and production there. Both awards have been made possible through generous grants from the Rockefeller Foundation as well as the C. Doris Hellman Memorial Fund and the Culpeper Foundation, and by gifts from the membership of the History of Science Society.

The purpose of the History of Science Society's Unaffiliated Scholars Program is to aid scholars trained in the history of science who are at present unemployed or unaffiliated with any institution making use of their training as historians of science, or whose affiliations are either part-time or short-term without prospects of continuation or renewal. Awards in amounts up to \$1,000 will be made to facilitate research or travel to prospective job interviews. Applicants must have received a Ph.D. in the history of science, technology, medicine, or a related field closely affiliated with the history of science. Membership in the History of Science Society is *not* a prerequisite, nor shall preference be given to applicants on the basis of age or previous academic or other affiliations.

Applications may be submitted at any time to the Coordinator of Programs of



C. Doris Hellman, 1910-1973

the History of Science Society. Completed applications should include an up-to-date curriculum vitae and a brief description of the applicant's training and research in the history of science, career expectations in general, and short-term prospects in particular. Requests for funds to cover travel expenses to interviews should describe the position for which the applicant is to be interviewed, along with a brief statement about her or his qualifications and specific interests related to the position in question. A tentative budget indicating amounts requested and a full justification of each item requested should accompany the application.

Awards will be announced within six weeks of receipt of an application. Those who receive awards will be designated "Associate Scholars of the History of Science Society." The Society will also provide its Associate Scholars with an honorary annual membership in the Society, including subscription to *Isis* and the Society's quarterly *Newsletter*. The HSS Unaffiliated Scholars Committee responsible for the selection of HSS Associate Scholars is chaired by Diana E. Long and comprises David Allison, William F. Aspray, Pamela E. Mack, Margaret Rossiter, and Jeffrey L. Sturchio.

Completed applications should be sent to Joseph W. Dauben, HSS Coordinator of Programs, Department of History, Herbert H. Lehman College, CUNY, Bedford Park Blvd. West, Bronx, NY 10468; telephone (212) 790-4621 or 960-8289.

HSS Thematic Conferences Funded

As reported in the April *Newsletter*, the Executive Committee approved at its March meeting the inauguration of a new program for support of **occasional thematic meetings**. At that meeting the Executive Committee also asked Gerald Holton to apply in the Society's name for foundation support of this new initiative, which had been recommended by the **Ad Hoc Committee on Regional and Thematic Conferences**, appointed at the October 1985 Bloomington meeting.

In a letter of June 2 to the Executive Committee, Gerald Holton reports that the Exxon Education Foundation has granted the application and awarded the Society \$15,000, to be used in conjunction with money already in hand, to support the first three years of this project, at a rate of approximately \$7,500 per year. In his letter of application to the Exxon Educational Foundation, Professor Holton

said: "As historians of science, we know well that, again and again, scientific fields themselves were transformed when experts came together for careful and considered discussion on frontier problems for several days, away from the turmoil of the usual annual meeting of the professional society. One thinks here of the Shelter Island conferences that got quantum electrodynamics off to a new start after the Second World War, of the Cold Spring Harbor conferences that launched some of the key subfields of molecular biology, and of the AAAS's Gordon conferences that have proven invaluable for many subfields of biomedicine in particular. On many questions of interest, such as the nature of team research, scholars in the history of science have taken specific organizational ideas common in the sciences and are proving their worth for research in the humanities; we believe this can be another such case. Our new Regional/Thematic Meetings will be designed to allow intensive and sustained consideration of a selected topic of scholarly inter-

est. . . . An additional attraction of this plan is that it will give us a new way to bring together parts of our widely dispersed membership which may not be sufficiently represented in the big Annual Meetings. In locating the Regional/Thematic Meetings at times and places away from the Annual Meeting, we will seek especially to meet the needs and interests of scholars located at productive centers in a region not often visited by the Annual Meeting."

As previously announced, the deadline for the first round of applications for support of thematic meetings to be held before 30 June 1989 is **15 September 1986**. The maximum award for any one meeting will be \$3,000, although most awards will be smaller. For further information and **guidelines for applying**, contact Ronald L. Numbers, Department of the History of Medicine, University of Wisconsin, 1300 University Avenue, Madison, WI 53706; telephone (608) 262-3701. The selection committee also includes John Heilbron and Jeffrey Sturchio.

HSS Annual Meeting

Travel Support to the Meeting

At its most recent meeting, the Executive Committee of the History of Science Society voted to make funds available from the Society's C. Doris Hellman Memorial Fund and its Rockefeller Foundation grant for **unaffiliated scholars** to support the **travel of graduate students and unaffiliated scholars** to the next Annual Meeting of the Society if they otherwise could not go. The Annual Meeting will be held in **Pittsburgh 23-26 October 1986**. Awards will be made on a competitive basis, primarily to cover economy-class roundtrip airfare (plus reasonable ground transportation) to Pittsburgh; the maximum for each subsidy will be \$400. Applicants should be residents of the United States, Canada, or Mexico. Preference will be given to advanced graduate students and to unaffiliated scholars (including those in part-time but not tenure-track positions).

To apply for these grants, send a brief curriculum vitae that also lists a few recent publications, if any, and the title of work in progress. Staple to this a cover

sheet (one page) that displays the following information clearly: your name, addresses (home and office or school) and telephone numbers; present title and employer (if any); whether a student—and if not, your highest degree, with date and place; a paragraph on why you wish to go and how you expect to profit from attendance at the Pittsburgh meeting; two references who may be contacted about your scholarly work; a few lines explaining whether you will be presenting a paper or attending the meeting for job interviews; finally, the *approximate* cost of economy-class round-trip airfare from wherever you expect to be in October 1986.

Applications must be received no later than **15 August 1986**, and should be sent to the HSS Coordinator of Programs, Professor Joseph W. Dauben, Herbert H. Lehman College, CUNY, Bedford Park Blvd. West, Bronx, NY 10468. Final decisions will be made early in September; all recipients will be notified by 15 September and must confirm their acceptance by 30 September. Following the HSS Annual Meeting, those who have accepted funds to attend the Pittsburgh meeting will be expected to submit a one-page account of the use made of the awards. The Society's

Committee on Grants for Unaffiliated Scholars, chaired by Dr. Diana Elizabeth Long, Director of the Francis C. Wood Institute (Philadelphia), will oversee the selection of recipients.

Registration Forms to Come in Mail

The **1986 HSS meeting**, to be held jointly with PSA, SHOT, and 4S, will be held at the **Pittsburgh Hilton** during 23-26 October 1986, in Pittsburgh, Pennsylvania. Sessions as well as banquets and similar events will all be scheduled at the Pittsburgh Hilton.

Preregistration forms for the meeting and hotel reservation forms will be mailed **directly** to members of all four societies in **mid August**. Registrants will be able to indicate which society they wish to register with; meals and similar events will be coordinated across the program. If you have not received your preregistration and reservation forms by the **end of August**, please contact Peter Machamer, Department of History and Philosophy of Science, 1017 Cathedral of Learning, University of Pittsburgh, Pittsburgh, PA 15260, at once.

History of Science Society Employment Survey, 1984-1985

By MARTHA ELLEN WEBB*
Creighton University

At the meeting of the Women's Committee during the HSS annual meeting in Bloomington, Indiana, in October 1985, a discussion of the 1983-1984 survey published in that month's *HSS Newsletter* was followed by Martha Ellen Webb's preliminary report of the employment survey for the recent 1984-1985 academic year. Since then additional information has been solicited, tabulated, and analyzed. The final results of the 1984-1985 survey are presented below.

Advertisements for a total of 63 positions for which history of science, technology, or medicine (HSTM) was indicated as an area of expertise were noted during the period May 1984-April 1985. As in the previous year, advertisements were gleaned from five sources: the *HSS Newsletter*, *AHA Perspectives*, the *SHOT Newsletter*, the *Bulletin of the American Association for the History of Medicine*, and the *Chronicle of Higher Education*. Of the 63 positions found, 30 required HSTM as the applicant's area of expertise (Category I in the appended tables); 14 listed HSTM as one of two areas of specialization required (Category II); 19 positions mentioned HSTM as a possible area of expertise (Category III).

Survey forms were sent to the 63 institutions advertising the positions; 54 replied (24 in Category I, 12 in Category II, and 18 in Category III). Of these 54 positions, 68% were permanent; however, only 58% of the 36 positions requiring HSTM were. The nature of the 54 positions varied: 63% were teaching positions; 17% were editing or research positions; 15% involved library, archival, or museum work; and 5% were administrative. In Categories I and II, approximately 53% were teaching positions; 19% were in

editing or research; 17% were library, archival, or museum positions; and 8% were administrative positions. Of the 48 positions for which this information is available, 42% in all categories preferred applicants with a broad historical background, as compared to 37% of the 30 positions requiring HSTM.

Approximately 1,557 applications were received for 47 positions on which such information is available in all three categories. Of these applications, 591 were for 29 positions in Categories I and II. The search was successfully concluded in 83% of the 54 positions for which we received responses and in 78% of such positions

With SARA JOAN MILES
Wheaton College

and ALESIA MALTZ
University of Illinois

requiring HSTM. As a result of applications and interviews for these positions, 45 people were employed during the 1984-1985 academic year; of these 28 were employed in positions requiring HSTM. In 17% of the 54 positions, the search remained in progress into the fall of 1985 or spring of 1986 or was closed unfilled, or the position was eliminated at some time during 1984-1985. This was also the situation in 19% of the positions requiring HSTM. Historians of science, technology, or medicine captured 65% of the 43 positions on which such information was received in all three categories, 85% of the 27 jobs in Categories I and II,

Category I: (HSTM) The Required Area of Expertise

	JOB DESCRIPTION				APPLICANT POOL				SUCCESSFUL CANDIDATE*
	Fields	Background*	Rank	Advt. ^b	Total	M, F, Min.	Degrees (Ph.D., ABD, Other)	Pfields (HSTM, Hist., Not hist.)	
Permanent									
Auburn	HT	Broad, Ph.D.	Asst.	2, 3, 5, 7	16	12, 4, 0	16, 0, 0	13, 3, 0	M, Ph.D. 1983, HSTM, H
Brandeis	HS	Broad, Ph.D.	Assoc.	1	Survey unanswered				F, Ph.D. 1979, HS ^d
Clemson	HST, WCiv, US	Broad, Ph.D.	Asst.	1, 2, 5	25	18, 7, 2	20 [?] , 5 [?] , 0	21 [?] , 2 [?] , 2 [?]	F, Ph.D. 1983, HST
Dartmouth	HS	Broad, Ph.D.	Asst.	2	15 [?]	most, 0, 0	15 [?] , 0, 0	15 [?] , 0, 0	M, Ph.D. 1984, HSTM
Drexel	HT	Ph.D.	Open	2, 3, 5	Survey unanswered				
Harvard	HS	Ph.D.?	Open	1	Search in progress				
Univ. Minnesota Twin Cities	HS	Ph.D.	Asst.	1, 4, 5, 7	18	10, 8, NA	7, 5 [?] , 7 [?]	18, 0, 0	M, Ph.D. 1979, HSTM*
Naval Oceans Systems Center	HST, Arch	Ph.D.	GS-11?	1, 7	NA	NA	NA	NA	M, Ph.D., H
Univ. N. Carolina, Charlotte	HS	Broad, Ph.D.	Asst.	2, 3, 5	61	50, 11, 2	44, 17, 0	61, 0, 0	M, Ph.D. 1983, HST
Notre Dame	HST, H	Ph.D.	Asst.	2, 7	3	17, 6, NA	20, 3, 0	23, 0, 0	M, Ph.D. 1982, HSTM*
Princeton	HS	Ph.D.?	Senior	1, 2	23	19, 4, 0	23, 0, 0	NA	M, Ph.D. 1958, HS
Smithsonian	HSM, Mus		Tech-Spec.	1, 7	3	2, 1, 7	0, 0, 3 (BS, BA, MA)	1, 2, 0	M, MA, HSTM
Stanford	HS, HM	Ph.D.?	Senior	1, 2, 7	Survey unanswered (not yet filled) ^d				
Univ. Sydney	HSM		Lect.	4, 6	Survey unanswered				
Univ. Texas	HS	Ph.D.	Asst.	2, 5	25	13, 12, NA	22, 3, 0	25, 0, 0	M, Ph.D. 1984, HSTM
Univ. Wisconsin, Madison	HM	Broad, Ph.D.	Open	1, 2, 5, 7	20	11, 9, 7	16, 4, 3	20, 0, 0	M, Ph.D. 1981, HSTM
Univ. Wisconsin, Madison	HPharm	Ph.D.	Prof. & Dir.	1, 2, 7	13	11, 2, 0 [?]	11, 2, 0	13, 0, 0	M, Ph.D. 1967, HM, H
Temporary									
Anonymous ^f	HM		G8-13	1, 4	2	2, 0, 0	2, 0, 0	2, 0, 0	M, Ph.D., HM
Arizona Ctr. for HST Med. & Ren. St.		Broad, Ph.D.	Postdoc.	2	NA	NA	NA	NA	M, Ph.D. NA
Univ. California Irvine	HS	?	Lect.	5	Survey unanswered				
Univ. California Los Angeles	HT, STS	Broad, Ph.D.	Open	1, 2	1	1, 0, 0	1, 0, 0	1, 0, 0	M, Ph.D., HSTM
California State Fullerton	HS, WCiv	Broad, Ph.D.	Asst.	2	16	11, 5, 7	12, 4, 0	16, 0, 0	M, Ph.D., HSTM
Ctr. for History of Chemistry	HST	Ph.D.	Res'ch Assoc.	1	5	5, 0, NA	5, 0, 0	5, 0, 2	M, Ph.D. 1965, S
Ctr. for History of Physics	HS	Ph.D.	Assoc. Hist.	1, 2, 7	10	9, 1, 0	7, 2, 1	3, 6, 1	M, Ph.D. 1985, HSTM
East Carolina Univ. Melbourne	HST	Ph.D.	Asst.	5	17 [?]	13 [?] , 4 [?] , 1 [?]	15 [?] , 2 [?] , 0	11 [?] , 5 [?] , 1 [?]	Position unfilled
NASA-Goddard Space Flight Center	HS	Ph.D.	Lect.	1, 2, 7	15	12, 3, 7	10, 3, 2	7, 3, 5	M, Ph.D. 1977, HSTM
Rochester Inst. of Technology	STS ^h	Ph.D.	Princ. Invest.	1	Survey unanswered				
Yale	HSM	Ph.D.	Asst.	5	40 [?]		3 [?] , most	Most were scientists	Position reopened ^g
Yale	HSM	Ph.D.	Asst.	4	Search in progress				

* The compilers would like to thank those employers who responded to the questionnaire and telephone calls for this survey and the Department of History at Creighton University for its financial support.

but only 31% of the 16 positions on which information is available in Category III. Five of the 23 successful candidates identified by their employers as trained in HSTM obtained employment in Category III positions. With respect to level of education, approximately 84% of the successful candidates about whom such information was provided had the Ph.D. in hand; 5% were ABDs; 12%, however, possessed other degrees (such as M.A.s). With respect to the sex of the candidate, employers in all three categories received about 277 applications (18% of the total) from females in the 1984-1985 competition, and the across-the-board success rate of female candidates appears to have been proportional to their representation in the general applicant pool. Women obtained 18% of the 45 positions filled in all three categories. But in Categories I and II, in which expertise in HSTM is required, women fared less well: applications from females amounted to approximately 23% of the total, yet a female secured only one (5%) of the 20

positions filled during the year.¹ Other figures relevant to the success rate of females in the job market are as follows: 13% of the HSTM specialists hired in all categories were women; 6 out of 8 women hired in all categories were hired in academic teaching positions; and 7 out of 8 women hired in all categories were hired in permanent positions. Although information is sketchy regarding applications from minorities, it appears that approximately 1% of the total applications received in all three categories, as well as in the subset of Categories I and II, were from minorities. Only one known minority was among the 45 persons hired in all categories in 1984-1985 (2%); none were hired in positions requiring HSTM.

A variety of comments on the nature and qualifications of the applicant pool were received this year from responding employers. Assessments of the size of the

pool ranged from "no good pool of candidates," to "disappointingly small," to "good." Among those employers who complained of a small applicant pool, one museum director decided it was likely because "people are not sufficiently on the lookout for non-academic jobs." One school reporting a small applicant pool perceived itself to be in competition with other schools for a very small group of qualified applicants. For the most part, however, a significant number of employers agreed that they had "received a number of very qualified candidates." Moreover, one employer who interviewed scholars from a variety of specializations felt that "the history of science applicants were the best of the lot." Although employers still encourage candidates "to have strong second fields of specialization," very few comments were received from academic employers who believed "too many candidates had a narrow and specialized view of their field," contrary to last year. Instead, most felt satisfied with the academic breadth of the candidates. Not all employers found candidates with the talents they needed, however. Several employers noted a lack of applicants with teaching experience or a knowledge of twentieth-century science, historical editing, oral history techniques, or library and museum training.

A comparison of positions available in the 1984-1985 year with those available in previous years reveals the following general trends. Whereas the number of advertised positions had previously decreased from 1981 to 1983, 1984-1985 saw a whopping increase from 1983-1984's 48 positions to 63—a number that surpassed even the 1981 figure. The survey shows a continuous growth in positions requiring HSTM as a field over the past two years, following a decline in 1982-1983. In 1983-1984 there were 34, and this year the number of positions in Categories I and II rose to 44. Of special interest is the expansion by 88% of Category I positions, from 16 in 1983-1984 to 30 in 1984-1985. The 1984-1985 year reversed a three-year trend in which the percentage of permanent positions possibly available to those trained in HSTM declined. Of the base, 62% was permanent in 1983-1984, compared to 68% in 1984-1985. A similar reversal was evident in the number of permanent positions in Categories I and II: following a three-year decrease, the percentage rose from 50% in 1983-1984 to 58% in 1984-1985. The

¹ [This does not include the position in Category I, for which the survey was not answered (see note d).

Category II: HSTM One of Two or More Areas of Expertise Desired

	JOB DESCRIPTION				APPLICANT POOL				SUCCESSFUL CANDIDATE ^c	
	Fields HSTM	Other	Background*	Rank	Advt. ^b	Total	M, F, Min.	Degrees (Ph.D., ABD, Other)	Fields (HSTM, Hist., Not hist.)	Gender, Degrees & Date, Fields
Permanent										
Univ. Alabama, Birmingham	HM	M ^a	M.D.	Asst.	4, 7	4	3, 1, ?	0, 0, 4 [MD]	NA	Position unfilled—no suitable candidate
American Medical Association	HS, HT	H, MSoc	Ph.D. pref.	Staff	2, 5	40	23, 17, ?	30, 3, 7	5, 1, ?	Position eliminated
Ctr. for History of Chemistry	HS	Chem, Chem Eng	Ph.D. Dir.	Asst.	1, 5	5	4, 1, 0	5, 0, 0	3, 0, 2	M, Ph.D. 1982, HSTM
College of Physicians, Philadelphia	HM	Lib		Dept. Head	5, 6, 7	25	12, 15, 1	0, 0, 2 [MLS, MA]	NA	M, MA, HSTM
Edison Institute	HT	Mus	Broad. Ph.D.	Curator	3, 7	8 ^a	4, 4, ?	4, 0, 4 [MA]	4, 0, 4	M, Ph.D., TSoc, H
Univ. Pittsburgh	HS	PS	Ph.D.	Asst./Assoc.	1, 7	103	91, 12, ?	90, 13, 0	52, 0, 51 [PS]	M, Ph.D. 1969, PS
St. Louis Science Ctr.	HT	T	Broad	Asst. Curat.	5, 7	25	18, 7, ?	NA	HST	M, NA, HST
SUNY Buffalo	HST	H	Broad, Ph.D.	Asst.	1, 2, 5, 7	25 ^d	24 ^d , 1 ^d , 0	NA	NA	M, Ph.D., 1982, Bus. & Tech
Temporary										
Carnegie-Mellon	HT	Eng	Ph.D.	Asst.	3	2	2, 0, 0	2, 0, 0	2, 0, 0	M, Ph.D. 1982, HSTM
Drew	HS	PS	Ph.D.	?	1	Survey unanswered				
Edison Papers	HST	Bush ⁱ		Ed'l Asst.	1, 3	Decided not to hire				
NAS—Writer	HST	H ^a	Ph.D.	None	1, 3, 7	6	6, 0, 0	5, 1, 0 [H], 0	(HT)	M, ABD, HT
NASA—Program Historian	HST	H ^a	Ph.D.	None	1, 2	Position not yet filled				
Sarah Lawrence	HS	SSoc ^b	Ph.D.	Asst.?	1, 3	Survey unanswered				

Key to Tables

Universities (Univ.) are alphabetized under the main part of the name
 NA = Not answered in survey
 ? = Information uncertain or unknown
 Fields and experience
 H History
 M Medicine
 S Science
 T Technology
 PS Philosophy of science
 SHS Social history of science
 ST Science and technology
 STS Science, technology, and society
 US U.S. history
 MSoc Society and medicine
 SSoc Science and society
 TSoc Technology and society
 Arch Archives
 Edit Editing
 Lib Library
 Mus Museum
 Other abbreviations are self-explanatory

* Background
 Broad = broad historical background required
 Ph.D. = Ph.D. required
^b Advertising media
 1 HSS Newsletter
 2 AHA Perspectives
 3 SHOT Newsletter
 4 AAHM Newsletter
 5 Chronicle of Higher Education
 6 Bulletin of History of Medicine
 7 Other

^c One successful candidate (Ohio State, Table III) was identified as a member of a minority group; all others were identified as not being members of a minority group.
^d Supplied by HSS Publications Office, not reflected in text.
^e Female declined position.
^f Institution asked not to be identified.
^g Information on finalists only.
^h Primary field sought.

percentage of academic positions in all categories also stopped growing last year and even decreased. Whereas from 1981 to 1984 the percentage increased yearly to 71% in 1983-1984, in 1984-1985 only 63% of all jobs available were academic in nature. In Categories I and II alone, the percentage of academic jobs available fell from 67% to 53%, after having remained steady for a three-year period. It thus appears that in 1984-1985 the largest amount of growth in the job market occurred outside academe.

Comparison of the findings of the surveys for 1981 through 1985 yields the following patterns of candidate success. Whereas historians of science, technology, or medicine had secured increasingly larger percentages of all jobs available to them in the 1981-1984 seasons (51% in 1981-1982; 60% in 1982-1983; 68% in 1983-1984), this past year their success rate declined slightly to 65%. In the 1981-1983 period, the success rate of specialists in the field in winning positions in Categories I and II in which HSTM was a required area of expertise had oscillated between 100% and 85%, but this year no change from last year's

rate (85%) occurred. On the bright side, the survey indicates a continuation of the ability that historians in this field displayed from 1981 to 1984 to corner an increasingly larger portion of the positions in Category III (from 10%, to 23%, to 27% in 1981-1984, to 31% in 1984-1985). There are a number of probable explanations for this trend. Among the most likely are that specialists in HSTM are entering the applicant pool in Category III in greater numbers (which is true of the last two years, but cannot be determined from earlier surveys, which did not present figures on this point), that HSTM itself is increasing in visibility and popularity, that those trained in HSTM are showing well in Category III interviews, and that those applying for these positions are increasingly able to teach bread-and-butter courses or other specialized courses outside of HSTM. On the other side of the coin, since 1982-1983 larger percentages of those in HSTM employed in all positions each year have found employment in Category III, with the 1984-1985 figure of 22% being the highest rate in the last four seasons. Women, however, have not been so successful on the job market. The per-

centage of women in the applicant pool in all three categories declined during the 1981-1985 period, from 22% in 1981-1982 to 18% in 1984-1985. But the overall success rate of women hired in all three categories remained steady at 28% from 1981 to 1983, declined to 16% in 1983-1984, then rose slightly to 18% in 1984-1985. In Categories I and II alone, while the percentages of women hired declined from 26% in 1981-1982 to 15% in 1983-1984, 1984-1985 was a catastrophic year. Only one woman was hired in these two categories; thus, the female success rate plummeted to 5%.² Three Category I employers reported they first offered the position to a female who declined (one because of a lack of employment opportunities available to her husband in that location).

We hope that a knowledge of the employment trends revealed by our survey will be helpful to those in HSTM currently seeking employment, as well as to individuals and departments training students in HSTM.

² See note 1 above, and Table I.

Category III: HSTM a Possible Area of Expertise

	JOB DESCRIPTION				APPLICANT POOL					SUCCESSFUL CANDIDATE ²
	Fields HSTM	Other	Background ^a	Rank	Advt. ^b	Total	M, F, Min.	Degrees (Ph.D., ABD, Other)	Fields (HSTM, Hist., Not hist.)	Gender, Degrees & Date, Fields
Permanent										
Ball State	HM	Demog, FamHist	Broad, Ph.D.	Asst.	2, 5	18	12, 6, ?	11, 7, 0	5, 13, 0	F, Ph.D. 1985, HSTM
Chapman College	HT	WorldCiv, SSoc, NonWestCult	Broad, Ph.D.	Open	2, 5	78	59, 19, 3?	75, 3, 0	15, 63, 0	M, Ph.D. 1985, HSTM
College of Charleston	HS	FrHist	Broad, Ph.D.	Asst./ Assoc.	2	43	29, 14, ?	25, 18, 0	13, 30, 0	F, Ph.D. 1985, H
Clark	TSoc	S, Other	Ph.D.	Open	3, 7	108?	97?, 11?, 4?	104?, 4?, 0	5, 0, 103	F, Ph.D., S
Deep Springs College	HS	PhysS, Math ²		Open	5, 7	48	47, 1, ?	most	0, 0, 48 [Phys, Chem]	M, Ph.D., Phys
Univ. Denver	HT	PubPol & Devel	Ph.D.	Asst.	2, 7	54?	48?, 6?, 0	43?, 11?, 0	10, 0, 44?	Position unfilled
Edison Papers	HT	US, Arch, Edit	Broad	Junior	1	37	27, 10, ?	NA	NA	F, BA, H, Arch, Edit
Einstein Papers	HS	Germ, Phys	Ph.D.	Asst. Ed.	1, 7	6	6, 0, NA	6, 0, 0	5, 0, 1	M, Ph.D. 1985, HSTM, S
Univ. Louisville	HST	US	Ph.D.	Asst.	2	Survey unanswered				
Univ. Maryland, College Park	HSM	PS, PhysS Math	Ph.D.	Senior	1, 7	25?	21?, 4?, 0?	23?, 2?, 0	NA, NA, 25?	Position unfilled— continuing search
Michigan Tech.	TSoc	Numerous	Ph.D.	Open	3, 5	45	38, 7, ?	40, 4, 1	NA	F, Ph.D., Anthro
Miner Library, Univ. Rochester	HM	H, Lib, Other		Lib. II	4	7	4, 3, NA	1, 0, 6	2, 0, 5	M, MA, HSTM
Ohio State	HST	Econ, SocH	Broad, Ph.D.	Asst./ Assoc.	2, 5	85	60, 20, 1?	NA	NA	M, Ph.D. 1985, H
Univ. Puget Sound	HS	S&Val		Disting.	1	50?	44?, 6?, NA	NA	NA	M, NA, H?
Rensselaer (2 positions)	ST	Anthro, EurH	Ph.D.	Asst./ Assoc.	2, 3	116	90, 26, 5	100, 10, 6	100, 16, 0	M, Ph.D. 1981, Anthro F, ABD, EurH
Univ. Southern Mississippi	HST	H: Eur, East, Afr	Broad, Ph.D.	Asst.	2	38	33, 5, 1?	26, 12, 0	12, 26, 0	M, Ph.D., 1983, HSTM ²
Temporary										
New Mexico State	HS	ModEurH	Broad, Ph.D.	Asst.	2	120	NA	NA	NA	M, Ph.D., H
New Mexico State	HS	RussH	Broad, Ph.D.	Asst.	2	80	NA	NA	NA	M, Ph.D., H
Pearson Museum, Southern Illinois	HSM	Mus, Hum	Broad	Curat/ Instr.	1, 5, 6	8	4, 4, ?	3, 0, 5	3, 5, 0	F, MA, H, Archeol

See below Table II for the key to the tables.

HS-Related Groups

In August 1985 at the International Congress of History of Science in Berkeley the **Pacific Circle** was formed, to bring together scholars interested in the development of science in the Pacific, including both imperial and colonial scientific efforts and indigenous systems of belief about nature. The first *Pacific Circle Newsletter* appeared in March 1986. The copy deadline for the second issue of the newsletter is **15 August 1986**. Please forward news items to Philip F. Rehbock, History Department, University of Hawaii, 2530 Dole Street, Honolulu, Hawaii 96822, or to Roy MacLeod, Department of History, University of Sydney, New South Wales, Australia 2006.

The 1986 *Guide to the History of Science* will contain an expanded and updated "Guide to Societies and Organizations" in the field. Much of the information, especially on groups outside the United States, was collected at the International Congress of History of Science in Berkeley. Information on American groups was collected at the HSS Publications Office, using a list supplied by Michael Sokal, among many other sources.

Charles Rosenberg to be Editor of *Isis* through 1988

Having served as interim editor of *Isis* since January 1986, Charles Rosenberg has now been elected as editor, to finish the term begun by Arnold Thackray, ending 31 December 1988. History of Science Society authors are encouraged to send manuscripts for publication to Charles Rosenberg at the Pennsylvania office, where they will receive prompt consideration.

At the end of May 1986, George Ovitt (Drexel University) resigned as Assistant Editor of *Isis*. Jeffrey L. Sturchio (Center for History of Chemistry) has been appointed in his place to take over the book reviews. George Ovitt will be spending the year in China.

The Committee on Publications (Joseph Dauben, Chair, David Hollinger, Daniel Kevles, Sally Gregory Kohlstedt,

and Edith Sylla sitting in for William Coleman, ex officio member) met with Charles Rosenberg, Arnold Thackray (editor of *Osiris*), George Ovitt, Jeffrey Sturchio, Frances Kohler, and other members of the Publications Office staff in Philadelphia, 30–31 May, for a review of the current status of all the Society's publications. The Committee agreed that the *Cumulative Bibliography, 1976–85*, should be undertaken and is looking into a means to such publication. The Johns Hopkins Press has signed a contract to publish the first volume of *Osiris* in book form under the title *Historical Writing on American Science: Perspectives and Prospects*. David Hollinger has succeeded Daniel Kevles as the committee member with responsibility for occasional publications.

The History of Science Society has learned with regret of the deaths of Charles Schmitt, Lecturer at the Warburg Institute, and of Eugene Frankel, Senior Analyst at the Office of Technology Assessment.

Charles Schmitt was a Renaissance scholar; his publications included *Studies in Renaissance Philosophy and Science* (1981). He died suddenly in Padua on 15 April 1986 at the age of 52. A lecture in his memory was given by Quentin Skinner at the Warburg on 18 June. An *éloge* by Charles Webster will appear in a forthcoming issue of *Isis*.

Eugene Frankel died in Washington, D.C., on 6 May 1986. In his work for the House Committee on Science and Technology he had completed two studies, one on demographic trends and the science and engineering work force, and one on research funding as an investment.



NEWS FROM WASHINGTON

The following bulletin has been received from the National Coordinating Committee for Promotion of History (NCC).

On 7 May President Reagan forwarded to the Senate Governmental Affairs Committee the name of John Agresto for the position of U.S. Archivist. This Senate Committee has oversight responsibility for the National Archives and will hold a confirmation hearing on the nomination sometime this summer. There is every indication that the senators on this committee view this as a controversial nomination and intend to consider with care the many issues it raises.

Eight historical, archival, and genealogical societies, including the American Historical Association and the Organization of American Historians, have taken

official positions opposing the nomination. Others have the matter under consideration.

For those who wish to express their opinions, the members of the Senate Governmental Affairs Committee are William Roth, Chair (R-DE); Ted Stevens (R-AL); Charles Mathias (R-MD); William Cohen (R-ME); David Durenberger (R-MN); Thad Cochran (R-MS); Warren Rudman (R-NH); Thomas Eagleton (D-MO); Lawton Chiles (D-FL); Sam Nunn (D-GA); John Glenn (D-OH); Albert Gore (D-TN); and Carl Levin (D-MI); all at the U.S. Senate, Washington DC 20510.

For further information contact Page Putnam Miller, NCC, 400 A Street SE, Washington, DC 20003; telephone (202) 544-2422.

On May 27 a one-day meeting of historians of science was held at the National Academy of Sciences in Washington to consider the possibility of publishing a book summarizing the state of the field of history of science and technology, together with its opportunities and obstacles. The group, assembled by Frank Press, the Academy's President, chaired by Richard S. Westfall, and including among others Gerald Holton and Thomas L. Hankins, recommended going ahead with planning the project as indeed worthwhile. The Academy has in the past produced such sources for physics, chemistry, astronomy, and other fields, with considerable positive impact on funding and visibility.

History of Science Society Annual Meeting

The Pittsburgh Hilton
Pittsburgh, Pennsylvania
23-26 October 1986

A joint meeting with the Philosophy of Science Association, the Society for History of Technology, and the Society for Social Studies of Science.

1986 Program Committee
Michael Mahoney (Princeton University)
Lorraine Daston (Brandeis University)

Please report errors in or changes to the program **before 1 August** to Michael Mahoney, Program in History of Science, 220 Palmer Hall, Princeton, NJ 08544; telephone (609) 452-4716.

1986 Local Arrangements
Peter Machamer (University of Pittsburgh)

Preregistration forms for the meeting and hotel reservation forms will be mailed **directly** to members of all four societies in **mid August**. Registrants will be able to indicate which society they wish to register with; meals and similar events will be coordinated across the program. If you have not received your preregistration and reservation forms by the **end of August**, please contact Peter Machamer, Department of History and Philosophy of Science, 1017 Cathedral of Learning, University of Pittsburgh, Pittsburgh, PA 15260, at once.

Thursday, 23 October, 2:00 p.m.-5:00 p.m.

HSS Council Meeting

Friday, 24 October, 9:00 a.m.-10:30 a.m.

1. Works in Progress I

Howard Margolis (University of Chicago), *What Copernicus Discovered, and How He Did It*

Maurice A. Finocchiaro (University of Nevada, Las Vegas), *A Documentary History of the Galileo Affair, 1613-1633*

Gary L. Schoepflin (Walla Walla College), *The Plurality of Worlds Debate: Window on Scientific Change*

H. Floris Cohen (Technische Hogeschool Twente), *Pondering the Historiography of the Scientific Revolution*

Friday, 24 October, 9:00 a.m.-11:30 a.m.

2. Science in America or American Science? Reflections Occasioned by Volume One of the New *Osiris*

Organizer: Nathan Reingold (Smithsonian Institution)

Chair: Clark Elliott (Harvard University)

Panelists: Nathan Reingold (Smithsonian Institution)

Philip Pauly (Rutgers University)

Harry W. Paul (University of Florida)

David Joravsky (Northwestern University)

Discussion by the audience

3. Observation and Experience in Early Science and Medicine

Organizer and chair: Bernard Goldstein (University of Pittsburgh)

Alan C. Bowen (University of Pittsburgh), *Theory and Observation in Early Greek Science*

David C. Lindberg (University of Wisconsin), *Roger Bacon's Experimental Science: A Reappraisal*

Bernard Goldstein (University of Pittsburgh), *Observation and Experiment in the Astronomical Works of Levi ben Gerson*

D. Jacquart (Centre Nationale de Recherche Scientifique), *The Role of Experience in the Scholastic Medical Tradition*

4. The Politics of German Science

Organizer: Frederick Gregory (University of Florida)

Chair: Kathryn Olesko (Georgetown University)

Frederick Gregory (University of Florida), *Problems in the University Administration of Science in the Romantic Period*

Lewis Pyenson (University of Montreal), *Pure Learning and Political Economy: German Physicists and Astronomers Overseas, 1840-1940*

Edmund Todd (University of New Haven), *The Context of Change: Industry, State, and Electrical Technology in the Ruhr, 1900-1910*

Comment: Fritz Ringer (University of Pittsburgh)

5. Quantification: From the Middle Ages to the Seventeenth Century

Chair: William Shea (McGill University)

Allen Debus (University of Chicago), *The Role of Quantification in Alchemy and Chemistry, 1500-1800*

Ernan McMullin (Notre Dame University), *Giordano Bruno and Copernicus on the Role of Quantification*

William A. Wallace (Catholic University), *The Collegio Romano and Quantification in Natural Philosophy*

Jerome Bylebyl (Johns Hopkins University), *Harvey and Quantification*

Discussion by participants and audience

6. The Technology of Science (Joint Session with SHOT)

Organizer: Peter Galison (Stanford University)

Norton Wise (University of California at Los Angeles), *Kelvin, Telegraphy, and Electromagnetic Science*

Peter Galison (Stanford University)

Timothy Lenoir (University of Pennsylvania and Hebrew University)

Michael Mahoney (Princeton University)

7. Philosophy and Natural Philosophy in the Age of Reason (Joint Session with PSA)

Organizer: Lorraine J. Daston (Brandeis University)

Chair: Nancy Maull (University of Chicago)

Lorraine J. Daston (Brandeis University), *The Decline of Miracles*

John Yolton (Rutgers University), *Locke and French Materialism: Matières pensantes and Physical Influence*

Shirley Roe (Harvard University), *Biological Materialism in the Mid-Eighteenth Century*

Mary Terrall (University of California at Los Angeles), *Final Causes and Eighteenth-Century Physics*

Friday, 24 October, 10:30 a.m.–12:00 noon

8. Works in Progress II

Liba Taub (University of Kentucky), *Ptolemy's Physics: The Hypotheses Preliminary to the Syntax*

James M. Lattis (University of Wisconsin), *Clavius and Fracastorius: The Homocentric Threat to Ptolemaic Astronomy*

Lesley Cormack (University of Toronto), *Mathematical Geography as a Separate Branch of Study: Oxford and Cambridge, 1580–1620*

Charles D. Kay (College of Charleston, South Carolina), *William Gilbert and Electricity: A Case Study in Metaphor and Science*

Philip Lervig (University of Aarhus), *Sadi Carnot and Clapeyron's Equation*

Friday, 24 October, 12:00 noon–1:00 p.m.

Luncheon for the Osiris Editorial Board

Friday, 24 October, 1:00 p.m.–2:00 p.m.

HSS Business Meeting

Friday, 24 October, 2:00 p.m.–4:00 p.m.

9. Works in Progress III

Naum Kipnis (Bakken Library), *Establishing a New Scientific Concept: Galvani and Animal Electricity*

Peter McLaughlin (Tel Aviv University), *Vitalism and Newtonian Biology*

Lissa Roberts (Washington University), *Placed on a Pedestal: Instrumentation, Experiment, and Theory in Eighteenth-Century Chemistry*

Kurt Moeller-Pedersen (University of Aarhus), *The Conception of Water-Filled Telescopes in the Eighteenth Century*

Seymour H. Mauskopf (Duke University), *J. L. Proust and the Chemistry of Gunpowder*

Friday, 24 October, 2:30 p.m.–5:00 p.m.

10. Experiment, Observation, and Theory Formation in Twentieth-Century Science

Organizer and chair: Roger H. Stuewer (University of Minnesota)

Gerald Holton (Harvard University), *Origins of Cosmic Ray Research*

John Rigden (University of Missouri, St. Louis), *The Nucleus and Its Environment Before and After Nuclear Magnetic Resonance*

Silvan S. Schweber (Brandeis University), *Phenomenological Descriptions and Hierarchical Levels: The Case of the Lamb Shift*

Woodruff T. Sullivan, III (University of Washington), *The Development of Radio Astronomy After World War II: An Interplay of Techniques and Science*

Discussion by the audience



Very Large Array telescopes in New Mexico, 1980 (courtesy of Physics Today).

11. Mathematics in the Eighteenth Century

Organizer: Craig Fraser (University of Toronto)

Chair: Undecided

Craig Fraser (University of Toronto), *The Calculus as Algebraic Analysis: Issues in the History of Eighteenth-Century Mathematics*

Michael S. Mahoney (Princeton University), *The Seventeenth-Century Origins of Analytic Mechanics*

Victor J. Katz (University of the District of Columbia), *The Calculus of Trigonometric Functions in the Early Eighteenth Century*

12. National Styles in Science

Organizers and chairs: Gerald Geison (Princeton University)
John Servos (Amherst College)

Joan L. Richards (Brown University), *The Foundations of Analysis in France and England, 1820-1848*

Daniel P. Todes (Johns Hopkins University), *Darwinism in a Non-Malthusian Culture "The Struggle for Existence" and Russian Evolutionary Thought*

Robert E. Kohler (University of Pennsylvania), *Styles and Schools in American Science*

Comment: Robert G. Frank, Jr. (University of California at Los Angeles)

13. Science in the European Court

Organizer: Bruce Moran (University of Nevada-Reno)

Chair and comment: Brian Copenhaver (Oakland University)

Owen Hannaway (Johns Hopkins University), *Tycho Brahe: Between Castle and Court*

Nicholas Clulee (Frostburg State), *Laughed out of Court: John Dee's Pursuit of Patronage*

Bruce Moran (University of Nevada-Reno), *Princes in the Laboratory: Paracelsian Medicine, Alchemy, and Prince-Practitioning in the Early Seventeenth Century*

Mark Neustadt (Johns Hopkins University), *Patronage and the Philosophy of Science of Francis Bacon*

14. All in a Cell? Nineteenth- and Twentieth-Century Perceptions of Protozoa

Organizer: Frederick B. Churchill (Indiana University)

Frederick B. Churchill (Indiana University), *The Guts of the Matter: From Ehrenberg to Bütschli, 1838-1880*

Natasha Jacobs (Indiana University), *From Unit to Unity: Cell Theory, Protozoology, and the New Concept of Life, 1889-1910*

Marsha L. Richmond (Indiana University), *Protozoa as Prototype of Metazoa: German Cell Theory and Its Critics at the Turn of the Century*

Lynn J. Rothschild (Brown University), *Protozoa, Protoctist, Protist: What's in a Name?*

Comment: John O. Corliss (University of Maryland)

Parallel Session of Society for Natural History (see end of program)

Friday, 24 October, 4:00 p.m.-6:00 p.m.**15. Works in Progress IV**

Carl E. Perrin (York University), *Revolution or Reform? The Chemical Revolution and Eighteenth-Century Views of Scientific Change*

Simon Baatz (New York Academy of Sciences), *The Culture of Science in Three Contexts: Philadelphia, New York, and Boston, 1800-1850*

William Clark (University of California at Los Angeles), *From Disputation to Research: The Doctoral Dissertation in the German Universities*

Richard L. Kremer (Dartmouth College), *Building Careers in German Science, ca. 1850*

David Gooding (University of Bath), *Interpreting Crucial Experiments: The Historian as Lay Experimenter*

Kristie Macrakis (Harvard University), *Fear, Adaptation, and Passive Resistance: Research and Politics at the Kaiser Wilhelm Society under the National Socialists*

Friday, 24 October, 4:30 p.m.-5:30 p.m.**Meeting of the Committee on Research and the Profession**

Chair: Jeffrey L. Sturchio

Small Group Meetings**Friday, 24 October, 5:00 p.m.-6:00 p.m.****Meeting of the Women's Committee****Friday, 24 October, 5:30 p.m.-6:30 p.m.****Meeting of the Committee on Education****Friday, 24 October, 6:30 p.m.****Dinner in Honor of Marshall Clagett****Dinner for the Isis Editorial Board**

Teaching in the History of Science

Resources & Strategies

THE SCIENTIFIC REVOLUTION

RICHARD S. WESTFALL
Indiana University

FOREWORD

With the publication of the first teaching guide for the series *Teaching the History of Science: Resources and Strategies*, produced under the auspices of the Committee on Education, the History of Science Society inaugurates a new service for its members. These guides, written by specialists, are intended for the use of historians of science as well as general historians and any other teachers who wish to begin or to revise a history of science course or who wish to incorporate new topics into an existing course. The guides will be published in the *Newsletter* first, then as separate pamphlets.

Four additional teaching guides are planned for publication in the immediate future. The editorial board for each guide is drawn from the Society's Committee on Education. The committee welcomes comments on the value of these guides, as well as on suggested topics for future guides.

INTRODUCTION

Without exception, in my experience, every historian of science looks upon his discipline as a branch of history, not fundamentally different from the well-established and well-accepted subdiscipline of intellectual history, and pursued in the variety of ways, now with attention focused on the scientific content, now on the social context, familiar among intellectual historians. In the development of the discipline the sixteenth and seventeenth centuries, the years from Copernicus to Newton, have been as important as they were in the development of science itself. Among historians of science, they are almost universally known as the Scientific Revolution, because the fundamental changes they instituted in the conception of nature and the procedures of scientific inquiry effectively terminated a tradition in natural phi-

losophy that stemmed from Aristotle and marked the birth of modern science. The history of science was largely created as an intellectual discipline through the study of this period.

The men who created the Scientific Revolution were convinced that they were participating in a major upheaval of human thought. The philosophes of the Enlightenment were equally convinced. They chose their heroes from the leaders of the Scientific Revolution, and they looked upon the period as the crucial turning point in history, when the first dawning of reason began to dispel the clouds of ignorance. Some of the fundamental books in the history of science, works that specialists in such areas as the history of mathematics and the history of astronomy cannot afford to ignore, were written during the eighteenth century, and since that time there has been a continuing tradition of scholarship on the Scientific Revolution. Only in our own time, since the World War II, however, has the history of science become a recognized academic field with organized programs in universities and a population of historians of science multiplying almost as rapidly as scientists themselves. As the discipline has turned increasingly toward topics more recent than the seventeenth century, it has been able to draw upon the conceptual categories and the research techniques developed initially in the study of the Scientific Revolution. For example, Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: Univ. Chicago Press, 1962), a book that has been influential outside the history of science as well as inside it, drew heavily upon the concept of the scientific revolution for its general theory that the course of science has proceeded, not by gradual accretion of increments of knowledge, but by discontinuous transformations of the perception of nature. Hence the period that was seminal in the growth of modern science has been equally seminal in the growth of the history of science.

In this essay I have entirely omitted the early works, which were frequently addressed to a technically sophisticated audience. I understand myself to be writing for a different audience, not only historians of science, but also general historians engaged for the most part in teaching Western history and concerned to include some treatment of the Scientific Revolution. I want to express my passionate desire to speak to this audience successfully. The Scientific Revolution was the most important "event" in Western history, and a historical discipline that ignores it must have taken an unhappy step in the direction of antiquarianism. For good and for ill, science stands at the center of every dimension of modern life. It has shaped most of the categories in terms of which we think, and in the process has frequently subverted humanistic concepts that furnished the sinews of our civilization. Through its influence on technology, it has helped to lift the burden of poverty from much of the Western world, but in doing so has accelerated our exploitation of the world's finite resources until already, not so long after the birth of modern science, we fear with good cause their exhaustion. Through its transformation of medicine, science has removed the constant presence of illness and pain, but it has also produced toxic materials that poison the environment and weapons that threaten us with extinction. It should be obvious that I consider some of the items on that list desirable and some highly undesirable. I am convinced that the list describes a large part of the reality of the late twentieth century and that nothing on it is thinkable without the Scientific Revolution of the sixteenth and seventeenth centuries. Jacques Barzun, *Science: The Glorious Entertainment* (New York: Harper & Row, 1964), offers a statement, which no one would describe as uncritical admiration, of the impact of science on the modern intellect. *Science and the Modern Mind: A Symposium*, edited by Gerald Holton

(Boston: Beacon Press, 1958), contains a number of papers on the same theme that are happier with the scientific enterprise. There must be hundreds of other books devoted to similar themes, but I have yet to see the work that presents, in one integrated argument, the full position I just sketched so briefly, the position that offers the ultimate justification for the inclusion of the history of science prominently in any academic course that presumes to explain the origins of the world in which we live. Allow me to say, without excessive drama, that if I can encourage even a few historians to include more adequate treatment of the Scientific Revolution in their courses, so that students will emerge with a better appreciation of how we got where we are, I will have achieved what I hope for with this teaching guide.

With the above ends in view, and wanting to raise as few obstacles as possible to a reader seeking a ready introduction to the field rather than the latest conclusions for the specialist, I have limited the bibliography to works in the English language (including a number not published originally in English), and I have tried to omit the most specialized works that were written in the first instance for other scholars. I have marked a few of the books with an asterisk before the name of the author to indicate works whose level seems to me most adapted for use with an undergraduate audience. Those inclined to look further can easily find more detailed bibliographies in the books listed here and in the most recent general histories of the Scientific Revolution. As I am writing, A. R. Hall, *The Revolution in Science* (London: Longmans, 1983), a revision of his earlier *Scientific Revolution* (London: Longmans, Green, 1954), thoroughly rewritten to incorporate the considerable scholarship published after the earlier work, contains the most up-to-date bibliography available. For information on leading scientists of the period, consult the *Dictionary of Scientific Biography*, edited by Charles C. Gillispie, 16 vols. (New York: Scribner, 1970–1980). Each article in the *DSB* concludes with a bibliography. My list does not venture far into the enormous quantity of journal literature, but *Isis*, the official journal of the History of Science Society, annually publishes an exhaustive Critical Bibliography. Critical Bibliographies for the earlier years have been collected in five volumes and indexed under a variety of headings in *Isis Cumulative Bibliography, 1913–65*, edited by Magda Whitrow

(London: Mansell, 1971–1982); supplementary volumes covering subsequent ten-year periods are being edited by John Neu (1966–75, Mansell, 1980, 1985).

There is one other prefatory comment that I must make. Historians of science often distinguish between what they call internal and external history of science, history of science that focuses on the internal development of a system of thought about nature, and history of science that focuses on the external context within which nature is studied. Analogous distinctions exist, I believe, in every form of intellectual history. There is a growing consensus that the distinction between the two schools has frequently been overdrawn. Internal historians of science do not deny the obvious truth that an activity carried on by individuals living in society has a valid social history, and external historians of science do not deny that the content of science is an essential part of the story. George Basalla, editor, *The Rise of Modern Science: External or Internal Factors* (Lexington, Mass: Heath, 1968), a volume in the Problems in European Civilization series, presents a summary of the debate on this issue. Although it is my goal in this bibliography not to introduce ideological factors, any selective list of books is bound to reflect the outlook of the person who compiled it. Let me then state that until recently I have pursued my career as an historian of science almost entirely within the internal school, and the bibliography I present inevitably contains the books that have appeared most important to me. Let me add that in the development of the discipline, internal history of science came first. With a few notable exceptions, works on the external history of the scientific revolution have been more recent and are therefore fewer. If books on history of scientific ideas predominate in my list, their numbers on library shelves do seem greater to me in roughly the same proportion.

CLASSICAL STUDIES

1

Over half a century ago, E. A. Burt wrote one of the books that helped to revise our understanding of the Scientific Revolution, treating it not as a set of empirical discoveries, but as a reformulation of basic philosophical assumptions about the nature of physical reality—*The Metaphysical Foundations of Modern Physical Science* (New

York: Harcourt Brace, 1925). A decade and a half after Burt's book, Alexandre Koyré's epochal *Galileo Studies* (1939) (trans. John Mepham; Atlantic Highlands, N.J.: Humanities Press, 1978) appeared. More than any other work, this book shaped the modern discipline of the history of science, as it moved several steps further in the direction that Burt had gone. The book was an exercise in internal history. For Koyré science is a philosophic endeavor concerned with the basic categories of thought about nature, and constrained by the logical necessities of its content. His works pursue the problems of early modern science as the leading scientists defined them and analyze the conceptual developments in detail. Anyone interested in pursuing modern science as a system of thought can do no better than to start with him. His *From the Closed World to the Infinite Universe* (New York: Harper, 1957) explores the appearance of a new cosmology as one of the central features of the new conception of nature. Koyré's name will appear several other times in this list. He was also the prolific author of articles equally eloquent and influential, some of the most important of which have been collected in the volume *Metaphysics and Measurement* (Cambridge, Mass.: Harvard Univ. Press, 1968). Some of the earliest work in the history of the Scientific Revolution appeared in the *Journal of the History of Ideas*. *Philip P. Wiener and Aaron Noland have edited a number of these articles in *The Roots of Scientific Thought* (New York: Basic Books, 1960).

A number of histories of the Scientific Revolution trace its development from the early sixteenth to the late seventeenth century. In the aftermath of World War II, moved by the heightened consciousness of the centrality of science in the modern world, a distinguished historian at Cambridge University, *Herbert Butterfield, undertook to introduce the history of science into the history curriculum. *The Origins of Modern Science* (London: Bell, 1949), will probably never cease to be a valuable introduction to the topic and a testimony to the capacity of a historian without technical training in science to penetrate the history of science successfully and to contribute substantially to it. A. R. Hall followed Butterfield with *The Scientific Revolution* (see above), a somewhat more comprehensive treatment of the subject. With Marie Boas Hall, he also attempted to launch a multivolume general history of science. The only two volumes in the

eries that ever appeared—Marie Boas Hall, *The Scientific Renaissance*, and A. R. Hall, *From Galileo to Newton* (New York: Harper, 1962)—offer a still more detailed treatment of the period. *Marie Boas Hall has also published a collection of basic texts from the Scientific Revolution, *Nature and Nature's Laws* (New York: Walker, 1970), which are useful in the classroom. Two volumes of the nearly complete Cambridge History of Science series present a shorter survey of the sixteenth and seventeenth centuries: *Allen Debus, *Man and Nature in the Renaissance*, and *Richard S. Westfall, *The Construction of Modern Science* (Cambridge: Cambridge Univ. Press, 1977, 1978). *Hugh Kearney, *Science and Change, 1500–1700* (London: Weidenfeld & Nicolson, 1971) treats the Scientific Revolution more briefly, and with some attention to its social dimension, in a single volume. Two other books discuss the period of the Scientific Revolution as part of a longer sequence. E. J. Dijksterhuis, *The Mechanization of the World Picture* (trans. C. Dikshoorn; Oxford: Clarendon Press, 1961) which starts with Greek natural philosophy, concludes with the seventeenth century. Charles Gillispie's interpretive essay on modern science, *The Edge of Objectivity* (Princeton: Princeton Univ. Press, 1960), a work studied carefully by historians of science but readily accessible to nonspecialists, begins with the Scientific Revolution.

STUDIES OF INDIVIDUAL SCIENCES 2

Developments in a number of different sciences constituted the totality called the Scientific Revolution. Nearly everyone agrees that the basic reassessment of the place of the earth in the universe, the change from a geocentric to a heliocentric astronomy, was of crucial importance. A brief but penetrating study by *Thomas S. Kuhn, *The Copernican Revolution* (Cambridge, Mass.: Harvard Univ. Press, 1957), starts with the geocentric picture of the world, which it insists that we take seriously, and follows astronomy through Kepler. Alexandre Koyré, *The Astronomical Revolution* (trans. R. E. W. Maddison; Ithaca, N.Y.: Cornell Univ. Press, 1973), is a much more technically detailed discussion that focuses on Copernicus, Kepler, and

Borelli. Years ago Francis R. Johnson, a student of Elizabethan literature who wanted to understand the references to astronomy that he found in literary works, like Butterfield proved that there is nothing in the history of science that is closed to the determined nonspecialist. His *Astronomical Thought in Renaissance England* (Baltimore: Johns Hopkins Press, 1937), remains a good introduction to the Copernican revolution. More recently, another nonspecialist and distinguished literary figure, Arthur Koestler, composed *The Sleepwalkers: A History of Man's Changing Vision of the Universe* (London: Hutchinson, 1959), a book rejected by many historians of science because of its deep hostility to Galileo, but also a book with many suggestive insights into Copernicus, Tycho Brahe, and Kepler, who is its central subject. There are, of course, biographies of the leading astronomers. The accepted study of Copernicus is Angus Armitage's *Sun, Stand Thou Still* (New York: Schuman, 1947), of Kepler, Max Caspar's *Kepler* (trans. Doris Hellman; New York: Abelard-Schuman, 1959).

Mechanics, the science of motion, the central core of physics, was another crucial area of the Scientific Revolution. *I. B. Cohen has written a history of mechanics during the seventeenth century, *The Birth of a New Physics* (Garden City, N.Y.: Anchor, 1960; 2nd ed. New York: Norton, 1985) directed at a nonspecialist, nontechnical audience. The contributions of Galileo marked the beginning of modern mechanics, and many works on Galileo, such as Koyré's *Galileo Studies*, are equally works on mechanics. A more recent French scholar, Maurice Clavelin, who continues Koyré's tradition of detailed conceptual analysis while revising some of Koyré's conclusions, has produced one of the best expositions of his thought, *The Natural Philosophy of Galileo*, (trans. A. J. Pomerans; Cambridge, Mass.: MIT Press, 1974). Stillman Drake, a prolific scholar on Galileo, has drawn together the fruit of his many articles into a biographical study, *Galileo at Work* (Chicago: Univ. Chicago Press, 1978). It is a book intended for specialists, and though it is a suitable place to start the study of Galileo's life, it is not the place to begin the study of his work. Ernan McMullin has edited a volume, *Galileo, Man of Science* (New York: Basic Books, 1968), with articles on every aspect of Galileo's career and work. His own introductory essay, with the same title as the book, is an excellent brief discussion of Galileo's

contribution to science. William Shea, *Galileo's Intellectual Revolution* (New York: Science History Publications, 1972), studies the period between Galileo's early telescopic discoveries and the great dialogues that closed his career, with special attention to Galileo the experimenter. Galileo's own works are all available in excellent English translations, the work of Stillman Drake. *Drake has collected a number of the shorter pieces, which are particularly adaptable for use in the classroom, *Discoveries and Opinions of Galileo* (Garden City, N.Y.: Doubleday, 1957). No other scientist of the seventeenth century is so readable, and since he directed his works, not to a scientific community, which scarcely existed at the time, but to a lay public that had been instructed in natural philosophy, a historian (or student) of the twentieth century can comprehend them readily. (For studies of Newton, who contributed massively to mechanics, see Section IV below).

Optics, the study of light, a subject that no viable natural philosophy can ignore, was another field of innovation in seventeenth-century science. David Lindberg, *Theories of Vision from Al-Kindi to Kepler* (Chicago: Univ. Chicago Press, 1976), concludes with a fine discussion of Kepler's major contribution to optics, his concept of the retinal image. A. I. Sabra, *Theories of Light: From Descartes to Newton* (London: Oldbourne, 1967), is exactly what the title promises, a study, not of theories of vision, but of theories of the nature of light, through the seventeenth century. Alan Shapiro's monograph "Kinematic Optics: A Study of the Wave Theory of Light in the Seventeenth Century," *Archive for History of Exact Sciences*, 1973, 11:134–266, pursues one particular theory of the nature of light in greater detail and in greater technical complexity. Carl Boyer, *The Rainbow from Myth to Mathematics* (New York: Yoseloff, 1955), though not confined chronologically to the Scientific Revolution and not concerned with optics as a whole, nevertheless follows the growing understanding of one optical phenomenon with special attention to developments during the seventeenth century.

The best investigation of the biological sciences during the Scientific Revolution, Jacques Roger's *Les sciences de la vie dans la pensée française du XVIII^e siècle* (Paris: Armand Colin, 1963) (which, despite the title, does not in any sense confine itself to France or to the eighteenth century) has not, unfortunately, been translated into En-

glish, and nothing adequately replaces it. For the biological sciences as a whole during this period, one can best consult the relevant sections of a general history of biology, such as Ernst Mayr, *The Growth of Biological Thought* (Cambridge, Mass.: Belknap Press of Harvard Univ. Press, 1982), which has the disadvantage for my present purpose of fragmenting seventeenth-century material among various thematic chapters, or Erik Nordenskiöld's much older *History of Biology*, (trans. Leonard Bucknall Eyre; New York: Knopf, 1928). There is a large and excellent literature on William Harvey. Walter Pagel, *William Harvey's Biological Ideas* (New York: Karger, 1967), a masterful book by one of the outstanding historians of science, establishes the centrality of an Aristotelian conception of living things in Harvey's work. The best treatment of Harvey's most important discovery, Gweneth Whitteridge, *William Harvey and the Circulation of the Blood* (London: Macdonald, 1971), successfully introduces the reader to the intellectual context from which it emerged and lets him follow Harvey's investigation rather than merely presenting Harvey's finished theory. Robert Frank, *Harvey and the Oxford Physiologists* (Berkeley: Univ. California Press, 1980), pursues the history of a school of physiology that grew out of Harvey's work and concentrates, not on reciting the conclusions they reached, but on tracing the dynamics of a vigorous scientific tradition. Frank's book belongs also among those concerned, at least in part, with social considerations. Seventeenth-century embryology is only beginning to be studied in detail, but there has been a massive publication of sources with a discussion of them, Howard Adelman, *Marcello Malpighi and the Evolution of Embryology*, 5 vols. (Ithaca, N.Y.: Cornell Univ. Press, 1966).

In chemistry as in biology, a basic work has not been translated from French—Hélène Metzger's book on chemical doctrines in France. In this case, however, a distinguished book in English fills the gap—Marie Boas Hall, *Robert Boyle and Seventeenth-Century Chemistry* (Cambridge: Cambridge Univ. Press, 1958), a study at once of Boyle and of the impact of the mechanical philosophy on chemistry. See also the second half of Robert P. Multhauf, *The Origins of Chemistry* (New York: Watts, 1967). Walter Pagel, *Paracelsus: An Introduction to Philosophical Medicine in the Era of the Renaissance* (New York: Karger, 1958), offers the best treatment of the

most important figure in the chemistry that preceded Boyle. Allen G. Debus has been the leading student of the Paracelsian tradition; see his *Chemical Philosophy: Paracelsian Science and Medicine in the Sixteenth and Seventeenth Centuries* (2 vols.; New York: Science History Publications, 1977) and, for a brief statement in the space of a single lecture, his *Chemical Dream of the Renaissance* (Cambridge: Heffer, 1968). Arnold Thackray, *Atoms and Powers: An Essay on Newtonian Matter Theory and the Development of Chemistry* (Cambridge, Mass.: Harvard Univ. Press, 1970), an investigation of the Newtonian school of chemistry during the eighteenth century, begins, of course, with chemistry in the late seventeenth century.

CONCEPTIONS OF NATURE 3

Beyond the new approaches to individual phenomena such as motion and light, the Scientific Revolution embraced a radically different conception of nature—what is frequently referred to, in a seventeenth-century phrase, as the mechanical philosophy. A good introduction to it, which looks consistently at fundamental philosophical themes rather than detailed features and compares the mechanical philosophy with contrasting conceptions of nature held by the Greeks earlier and by European science at later times, is found in Robin Collingwood, *The Idea of Nature* (Oxford: Clarendon Press, 1945). Burt's *Metaphysical Foundations*, listed in Section I, is of course fundamentally concerned with the new conception of nature.

Frances Yates's influential *Giordano Bruno and the Hermetic Tradition* (Chicago: Univ. Chicago Press, 1964), examines a radically different natural philosophy that dominated European thought during the sixteenth and early seventeenth century until it began to be supplanted by the mechanical philosophy. Pagel's *Paracelsus* and Debus's *Chemical Philosophy*, listed in the paragraph on chemistry above, and Dobbs's *Foundations of Newton's Alchemy*, listed in Section IV below, are equally studies of this tradition of natural philosophy. Paolo Rossi, *Francis Bacon: From Magic to Science* (trans. Sacha Rabinovitch; Chicago: Univ. Chicago Press, 1968), pursues the role of hermeticism, along with other influences, in the thought of Bacon. Two articles by Robert S. Westman and J. E. McGuire, published to-

gether as *Hermeticism and the Scientific Revolution* (Berkeley/Los Angeles: Univ. California Press, 1977), take issue with a strand of scholarship, following Yates's work, that has argued for the continuing influence of hermetic themes through the seventeenth century. So also does Brian Vickers's introductory essay in the volume he edited, *Occult and Scientific Mentalities in the Renaissance* (Cambridge: Cambridge University Press, 1984). Most of the essays in the Vickers volume expound aspects of the hermetic tradition.

For expositions of the mechanical philosophy, see Romano Harré, *Matter & Method* (London: Macmillan, 1964), the book of a philosopher ultimately concerned with philosophical issues attached to the mechanical philosophy, and Marie Boas Hall, "The Establishment of the Mechanical Philosophy," *Osiris*, 1952, 10:412-541, the book (which it is in fact) of a historian of science ultimately concerned with the intellectual life of the seventeenth century, as reflected primarily in the work of Robert Boyle. Carolyn Merchant, *The Death of Nature: Women, Ecology, and the Scientific Revolution* (San Francisco: Harper & Row, 1980), brings the points of view of feminism and environmentalism together in an attack on the mechanical philosophy and on major aspects of Western civilization which she treats as its consequence.

NEWTONIAN STUDIES 4

Isaac Newton looms so large as the culminating figure of the Scientific Revolution that I have reserved a separate section for him. Newton has been the subject of an enormous body of scholarship, especially during the last two decades. Much of it is highly technical, and in any case I could not begin to list a significant portion of it in this short essay. Anyone wanting to proceed further with Newton can quickly learn about the literature through the bibliographies and notes of the works that I do list here. The last two decades have also witnessed extensive publications of Newton's manuscripts, sometimes papers on given topics, sometimes collections of papers and manuscripts. All of these volumes, which one can readily find in the catalogue of any major library, contain prefaces and introductions; these essays are frequently the most advanced literature on Newton but are certainly not addressed to beginners.

Nearly two decades ago, as the boom in Newtonian studies was just beginning, Robert Palter edited the proceedings of a conference, *The Annus Mirabilis of Sir Isaac Newton* (Cambridge, Mass.: MIT Press, 1970), which contains papers on every aspect of Newton as it was then understood. Though many details have changed as a result of more recent research, the volume remains valuable. Six scholars have been among the prominent interpreters of Newton. *Alexandre Koyré, *Newtonian Studies* (Cambridge, Mass.: Harvard Univ. Press, 1965), is, as its name implies, a collection of short pieces concerned with Newton. I. B. Cohen, *Franklin and Newton* (Philadelphia: American Philosophical Society, 1956), a history of early electrical science, helped to initiate the boom in Newtonian research. Although subsequent work, including Cohen's own, has revised some details, the book remains an important introduction, not so much to Newton's mathematical physics as to his speculations on the nature of physical reality. Recently Cohen summarized his lifelong interest in an important interpretation of Newton's science that does center on his mathematical physics. *The Newtonian Revolution* (Cambridge: Cambridge Univ. Press, 1980). Ernan McMullin, *Newton on Matter and Activity* (Notre Dame: Univ. Notre Dame Press, 1978), investigates the conception of physical reality that stood behind the mathematical physics. A similar theme, with emphasis on the influence of Neoplatonic philosophy on Newton, animates a series of papers by J. E. McGuire. I cannot list them all; a fundamental one is "Force, Active Principles, and Newton's Invisible Realm," *Ambix*, 1968, 15:154-208. McGuire's essay in the volume with Westman (see Section III) also concerns itself with Newton. A. R. Hall, whose interpretation of Newtonian science can be found in his books on the Scientific Revolution, has also written the best study of Newton's quarrel with Leibniz on priority in the invention of the calculus, *Philosophers at War* (Cambridge: Cambridge Univ. Press, 1980). The book does not attempt to deal with the history of the mathematics itself; it is, therefore, also a contribution to the social history of science. Henry Guerlac, best known for his work on chemistry in the eighteenth century, has also written a number of influential papers on Newton. Some of them can be found in his volume *Newton on the Continent* (Ithaca: Cornell Univ. Press, 1981) and in the section called "Newtonian Science" in his

Essays and Papers in the History of Modern Science (Baltimore: John Hopkins Press, 1977).

B. J. T. Dobbs, *The Foundations of Newton's Alchemy* (Cambridge: Cambridge Univ. Press, 1975), is easily the best examination of a subject only seriously opened during the last decade and likely to remain, as its name suggests, a topic of acrid controversy in the interpretation of Newton. Margaret C. Jacob, *The Newtonians and the English Revolution* (Ithaca, N.Y.: Cornell Univ. Press, 1976), should perhaps more properly be listed among books on the external history of science, to which it is one of the most prominent recent additions; in its focus specifically on Newtonian science, which it relates to the social and political history of England during the late seventeenth and early eighteenth centuries, it belongs under the present heading as well. Over the years Newton has been the subject of an extensive biographical literature. Recent additions to it include *Frank E. Manuel's *Portrait of Isaac Newton* (Cambridge, Mass.: Harvard Univ. Press, 1968), a major contribution to the school of psychohistory and a book which, in its general avoidance of technical details of Newtonian science, is easily (and pleurably) readable by any educated person. I myself am the author of another recent biography of Newton, *Never at Rest* (Cambridge: Cambridge Univ. Press, 1980), which does attempt to deal with Newton's science as the central strand of his life. More recently still another biography of Newton, Gale E. Christianson, *In the Presence of the Creator: Isaac Newton and His Times* (New York: Free Press, 1984), concentrates more on the setting of Newton's life and somewhat less on the details of his scientific activity.

NEW METHODS FOR THE STUDY OF NATURE 5

Although notable developments in the commonly employed methodology of scientific investigation were one of the central features of the Scientific Revolution, there is no good history of method, either in general or in our period. Perhaps the nearest approach to one is William Wallace, *Causality and Scientific Explanation* (2 vols.; Ann Arbor: Univ. Michigan Press, 1972-1974), whose title indicates that method itself is not its central concern.

R. M. Blake et al., *Theories of Scientific Method* (Seattle: Univ. Washington Press, 1960), consists of a series of historical essays on method, some devoted to men of the seventeenth century. H. R. Randall, "The Development of the Scientific Method in the School of Padua," one of the papers in the Wiener and Noland volume *Roots of Scientific Thought* (see Section I), focuses on the philosophical school at Padua in the period immediately before Galileo. R. H. Popkin, *The History of Scepticism from Erasmus to Descartes* (Assen: Van Gorcum, 1964), a study related to various aspects of the Scientific Revolution, also touches on matters concerned with method.

EXTERNAL FACTORS

6

In passing, I have indicated a number of books that contribute to the external history of the Scientific Revolution. The classic study on the social context of early science is Robert K. Merton, *Science, Technology, and Society in Seventeenth Century England* (New York: Fertig, 1970; published originally in *Osiris*, 1938). By the use of statistics based on biographies in the *Dictionary of National Biography*, Merton demonstrates the increasing interest in science as a field of study during the seventeenth century. The title of his work indicates his attention to the technological applications of science. What the title does not clearly suggest is Merton's focus on the connection between Puritanism and science, a hypothesis that did not originate either with Merton or with the twentieth century but has become, largely through the influence of his work, a continuing subject of lively discussion. It is one of the major themes of Richard F. Jones, *Ancients and Moderns: A Study of the Rise of the Scientific Movement in Seventeenth-Century England* (St. Louis: Washington Univ. Press, 1961), Christopher Hill, *Intellectual Origins of the English Revolution* (Oxford: Clarendon Press, 1966), and *R. Hooykaas, *Religion and the Rise of Modern Science* (Edinburgh: Scottish Academic Press, 1972). During the early 1960s it was a subject of an extended scholarly discussion in a series of articles that appeared in *Past and Present* and the *Journal of World History*. More recently the Puritan hypothesis, together with insistence on the practical application of science to reshape society, has

furnished the argument of Charles Webster, *The Great Instauration: Science, Medicine, and Reform, 1626–1660* (London: Duckworth, 1975).

Joseph Ben-David, one of the most respected sociologists of science, devoted much of his attention to the social history of science. Part of his book *The Scientist's Role in Society* (Englewood Cliffs, N.J.: Prentice-Hall, 1971), which summarizes some of this work, concerns the seventeenth century, though one should in caution add that this section is not the part of the book that has most pleased the critics. *Hugh Kearney, *Origins of the Scientific Revolution* (London: Longmans, 1964), which is part of the Problems and Perspectives in History series, assembles essays and documents relevant to the title, including a considerable amount on the social context of the Scientific Revolution. *Michael Hunter, *Science and Society in Restoration England* (Cambridge: Cambridge Univ. Press, 1981), concentrates on the issue as it pertains to one country.

More than fifty years ago a Soviet scholar, Boris Hessen, published an article (issued since as a separate volume) that remains the classic application of Marxian philosophy to the history of science, *The Social and Economic Roots of Newton's Principia* (New York: Fertig, 1971; published originally in the Soviet volume *Science at the Crossroads*, 1931). Edgar Zilsel was another early student of the economic and social sources of modern science. Among his numerous articles, see especially "The Origins of William Gilbert's Scientific Method" (in Wiener and Noland, *Roots of Scientific Thought*, cited in Section 1) and "The Sociological Roots of Science," *American Journal of Sociology*, 1941/2, 47:544–562. More recently, Paolo Rossi, *Philosophy, Technology, and the Arts in the Early Modern Era* (trans. Salvatore Attanasio; New York: Harper & Row, 1970), one of the most penetrating analyses of the social context of the Scientific Revolution, discusses the interpenetration of technology and philosophy, the new appraisal of labor, and the notion of science as a cooperative endeavor extended through time, all of which he finds in the fifteenth through the seventeenth century.

Another question of interest has been science and the universities. W. T. Costello, *The Scholastic Curriculum at Early Seventeenth-Century Cambridge* (Cambridge, Mass.: Harvard Univ. Press, 1958), argues for the continuing dominance of the traditional curriculum through the middle of

the century. Barbara Shapiro, "The Universities and Science in Seventeenth-Century England," *Journal of British Studies*, 1971, 10:47–82, stresses in contrast the encouragement of science in the universities. So also does the recent book by Mordechai Feingold, *The Mathematicians' Apprenticeship: Science, Universities and Society in England, 1560–1640* (Cambridge: Cambridge Univ. Press, 1984).

Early scientific societies offer another subject that is obviously of the greatest importance to the social history of the Scientific Revolution. Martha Ornstein, *The Role of the Scientific Societies in the Seventeenth Century* (1913; Chicago: Univ. Chicago Press, 1928), though now nearly three quarters of a century old, remains the only book on scientific societies in general. Harcourt Brown, *Scientific Organizations in Seventeenth-Century France* (Baltimore: Williams & Wilkins, 1934), another venerable book that has stood the test of time, does a similar thing for the more limited territory of one country. W. E. K. Middleton, *The Experimenters: A Study of the Accademia del Cimento* (Baltimore: John Hopkins Press, 1971), the leading work on one of the early Italian academies that concerned themselves primarily with science, includes a full translation of the Accademia's *Essays of Natural Experiments*. Of the several histories of the Royal Society, I still prefer Dorothy Stimson, *Scientists and Amateurs: A History of the Royal Society* (New York: Schuman, 1948), which is of course not confined to the seventeenth century. The same comment applies to G. N. Clark and A. M. Cooke, *A History of the Royal College of Physicians of London* (3 vols.; Oxford: Clarendon Press, 1964–1972). Roger Hahn, *The Anatomy of a Scientific Institution: The Paris Academy of Sciences, 1666–1803* (Berkeley: Univ. California Press, 1971), is at once the most recent and the best study of the formation of the Académie.

CURRICULAR SUGGESTIONS 7

If you are inclined to insert a single lecture on the Scientific Revolution in your course on Western history, I would suggest organizing it under three major headings: the Copernican revolution, the mechanical conception of nature, and the Newtonian synthesis. You could prepare for such a lecture by reading Burt's *Metaphysical Foundations*, Kuhn's *Copernican Revolu-*

tion, Hall's *Revolution in Science*, and Koyré's *Metaphysics and Measurement*. If you are inclined to assign special reading to the class, selected chapters from my *Construction of Modern Science*, a book written with an undergraduate audience in mind (Chs. 1, 2, and 8) are possible, or better some short piece (such as the *Starry Messenger*) in Drake's *Discoveries and Opinions of Galileo* or one of the texts in Marie Boas Hall's *Nature and Nature's Laws*.

If you incline rather toward a week's set of three lectures, I suggest exactly the three topics above, including Galileo and the problem of motion in your discussion of the Copernican revolution, some specific development that utilized mechanistic concepts (such as the barometer and the concept of atmospheric pressure) in the one on the mechanical philosophy, and a fuller discussion of Newton in relation to the issues of seventeenth-century science in the third. For your own reading, do not fail to digest Koyré's *Galileo Studies*. Unless you differ radically from me, once you have read that you will not need further instruction to read more of Koyré's work. Also read Collingwood on the mechanical philosophy and Cohen on Newton. For assignments to the students, expand on the suggestions above.

Two weeks of lectures on the Scientific Revolution are by no means out of proportion to the topic's importance. If I were constructing a set of six lectures they would run as follows: (1) The Copernican revolution; (2) Galileo and the new science of mechanics; (3) the mechanical philosophy of nature; (4) the science of optics during the seventeenth century; (5) the organization of the scientific enterprise; and (6) the Newtonian synthesis. Alternatives to (4) and (5) might be Harvey and the circulation of the blood, the trial of Galileo (possibly joined to a discussion of deism to contrast the world view before the rise of modern science with that at the end of the seventeenth century), or a lecture on science and technology during the seventeenth century. There is no point in my trying to direct your reading further; the entire bibliographic essay intends to offer the necessary suggestions. For the students you might wish to consider selections from Galileo's thoroughly readable *Dialogue*, Descartes's *Discourse on Method*, more selections from Marie Boas Hall's volume, and selections from Newton in *Newton's Philosophy of Nature*, edited by H. S. Thayer (New York: Hafner, 1953).

Saturday, 25 October, 9:00 a.m.–10:30 a.m.**16. Works in Progress V**

Edward J. Larson (Seattle, Washington), *Judicial Attitudes toward Science*

Donald W. DeLand (University of Wisconsin), *Science and Christianity in Late Nineteenth-Century America: The Reception of the Warfare Thesis of Draper and White*

George E. Webb (Tennessee Technological University), *Demographic Change and Antievolution Sentiment: Tennessee as a Case Study, 1925–1975*

Edward Manier (Notre Dame University), *Intergenerational Tension in Converging Fields: Lashley, Hull, and Cognitive Neuroscience*

Saturday, 25 October, 9:00 a.m.–11:30 a.m.**17. Transmission of Greek and Arabic Science**

Organizer: George Saliba (Columbia University)

Roshdi Rashed (Centre Nationale de Recherche Scientifique and Institute for Advanced Study), *Greek Mathematics into Arabic*

John L. Berggren (Simon Fraser University), *The Transmission of Spherics to the Islamic World*

George Saliba (Columbia University), *The Astronomical Works of Qustā ben Irqā: Greek Astronomy in Ninth-Century Islam*

Discussion

18. Scientific Innovation and Institutional Structure in Germany, 1810–1930

Organizer: David Cahan (University of Nebraska–Lincoln)

Chair: Lewis Pyenson (University of Montreal)

Jeffrey Johnson (State University of New York–Binghamton), *Hierarchy and Creativity in Chemistry*

Gert Schubring (University Bielefeld), *Conflicts between Teacher Education and Disciplinary Differentiation in the Natural Sciences in Prussia after 1810*

David Cahan (University of Nebraska–Lincoln), *Friedrich Kohlrausch and the Rise of Experimental Physics in Germany, 1840–1914*

Comment: R. Steven Turner (University of New Brunswick)

19. Changing Metaphors in Ecology and Evolutionary Biology

Organizer: Gregg Mitman (University of Wisconsin)

Chair: James Griesemer (University of California–Davis)

Gregg Mitman (University of Wisconsin), *Evolution and War: The Chicago School*

Peter Taylor (Massachusetts Institute of Technology), *Technocratic Optimism: H. T. Odum and the Partial Transformation of Ecological Metaphors After World War II*

Evelyn Fox Keller (Northeastern University and Massachusetts Institute of Technology), *Demarcating Public from Private Values in Evolutionary Discourse*

Comment: John Beatty (University of Minnesota)

20. The Origins and History of Space Science: Recent Research

Organizer: Joseph Tatarewicz (National Air and Space Museum)

Charles Ziegler (National Air and Space Museum), *Ballooning and the Birth of Cosmic Ray Physics, 1909–1945*

Karl Hufbauer (University of California at Irvine), *Theory and Observation of the Solar Wind, 1946 to NASA*

Bruce Hevly (Johns Hopkins University and Naval Research Laboratory), *Radio, Rocket Research, and the Solar Spectrum at the Naval Research Laboratory, 1947–1953*

Craig Waff (Jet Propulsion Laboratory), *Planning the Scientific Exploration of Jupiter, 1965–1977*

Robert W. Smith (Johns Hopkins University and National Air and Space Museum), *Astronomical Detectors for the Space Telescope, 1965–1977*

21. Women In Scientific Culture: Eighteenth-Century England and Germany

Organizer: Londa Schiebinger (Stanford University)

Brita Rang (University of Nijmegen), *Dorothea Erxleben-Leporin: Her Contribution to Discourse on Women in Science*

Estelle Cohen (Portsmouth Polytechnic Institute), *Medical Debates on "Woman's Nature" in England ca. 1700*

Londa Schiebinger (Stanford University), *Negotiating with Institutions: Maria Winkelmann, Assistant Astronomer at the Berlin Academy*

Ann Hibner Koblitz (University of Washington), *A Historian Looks at Gender and Science*

Parallel Session of Society for Natural History (see end of program)

Saturday, 25 October, 10:30 a.m.–12:00 noon**22. Works in Progress VI**

K. J. Tinkler (Brock University), *Downstream Changes in the Velocity of Rivers: The Denudation Dilemma in a New Light*

Ralph W. Dexter (Kent State University), *The Putnam-Kroeber Relations in the Development of American Anthropology*

Carl Jay Bajema (Grand Valley State College), *Charles Darwin on Human Evolution by Selection in the First Edition of the Origin of Species: Reality versus Legend*

Paul Theerman (Joseph Henry Papers), *Victorian Biography*

Saturday, 25 October, 1:00 p.m.–3:00 p.m.**23. Works in Progress VII**

Orville R. Butler (Iowa State University), *The Birth of American Astrophysics: The Development of a Science in Its Cultural Context*

Mark Walker (Princeton University), *Nuclear Explosives, Uranium Machines, and National Socialism: German Science Policy, 1939–1945*

Lily E. Kay (Johns Hopkins University), *Pure Science for National Security: G. W. Beadle's Program of Biochemical Genetics, 1940–1945*

Donald J. McGraw (College of St. Thomas), *Vancomycin: The Discovery and Development of an Antibiotic*

Rima D. Apple (University of Wisconsin Medical School), *Bottled Sunshine: The Commercialization of Science, 1920–1940*

Renatus J. Ziegler (Center for Intelligent Machines and Robotics, University of Florida), *The Emergence of Screw Theory in the Nineteenth Century and Its Revival in Robotics in the Twentieth Century*

Saturday, 25 October, 1:30 p.m.–2:30 p.m.**Forum for the History of Science in America****Saturday, 25 October, 2:30 p.m.–5:00 p.m.****24. Teaching and Learning the Sciences in Germany**

Organizer: Kathryn Olesko (Georgetown University)

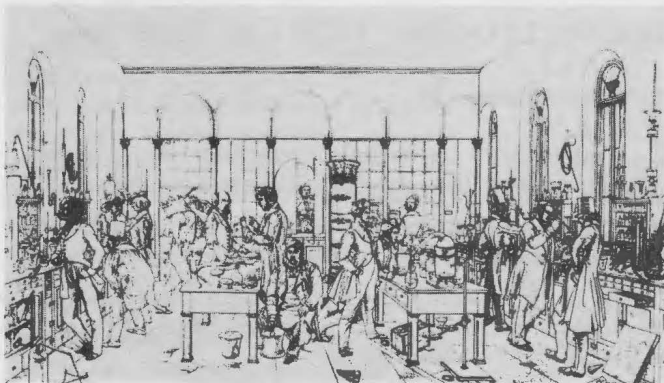
Chair: Bruce Wheaton (University of California at Berkeley)

Frederic L. Holmes (Yale University), *The Complementarity of Teaching and Research in Liebig's Laboratory*

Kathryn Olesko (Georgetown University), *Physics Laboratory Instruction in Prussian Gymnasien and Realschulen*

Douglas Skopp (State University of New York–Plattsburgh), *German Medical Education and the Hippocratic Oath, 1900–1920*

Comment: Mitchell Ash (University of Iowa)



Liebig's laboratory

25. The Quantifying Spirit in Late Enlightenment Science

Organizer: Theodore S. Feldman (University of Southern Mississippi)

Chair: Undecided

Robin Rider (University of California at Berkeley), *Mathematics and the Quest for Certainty*

Henry Lowood (Stanford University), *Kameralwissenschaft, Quantification, and the Rational Management of Natural Resources in Germany circa 1800*

Theodore S. Feldman (University of Southern Mississippi), *Varieties of Quantification in Physics*

26. Scientific Controversies

Organizer and chair: Mordechai Feingold (Boston University)

Joella G. Yoder (Renton, Washington), *By Hooke or by Crooke: A Taxonomy of Huygens's Priority Squabbles*

Susan E. Cozzens (National Science Foundation), *The Role of Third Parties in Priority Disputes: The Opiate Receptor Case*

David L. Hull (Northwestern University), *Priority Disputes: Rational Interest or Greed for Fame?*

Comment: Richard S. Westfall (Indiana University)

27. Literary Dimensions of the History of Science Sponsored by the Society for Literature and Science

Organizer and chair: James Paradis (Massachusetts Institute of Technology)

George Rousseau (University of California at Los Angeles), *Literature or Science? On Analyzing a Paragraph in Tristram Shandy*

David Kohn (Drew University), *Darwin's Ambiguity: The Secularization of Biological Meaning*

Edward Lurie (University of Delaware), *The Art and Science of Science Biography*

Comment: Kenneth R. Manning (Massachusetts Institute of Technology)

28. Renaissance Philosophy and Science In Memory of Charles B. Schmitt

Organizer: Katherine Park (Wellesley College)

Chair: Paul Oskar Kristeller (Columbia University)

Edward Grant (Indiana University), *What Is Aristotelianism in Medieval and Renaissance Natural Philosophy?*

Anthony T. Grafton (Princeton University), *Purging the Prisca Theologia: Isaac Casaubon and Hermes Trismegistus*

Brian Copenhaver (Oakland University), *Science and Philosophy in Early Modern Europe: The Historiographical Significance of the Work of Charles Schmitt*

Comment: John E. Murdoch (Harvard University)

29. Using Grant Files for Historical Research

Organizer and chair: Margaret W. Rossiter (American Academy of Arts and Sciences)

Panelists: Robert E. Kohler (University of Pennsylvania)
Sharon Gibbs (National Archives and Records Administration)
Kenneth Thibodeau (National Institute of Health)
Nicholas Mullins (Indiana University)

Saturday, 25 October, 3:00 p.m.-5:00 p.m.

30. Works in Progress VIII

Shigehisa Kuriyama (University of New Hampshire), *Rethinking the History of Anatomy*
Janis C. Bell (Kenyon College), *The Theory of Clarity Perspective*
Arie Leegwater (Calvin College), *Wilhelm Ostwald's Energetics and Its Reception by the Chemical Community*
Barbara Welther (Harvard University), *Star Colors in the Nineteenth Century*
Robert DiSalle (University of Chicago), *Space and Time in Classical Physics: Ludwig Lange's Treatment of the Law of Inertia*
Wen-Yuan Qian (University of Michigan), *A Definition of Science as an Antidote Against Either "Demystifying" or Mystifying Science*

Saturday, 25 October, 5:30 p.m.-6:30 p.m.

History of Science Society Lecture

John Heilbron (University of California at Berkeley), *Applied History of Science*

Friday, 24 October, 2:00 p.m.-4:00 p.m.
Saturday, 25 October, 9:00 a.m.-11:30 a.m.

**Parallel Sessions of Society for History of Natural History
The History of Natural History**

Program organizer: William Deiss (Smithsonian Institution)
Local arrangements: Bernadette G. Callery (Hunt Botanical Library)
Lester D. Stephens (University of Georgia), *Natural History Collecting in Ante-Bellum Charleston, South Carolina*
Keith Benson (University of Washington), *P. Brooks Randolph, Conchology, and the Exchange Network in Natural History*

Sharon Gibbs Thibodeau (National Archives), *All in a Day's Work for the Coast Survey: Letters from the Field*

Saturday, 25 October, 6:30 p.m.-7:30 p.m.

HSS Cocktail Party

Saturday, 25 October, 7:30 p.m.-9:30 p.m.

HSS Annual Banquet

Presentation of HSS Awards and Prizes

Sunday, 26 October, 9:00 a.m.-11:30 a.m.

**31. PLENARY SESSION: The Implications of Rudwick's
The Great Devonian Controversy**

Organizers: Lorraine J. Daston (Brandeis University)
Michael S. Mahoney (Princeton University)

Chair: Undecided

Panelists: Michael Ruse (PSA; University of Guelph)
Rachel Laudan (4S; Virginia Polytechnic Institute)
Mott Greene (HSS; University of Washington)
Tore Frängsmyr (SHOT; Uppsala University)

Response: Martin Rudwick (Princeton University)



From The Great Devonian Controversy

James Fleming (Princeton University), *Meteorology at the Smithsonian, 1847-1874: The Natural History Connection*

John Hendrickson (Alexandria, Virginia), *Major Charles Bendire, 1836-1897: Soldier, Naturalist, and Egg Collector*

Douglas Cole (Simon Fraser University), *Northwest Coast Indian Artifact Collecting*

Rogers McVaugh (University of North Carolina), *Books Used and Cited by the Scientists on the Sesse and Mocino Expeditions*

David E. Allen (England)

Elizabeth Keeney (Harvard University), *Information and Exchange Networks in the Nineteenth-Century American Botanical Community*

POSITIONS

The **American Association for the Advancement of Science** has an immediate opening for an Assistant Book Review Editor in the book review department of *Science*, the interdisciplinary scientific journal. The work consists of choosing books for review in consultation with outside advisers and other editors, choosing and negotiating with reviewers, and substantive editing of review manuscripts. A background in or willingness to learn about natural sciences is essential; knowledge of social sciences and public policy issues is also helpful. Good communication skills, preferably including editing experience, are essential. Reply as **soon as possible** in writing, enclosing samples of previous work if possible, to Carolyn Bell, Personnel Manager, Science Magazine, 1333 H Street NW, Room 854, Washington, DC 20005, AA/EOE.

Applications are invited from anyone interested in working under the supervi-

sion of Michael Hunter of Birkbeck College, University of London, on a catalogue of the **Boyle Papers** preserved by the Royal Society. Some familiarity with part of the subject-matter of the papers—scientific, theological, medical, and technological—would be an advantage, as would archival expertise, but either might be acquired in the course of the work. The work could be conducted on a full- or part-time basis, with rates of pay assessed accordingly. For further information contact Michael Hunter, Department of History, Birkbeck College, University of London, Malet Street, London, WC1E 7HX, England.

The **University of Connecticut** is looking to fill a tenure-track position, rank open, to begin 1 September 1987, in history of science or technology or some combination of the two. A Ph.D. is required; publications are desirable. The deadline is **30 October 1986**. Send applications, including curriculum vitae and three letters of recommendation, to Search No. 2, c/o Professor Bruce Stave, Chairman, Department of History, University of Connecticut, Storrs, CT 06268.

The editors of the **Correspondence of Charles Darwin** seek applicants for the position of Assistant Editor. Applicants should have a Ph.D. in history of science, with emphasis on nineteenth-century biology. Editing experience desirable but not essential. The appointment will be for two to three years, with possibility of advancement and longer tenure. The salary will be comparable to a university assistant professorship, with benefits as an employee of the American Council of Learned Societies, the sponsor of the Darwin project. The person appointed will work at the Darwin Archives, Cambridge University Library, Cambridge, England. Transportation to England and back will be provided. Applicants should send a curriculum vitae, a list of publications, and the names of three referees to Frederick Burkhardt, Box 1067, Bennington, VT 05201.

The Studies in Landscape Architecture program at **Dumbarton Oaks**, Washington, DC, offers research fellowships for students working on dissertations or other final projects for their degrees. In addition, fellowships are available for scholars who

FELLOWSHIPS & GRANTS

The **American Institute of the History of Pharmacy** sponsors an annual competition to provide grants-in-aid for thesis work in the history of pharmacy and related fields. Four grants, for a total of \$5,000, were awarded in 1986. Grant applications are accepted until **1 February** of each year. For more information, contact American Institute of the History of Pharmacy, Pharmacy Building, University of Wisconsin School of Pharmacy, Madison, WI 53706-1508.

DON'T OVERLOOK the following fellowships listed in the April 1986 Newsletter: **Fulbright Scholar Awards**, deadlines throughout the year; and **National Endowment for the Humanities**, Humanities, Science and Technology grants, deadline 1 October 1986.

The **Francis C. Wood Institute for the History of Medicine** of the **College of Physicians of Philadelphia** announces its Rockefeller Foundation Humanities Residency Program. Two grants of \$25,000 each will be awarded to scholars who will spend the academic year 1987-1988 in residence conducting research in the College library and participating in the Wood Institute seminar program. Grants will not be made for doctoral research. Deadline for applications is **15 January 1987**. For further information please contact Roselind Valentin, Wood Institute, 19 South 22nd Street, Philadelphia, PA 19103.

The **Columbia Society of Fellows in the Humanities**, with grants from the Andrew W. Mellon Foundation and the William R. Kenan Trust, will appoint a number of postdoctoral fellows in the humanities for

the academic year 1987-1988. The appointment carries with it the expectation of renewal for a second year. Fellows newly appointed for 1987-1988 must have received the Ph.D. between 1 January 1985 and 1 July 1987. The stipend will be \$26,000, one half for independent research and one half for teaching in the undergraduate program in general education. Additional funds are available to support research. Deadline for receipt of completed application forms is **15 October 1986**. Application forms can be obtained by writing to the Director, Society of Fellows in the Humanities, Heyman Center for the Humanities, Box 100 Central Mail Room, Columbia University, New York, NY 10027.

The deadline for receipt of proposals for the 1987-1988 **Fulbright Scholar-in-Residence Program** is **1 November 1986**. See the information on the program in the April 1986 *Newsletter*, page 12. For detailed program guidelines and proposal forms and for further information, call or

have completed their degrees and are doing advanced research. Subject areas include history of botanical illustration and horticulture as well as other fields. Applications for fellowships are due on or before **15 November 1986**. For further information contact The Assistant Director, Dumbarton Oaks, 1703 32nd Street, N.W., Washington, DC 20007.

The **University of Georgia** is seeking to hire an assistant professor (on tenure-track) in the history of science since 1500. Teaching responsibilities include survey courses in Western civilization or United States history. Candidates must hold a Ph.D. by 1 September 1987 and demonstrate strong commitment to excellence in teaching and research. The salary is competitive; the application deadline is **10 November 1986**. For further information write Lee Kennett, Search Committee Chairman, Department of History, University of Georgia, Athens, GA 30602. AA/EOE.

The **National Aeronautics and Space Administration** has reopened its competition for a qualified scholar to research and

write a monograph history of the considerations and negotiations leading to the signing in 1985 of agreements between the United States and Japan, Canada, and the European Space Agency to conduct definition and preliminary design of a permanently manned Space Station. Qualified scholars should have substantial research and successful writing experience in the history of international science and technology policy or contemporary international affairs. Funding is available for one year's support and related research and travel expenses. Deadline for proposals is **1 October 1986**. Scholars expecting to make proposals should contact the NASA History Office prior to **1 August 1986** for guidance in preparing proposals. Contact Sylvia D. Fries, Director, NASA History Office, National Aeronautics and Space Administration, Washington, DC 20546; telephone (202) 453-2999.

The **National Museum of American History, Smithsonian Institution** is looking for a Curator of Computers, Information and Society. The position is to be located in the Department of the History of Science and Technology and will have a sal-

ary range of from \$31,619 to \$52,262 per annum, depending on qualifications and experience. Responsibilities will include the development and maintenance of a museum collection in this field, involvement in the planning and production of a major exhibition entitled "The Information Revolution," and scholarly research and publication exploring the impact of the computer and electronic information systems within a broad social and historical context. Applications should be sent to the Smithsonian Office of Personnel Administration, Washington, DC 20560, Attention MPA 86-185-T. For further information contact the chair of the search committee, Tom D. Crouch, Curator of Engineering and Industry, National Museum of American History, Smithsonian Institution, Washington, DC 20560. AA/EOE.

DON'T FORGET: To get announcements of positions between newsletters, send your name and address to Edith D. Sylla, HSS Secretary, School of Humanities and Social Sciences, Box 8101, North Carolina State University, Raleigh, NC 27695.

write Dr. Mindy Reiser, Council for International Exchange of Scholars, Eleven Dupont Circle NW, Suite 300, Washington, DC 20036-1257; telephone (202) 939-5404.

The **Harvard Mellon Faculty Fellowships in the Humanities** are for nontenured, experienced junior scholars, with a Ph.D. received before 30 June 1985, who at the time of appointment have completed at least two years postdoctoral teaching as college or university faculty in the humanities, usually as assistant professors. Special consideration will be given to candidates who have not recently had access to the resources of a major research university. The one-year appointment (July 1987 to June 1988; annual salary \$25,000) entails limited teaching duties, departmental affiliation, opportunity to develop scholarly research. Applications are due **3 November 1986**; awards are announced 2 February 1987. For particulars and application procedures, write Richard M. Hunt, Program Director, Har-

vard University Mellon Faculty Fellowships, Lamont Library 202, Cambridge, MA 02138; telephone (617) 495-2519.

The **Institute for Advanced Study School of Historical Studies** announces fellowships for research in the history, thought, and culture of the Western world. The Ph.D. (or equivalent) and publications are required. Qualified candidates of any nationality may apply for one or two terms. Some travel funds are available. Applications for 1987-1988 are due before **15 October 1986**. For further details, write the Administrative Officer, School of Historical Studies, Institute for Advanced Study, Olden Lane, Princeton, NJ 08540.

The **National Humanities Center** announces fellowships for the 1987-1988 academic year. The National Humanities Center supports advanced study in history, philosophy, literature, and other fields of the humanities. Both senior scholars and young scholars several years beyond the doctorate may apply for the fellowships to

pursue research and writing in residence at the Center. The Center is located in the Research Triangle Park, near Chapel Hill, Durham, and Raleigh, North Carolina. While pursuing their individual projects, fellows may take part in various activities at the Center—interdisciplinary seminars on areas of mutual interest, lectures by fellows and visitors, and conferences. The Center admits 35 to 40 fellows annually. Fellowships are normally for the academic year. Fellowship stipends are based, insofar as possible, on scholars' usual academic salaries. Fellows who have partial funding in the form of sabbatical salaries or grants from other sources normally receive from the Center the difference between that funding and their usual salaries. All fellows are given travel expenses to and from the Center for themselves and their families. All applications must be postmarked by **15 October**. An application consists of a form (available from the Center), supported by a curriculum vitae, a 1000-word project proposal and three letters of recommendation. For

application material, write Kent Mullikin, Assistant Director, National Humanities Center, 7 Alexander Drive, Research Triangle Park, NC 27709.

The **Andrew W. Mellon Postdoctoral Fellowships in the Humanities at Stanford University** are awarded to highly promising scholar-teachers in the humanities. These nonfaculty one-year positions will carry departmental affiliation and limited teaching duties and the opportunity for scholarly work and intellectual growth. The Ph.D. must have been received after June 1982 and before September 1987. The award carries an annual stipend of \$22,000 plus benefits and is renewable for a second year. Application forms for 1987-88 are available from Mellon Postdoctoral Fellowships, Dean's Office, Humanities and Sciences, Building One, Stanford University, Stanford, CA 94305. All materials, including three letters of reference, are due no later than **15 November 1986**.

FOR THE RECORD

The **Sidney M. Edelstein Center for the History and Philosophy of Science, Technology, and Medicine of the Hebrew University of Jerusalem** offered two postdoctoral fellowships for the academic year 1986-1987. Candidates who could make use of the Einstein Archives or other relevant collections at the Hebrew University were especially urged to apply. The application deadline was 15 June 1986. For more information, contact The Sidney M. Edelstein Center, Hebrew University, Levy Building—Room 202, Givat Ram, 91904 Jerusalem, Israel.

The **Institute for the History and Philosophy of Science and Ideas**, attached to the School of History of the Tel Aviv University, offered two renewable postdoctoral fellowships, with an application deadline of 1 June 1986. For further information write to Yehuda Elkana, Institute of History and Philosophy of Science and Ideas, The Aranne School of History, Gilman Building, Room 384, Tel-Aviv University, Ramat-Aviv, Tel-Aviv, Israel.

SEE ALSO *The Guide to Federal Funding for Social Scientists* compiled by COSSA, listed under "Publications."

CALLS FOR PAPERS

The 1987 meeting of the **American Association for the History of Medicine** will be held in Philadelphia, 30 April-3 May. Any subject in the history of medicine is suitable for presentation. The paper must not represent work already published or in press. Presentations will be limited to 20 minutes. The deadline for submission of abstracts is **15 October 1986**. Anyone interested in presenting a paper at this meeting should request an abstract submission form from W. Bruce Fye, Chairman, AAHM Program Committee, Cardiology Department, Marshfield Clinic, 1000 North Oak Avenue, Marshfield, WI 54449.

The **American Society for Ethnohistory** will hold its annual meeting for 1987 at the Claremont Hotel, Berkeley, California, on **5-7 November 1987**. Papers are invited that deal with studies of scientific activities among ethnic groups. The Society encourages studies that draw on historical and anthropological evidence. The dead-

line for submission of abstracts (100-200 words) and payment of \$20 registration fee (\$10 for students) is **15 April 1987**. Abstracts should be submitted to George Collier, Center for Latin American Studies, 582 Alvarado Row, Stanford University, Stanford, CA 94305.

The theme for the **British Society for the History of Science's** 1987 summer meeting will be *The Life, Work and Milieu of Robert Hooke*. Apart from the history of science narrowly defined, attention will also be paid to Hooke's personal life, his professional commitments and his broader interests. The conference, which will be held in London in **July 1987**, is being organized by Michael Hunter and Simon Schaffer. Anyone who would like to offer a paper on a relevant topic should write as soon as possible to Michael Hunter, Department of History, Birkbeck College, University of London, Malet Street, London WC1E 7HX, or Simon Schaffer, Department of History and Philosophy of Science, University of Cambridge, Free School Lane, Cambridge, CB2 3RH, England.

MEETINGS

An International Conference on The History of Television—from Early Days to the Present will be held at the Institution of Electrical Engineers, Savoy Place, London WC2, 13-15 November 1986. The Conference is being organized by the IEE to commemorate the fiftieth anniversary of the founding of the world's first high definition television service in 1936. For further information on the conference please contact J. Sutcliffe, Conference Services, IEE, Savoy Place, London WC2R 0BL, telephone—01-240 1871, Ext. 222.

The Medical Faculty of **Leiden University** will commemorate the founding of clinical teaching in 1636 with an official ceremony in August 1986. Under the auspices of the International Academy of the History of Medicine, a symposium will be organized on "**Clinical Teaching, Past and Present**," to be held 27-29 August 1986. Members who want to present a paper on a subject of their choice are requested to

contact the secretary of the symposium; there will be a parallel session to present these free communications on 28 August. For further information contact H. Beukers, Secretary, Metamedica, Division of the History of Medicine, P.O. Box 9603, 2300 RC Leiden, The Netherlands.

Medical History Conferences and the Medical Collectors Association will present a **collectors' tour** entitled "**The History of Medical Instruments and Pharmaceuticals**" 7-17 September 1986 in London and Oxford. For more information contact Nicholas Dewey, Medical History Conferences, BCM Box Dewey, London WC1N 3XX, England.

The **Sociedade Brasileira de História da Ciência** in cooperation with other groups will hold a conference in Rio de Janeiro, 3-5 September 1986. Those interested in giving papers should send an abstract of no more than 20 lines typed, double spaced, by **15 July 1986** to Io. Seminário Nacional de História da Ciência e Tecnologia, Museu de Astronomia—CNPq, Rua General Bruce, 586, São Cristóvão, 20921 Rio de Janeiro, Brazil.

The **International Federation of Scientific Editors Associations** announces their fifth international conference, on the subject "Publications as an Integral Part of Scientific Research," to be held in Hamburg 14-19 June 1987. Authors intending to submit a paper are requested to send in the title by **30 June** and a one-page abstract by **1 October 1986**. Registration for the meeting should be sent as soon as convenient to W. P. Kirchner, Bundesforschungsanstalt für Fischerei, Information/Dokumentation, Palmalle 9, D-2000 Hamburg 50. In the USA call Elizabeth Zipf, telephone (215) 587-4815.

The Eleventh Annual Meeting of the **Midwest Victorian Studies Association** will be held 24-25 April 1987 in Chicago. The topic will be "Victorian Scandals: Decorum and its Enemies." The Association welcomes proposals examining challenges to accepted standards—social, moral, aesthetic, or intellectual—in Victorian Britain. Eight- to ten-page papers or two-page abstracts should be sent no later than **10 November 1986** to Kristine Ottesen Garrigan, MVSA Executive Secretary,

Department of English and Communication, De Paul University, 2323 North Seminary Avenue, Chicago, IL 60614-3298.

The **Thirtieth Annual Missouri Valley History Conference** will take place at the University of Nebraska at Omaha, Omaha, Nebraska, 12-14 March 1987. The conference is open to all fields of history as well as interdisciplinary and methodological studies. Proposals should be submitted by **1 November 1986** to Professor Michael L. Tate, Program Coordinator, 1987 MVHC, Department of History, University of Nebraska at Omaha, Omaha, NE 68182. Proposals should include abstract of paper(s) and brief vita of all participants. Those interested in serving as moderators or commentators are also invited to write to the Program Coordinator and indicate areas of expertise.

The **National Council on Public History** and **The Society for History in the Federal Government** will hold a joint meeting in Washington, DC, 24-26 April 1987. The Program Committee invites submissions

for complete sessions, individual papers, or media presentations. Proposals may be on any aspect of the practice of history, substantive research, methodology of public history, or issues of concern to the profession. Please submit three copies of the proposals and vitas for all panelists. Send them to SHFG, Box 14139, Benjamin Franklin Station, Washington, DC 20044, by **30 September 1986**.

The Department of Philosophy of the Faculty of Science of the University of Nijmegen (The Netherlands) is pleased to announce an international congress, "**Newton's Philosophical and Scientific Legacy**," to celebrate the tercentenary of the publication of Newton's *Principia*. The congress will be held 9-12 June 1987. Invited speakers will be (among others): G. Christianson (Indiana State), I. Bernard Cohen (Harvard), B. J. T. Dobbs (Northwestern), and Richard H. Popkin (Washington University). *Contributed papers* are invited. For more information, please write the Department of Philosophy, Faculty of Science, University of Nijmegen, Toernooiveld, Nijmegen, The Netherlands.

The **Thirteenth Saint Louis Conference on Manuscript Studies** will be held 10-11 October 1986 in the Pius XII Memorial Library, Saint Louis University, 3655 West Pine, Saint Louis, Missouri 63108. The deadline for abstracts of proposed papers was 1 June. For further information contact the Conference Committee, Manuscripta, at the above address.

On 16-18 October 1986 Syracuse University and the American Historical Association will cosponsor an international conference, "**Leopold von Ranke and the Shaping of the Historical Discipline**." For more information see the May-June 1986 issue of the AHA's *Perspectives* or contact James M. Powell, Department of History, The Maxwell School, Syracuse University, Syracuse, NY 13244.

A conference on "**Testing Theories of Scientific Change**" will be held in Blacksburg, Virginia, 19-22 October 1986. Among the speakers will be Betty Jo Dobbs, Jane Maienschein, Seymour Mauskopf, Albert Moyer, and Carl Perrin.

For information about the program, registration, and accommodation, and transportation from Blacksburg to the four-society meetings in Pittsburgh, contact Rachel Lauden or Peg Stewart, Science Studies Center, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061; telephone (703) 961-7687.

A **1987 Summer Conference**, the third of a biennial series of meetings concerning history, philosophy, and social studies of biology, will take place on the campus of Virginia Polytechnic Institute and State University (Virginia Tech) in Blacksburg, Virginia, from Tuesday, 16 June 1987, to Saturday, 20 June 1987. Blacksburg is located between the Blue Ridge and the Allegheny Mountains, has a comfortable summer climate, and is accessible from the Roanoke Airport or Interstate 81. The accommodations will be in dormitories, with room and board under \$25 per day. The meetings are informal and seek to establish fruitful intellectual contact among working biologists and individuals from any field of science studies working on biological topics. Transmit any program suggestions (including workshop or

symposium topics or titles of presentations) to Richard M. Burian, Department of Philosophy, Virginia Tech, Blacksburg, VA 24061.

FOR THE RECORD

The **British Society for the History of Science** is sponsoring a conference on "The Patronage of Science" at St. Hilda's College, Oxford, 14-16 July 1986. Registrations were due by **14 June 1986**. For information, contact Dr. G. L'E. Turner, BSHS Patronage Conference, Museum of the History of Science, Broad Street, Oxford OX1 3AZ, U.K.

The **Fifth European Conference on the History of the Behavioral and the Social Sciences** will be held in Varna, Bulgaria 4-7 September 1986. The conference cost, which should be paid after arrival in Varna, is \$200 including registration fee, food, and hotel accommodation 3-8 September. Registration was to be sent by **1 July** to C. Togel, Bulgarian Academy of Sciences, Institute of Philosophy, Boul. "Patr. Evtimii" 6, Sofia 1000, Bulgaria.

The Arizona Center for Medieval and Renaissance Studies will host the national conference for the **Renaissance Society of America** at Arizona State University, Tempe, Arizona on **12-14 March 1987**. Possible topics include Methodology—New Directions Across the Disciplines; Periodization—Geographical and Temporal; The Patronage System; History of Science and Technology; Renaissance and Reformation. Deadline for submitting papers is **1 September 1986**. Contact Jeanie R. Brink, Director, Arizona Center for Medieval and Renaissance Studies, Arizona State University, Tempe, AZ 85287, (602) 965-5900 for further information.

PERIODICALS

Garland Publishing Inc. invites the submission of manuscripts and proposals for a new series, *Guides for Research in the History of Science and Technology*. This series will emphasize subjects of current interest to scholars: research guides concerning individual scientists (e.g., Newton, Einstein), social history of science, and "regional" studies (Silicon Valley, England in the seventeenth century), as well as specific technical topics. As much as possible, author-compilers will be encouraged to integrate information about and assessments of bibliographic and archival sources with informed commentary summarizing trends in past and current research. Address inquiries, proposals, or manuscripts to the series editor, Henry Lowood, Bibli-

ographer for History of Science and Technology Collections, Stanford University, Stanford, CA 94305.

The Indian Journal for Eighteenth Century Studies will begin publication in 1986. It will be published biannually and will contain topics relating to life and letters in the eighteenth century anywhere in the world. Contributions of articles and reviews are invited, not to exceed 6,000 words including footnotes. The 1987 issues will be dedicated to Isaac Newton's *Philosophiae Naturalis Principia Mathematica*, for which papers were to reach the editors by June 1986. Please submit contributions in duplicate, typed on A4-size paper to: Amiya Bhushan Sharma, General Editor, Adampur Chowk, Bhagalpur-812001, India.

The June 1988 issue of the journal *Theoretical Medicine* will be devoted to the topic "Patterns of Reasoning in Medical Genetics." Papers are invited that explore the nature of explanation in human genetics, the dynamics of clinical judgment in genetic counseling context, and the central concepts of medical genetics from the perspectives of current genetic theory and practice, the history and philosophy of science, the social sciences, and ethics. Final submissions are due no later than **1 June 1987**. For further information contact the guest editor for the issue, Eric T. Juengst, Division of Medical Ethics, UCSF School of Medicine, 1362 Third Avenue, San Francisco, CA 94134.

CALLS FOR INFORMATION

The **American Association for the History of Medicine** is planning to issue in early 1987 a new listing of current research on topics in the history of medicine and related sciences, including dissertations. Individuals and department heads desiring to have their projects and those of their students listed are urged to send the following information: name; institution or mailing address; title of substantial research topics; and estimated completion date. Send communications before **15 November 1986** to Charles G. Roland, 3N10-HSC McMaster University, Hamilton, Ontario, L8N 3Z5, Canada.

The sixth annual bibliography of works on the history of Australian science is to be published in the **Australian Academy of**

Science's Historical Records of Australian Science in December 1986. The bibliography will list mainly works published during 1985 but will also include items published before 1985 but not included in the earlier bibliographies. The scope of the bibliography is limited to material on the history of the natural sciences—mathematics, physical sciences, earth sciences, and biological sciences—and some of the applied sciences, including medical and health sciences, agriculture, transport, manufacturing, and engineering. The compiler is seeking relevant material published during 1985 for the next bibliography. Send details or copies of books, journal articles, theses, reports, and reviews on the subject to L. E. Carlson, Deakin University Library, Deakin University, Victoria 3217, Australia.

Awards, Honors & Appointments

Gerald Grob has been awarded the 1986 William H. Welch Medal of the History of Medicine Society in recognition of his lifetime achievement in this field. He is Professor of History at Rutgers University and author of *Mental Illness and American Society, 1875-1940* (Princeton, 1983).

Bert Hansen has received the annual Laurance D. Redway Award for Excellence in Medical Writing, given by the Medical Society of the State of New York, for his two-part article "Medical Education in New York City in 1866-67: A Student's Notebook of Professor Charles A. Budd's Lectures on Obstetrics at New York University" (*New York State Journal of Medicine*, August and September 1985).

Sheldon Hochheiser has accepted a one-year position with the Program in the History of Science and Technology, University of Minnesota. He will be replacing Professor Alan E. Shapiro, who is on leave.

Daniel Kevles's *In the Name of Eugenics: Genetics and the Uses of Human Heredity* was a runner-up for the 1985 American Book Award in Non-Fiction. A substantial part of the book appeared as a four-part series in *The New Yorker* during October 1984 under the title "Annals of Eugenics." This series won a Page One Award for Science Writing, Magazines, from the New York Newspaper Guild.

Gregg Alden Mitman, a Ph.D. candidate in history of science at the University of Wisconsin, has been awarded a Charlotte W. Newcombe Doctoral Dissertation Fellowship, for work on a dissertation with the proposed title "Evolution by Cooperation: The Chicago School of Socioecology, 1920-1960." Forty-seven Newcombe Fellowships were awarded in 1986 to students whose dissertations concern ethical or religious values as they relate to all areas of human endeavor. The program is administered by the Woodrow Wilson National Fellowship Foundation.

Michael M. Sokal, Professor of History at Worcester Polytechnic Institute, was the key speaker at the centennial observance of Sigma Xi, held at Cornell University, 12 April 1986. Professor Sokal was commissioned last year to write the hundred-year history of Sigma Xi.

Linda Ehrsam Voigts has received a grant from **The National Endowment of the Humanities** in order to create a catalogue of incipits of scientific and medical writings in Old and Middle English. The result will be both a computer data base to which future additions can be made and a published catalogue, a companion volume to Lynn Thorndike and Pearl Kibre, *Incipits of Mediaeval Scientific Writings in Latin*. Will readers who know of Middle English scientific writings not in "mainstream" libraries please write Professor Voigts at University of Missouri-Kansas City, Department of English, Cockefair Hall, Kansas City, MO 64110-2499.

Effective 1 July 1986 **John Harley Warner** will become Assistant Professor of the History of Medicine and Life Sciences at Yale University. He will be leaving his post at The Wellcome Institute, where he is now pursuing a comparative study of the medical profession in early and mid-nineteenth-century Britain and the United States.

The **American Council of Learned Societies** has awarded fellowships in the following categories for work on the indicated topics of interest to historians of science. For research in the humanities and related social sciences, in a program supported by grants from the Andrew W. Mellon Foundation, the Ford Foundation, and the National Endowment for the Humanities, to Margaret Delacy, Portland, Oregon: Disease theory, social theory, and medical institutions in eighteenth-century England; Samuel Y. Edgerton, Jr., Williams College: The influence of Renaissance art on the rise of modern science; Darlene Clark Hine, Purdue University: A history

of black women in the nursing profession, 1886-1950; Calvin Martin, Rutgers University: The biological conquest of the North American Indian; David Edwin Nye, Odense University (Denmark): Electrification and American society, 1879-1950; Donald J. Pisani, Texas A&M University: A history of water development in the arid American West, 1850-1928; and Daniel Wikler, University of Wisconsin-Madison: Pre-commitment—problems of philosophy and policy (Professors Hines and Wikler are ACLS/Ford Fellows). For postdoctoral research in the humanities and related social sciences, Grants-in-Aid supported by grants from the NEH and the John D. and Catherine I. MacArthur Foundation, to Sherrill Cohen, New York Council for the Humanities: The evolution of women's asylums; Jan Goldstein, University of Chicago: Public languages of the private self—*idéologie*, eclecticism and phrenology in France, 1790-1850; Rachel Laudan, Virginia Polytechnic Institute: William Whewell as historian of science; Theodore Mark Porter, University of Virginia: The meaning and influence of probability theory; and Edmund N. Todd, University of New Haven: Energy systems, vertical integration, and politics in the Ruhr, 1900-1930.

Among those winning awards from the **National Endowment for the Humanities**, Division of Research Programs, Interpretive Research in Humanities, Science, and Technology (as a result of the November 1985 and February 1986 meetings of the National Council on the Humanities) are **David P. Billington**, Princeton University, "A Reinterpretation of Large-Scale Urban Building" (1986-1988); **Michael W. Dols**, unaffiliated, "The Islamic Hospital" (1986-1988); **Arthur L. Donovan**, Virginia

Polytechnic Institute and State University, "The Historical Origins of Modern Chemistry: The Chemical Revolution and the Discipline of Chemistry in the Eighteenth Century," (1986-1987); **Joseph S. Fruton**, unaffiliated, "A Comparative Study of Research Groups in the Biochemical Sciences," (1986-1988); **Charles C. Gillispie**, Princeton University, "Science and Polity in France from the Revolution Through the Restoration," (1986-1987); **Sander L. Gilman**, Cornell University, "History of Medical Illustration," (1986); **Joel D. Howell**, University of Michigan, "Diagnostic Technology in American Hospitals, 1895-1925," (1986-1988); **Steven P. Marrone**, Tufts University, "The Reception of Science Among Augustinian Scholastics at Paris and Oxford in the Thirteenth Century," (1986-1987); **David B. Morris**, unaffiliated, "Understanding Pain: A Study in Medical Humanities," (1986-1987); **Mary Jo Nye**, University of Oklahoma, "Scientific Explanation and Modern Chemistry in England and France," (1986-1987); and **Charles Weiner**, Massachusetts Institute of Technology, "Biomedical Scientists and Patents: A Twentieth Century History," (1986-1987).

The **National Science Foundation** has announced the names of 505 outstanding college students who are being offered fellowships for graduate study in the natural and social sciences, mathematics, and engineering. The following received fellowships for study in the history of science at the indicated institutions: **Simon James Frankel**, Princeton University; **Marta Eileen Hanson**, University of Pennsylvania; **Christopher R. Hitchcock**, Stanford University; **Julie Ann Johnson**, University of Pennsylvania; and **Linda B. Tucker**, Johns Hopkins University.

Dissertations

Indiana University

Carol A. Day, "Jean Buridan On the Classification of the Sciences." Ph.D. completed 1986.

Gerald Funk, "Newton's Clients: Patronage in Science." Ph.D. completed 1986.

Peter G. Sobol, "John Buridan On the Soul and Sensation: An Edition of Book II of His Commentary on Aristotle's Book on the Soul, with an Introduction and a

Translation of Question 18 on Sensible Species." Ph.D. completed 1986.

Iowa State University

Andrew J. Butrica, "From *inspecteur* to *ingenieur*: Telegraphy and the Genesis of Electrical Engineering in France, 1875-1881." Ph.D. completed 1986.

University of Kansas

Alan W. Varley, "Living Parasites or Autocatalytic Ferments? The Controversy over the Nature of Bacteriophage 1915-1925." Ph.D. completed 1986.

University of Toronto

Susan Catherine Lawrence, "Science and Medicine at the London Hospitals, 1750-1815: The Development of Teaching as Research." Ph.D. completed 1985.

Richard Andrew Paskauskas, "Ernest Jones: A Critical Study of His Scientific Development (1896-1913)." Ph.D. completed 1986.

Suzanne Zeller, "The Role of Victorian Inventory Science in the Growth of Nationalism in Canada." Ph.D. completed 1986.

Prize Competitions

Ladies' evening chemistry class of the Lowell Institute in 1869, held in the new Massachusetts Institute of Technology. Courtesy the E. F. Smith Memorial Collection, Center for History of Chemistry.



The **Committee on Women of the History of Science Society** is raising funds to support a new prize on the **history of women in science**. As approved by the Executive Committee of the Society, the prize would be awarded annually, granting in alternate years a prize for (1) an outstanding book published in the previous three years, and (2) an outstanding article published in the previous three years. The purpose of the prize is to encourage the development of the growing specialty of women in science within the history of science and to recognize those scholars who are pioneering and developing this field. The Committee hopes to raise an endowment of \$10,000, which would allow for a \$500 prize each year. Contributions for the prize (\$25 for contributors, \$100 for donors, and \$500 for sponsors) will count toward HSS matching funds. Checks should be made out to the History of Science Society—Women's Prize and sent to Michele Al-

drich, AAAS, 1333 H Street, NW, Washington, DC 20005.

The **Society for the History of Technology** is again offering the **Joan Cahalin Robinson Prize**, which encourages the efforts of young and new scholars in the history of technology by rewarding excellence in verbal communications skills. The prize consists of a certificate and a check for \$250; it is awarded for the *best presented* paper at the annual meeting of the Society for the History of Technology. Eligibility is restricted primarily to scholars not yet thirty years old by the last day of the meeting, to be held in Pittsburgh on 22–26 October 1986, and additionally to scholars over thirty years old presenting their *first* paper at a SHOT meeting, if they are accredited graduate students or candidates for a higher degree. Presenters holding a Ph.D. are not eligible unless they are under thirty.

To be eligible for the prize, presenters must send a copy of their paper, complete with footnotes, to each member of the Prize Committee by **22 September 1986**. Written papers should be limited to what can be reasonably presented in the time allotted for oral presentation at the given session. Members of the Prize Committee read the papers before the meeting and hear the presentations. The Committee decision rests on the quality of historical research and scholarship, the clarity of organization and coherence of argument, audibility and interest of voice, relevance and clarity of any visual or auditory materials used, rapport with the audience, ability to deal politely and informatively with questions, and adherence to the limits set in advance by the chair of the session.

Send a copy to each member of the Prize Committee: Richard F. Hirsh, Department of History, Virginia Polytechnic Institute, Blacksburg, VA 24061; Gary B. Kulik, National Museum of American History, Smithsonian Institution, Washington, DC 20560; Ronald R. Kline, IEEE Center for the History of Electrical Engineering, 345 East 74th Street, New York, NY 10017; Omer A. Gianniny, Jr., 2441 Jefferson Park Avenue, Charlottesville, VA 22903; and Elizabeth Hitz, Museum Reference Library, Eisenhower Park, East Meadow, NJ 11554.

Archives

The Archives of **American Veterinary Medicine** has been created at **Iowa State University Library, Department of Special Collections**. The archives offers for scholarly use a wide range of manuscript collections in veterinary history. Among its recent acquisitions are the papers of the Association of Official Agricultural (now Analytical) Chemists, a group in its second century charged with establishing standard analytical techniques to measure purity of water supplies and plant, animal, and human foodstuffs; the Fort Dodge Laboratories, a leading midwestern manufacturer of veterinary biologics and pharmaceuticals; and the Intermountain Veterinary Medical Association, America's second largest veterinary organization.

Contact Professor Stanley Yates, Department of Special Collections, Iowa State University Library, Ames, IA 50011 for further information.

During the summer and fall of 1986 most of the manuscripts and archives collections and some parts of the general business collections of the **Baker Library at the Harvard Business School** will be moved to storage at the Harvard Depository, Inc. (HDI), in Southboro, Massachusetts. Heavily consulted items will remain on-site at the Baker Library. HDI materials will be ordered on-line and delivered to Baker the next day. Scholars should write or call three weeks ahead for their first days' research materials. Collection-level descriptions are now available on-line through RLIN as well as from Baker's manuscripts repository guide. For further information write Florence Barteshsky

Lathrop, Manuscripts and Archives Department, Baker Library, Harvard Business School, Boston, MA 02163.

Progress Report No. 25 of the **Contemporary Scientific Archives Centre, Oxford**, reports that from October 1985 to March 1986 the following collections were completed: Joshua Harold Burn (pharmacology); Robert Spence (chemistry); Alexander Graham Bryce (thoracic surgery); Cecil Reginald Burch (physics and engineering); Cecil Frank Powell (physics). Most of the H. A. Krebs collection has been catalogued. In addition, catalogues of the papers of Alan Mathison Turing (mathematics of computation); Keith Frederick Bowden (computer science); and Cyril Dean Darlington (botany, genetics) were published in 1985. The Centre will move to the University of Bath in March 1987.

PUBLICATIONS



The latest five-year cumulation of the *Bibliography of the History of Medicine*, covering recent historical literature indexed between 1980 and 1984, is just out. Prospective purchasers should send orders directly to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, enclosing remittances of \$30 per copy (\$37.50 foreign). The order number is S/N 017-052-00257-1. Order forms may also be obtained from the History of Medicine Division, National Library of Medicine, Bethesda, MD 20894.

A Guide to Federal Funding for Social Scientists has been compiled and written by the Consortium of Social Science Associations (COSSA), with support from the Russell Sage Foundation. The *Guide* describes over 300 federal programs of interest to researchers in the social and behavioral sciences and related areas of the humanities, including funding priorities, application guidelines, and examples of funded research. The program descriptions are based largely on personal interviews with agency directors and staff, and introductory essays provide important contextual information about the organization of social science funding. The 512-page *Guide*, being published by the Russell Sage Foundation and distributed by Basic Books, is available for \$19.95 to individuals and for \$24.95 for libraries. Members of the HSS, a COSSA affiliate, may purchase the *Guide* at the special discount price of \$14.95. For copies, send prepaid order indicating HSS membership to COSSA, Department G-160, 1200 17th Street, NW, Suite 520, Washington, DC 20036. Allow three to four weeks for delivery. New York residents please add sales tax.

The editors of *Historical Studies in the Physical Sciences* announce a change in title and in coverage. Its logo, HSPS, will now stand for *Historical Studies in the Physical and Biological Sciences*. Papers concerning biophysics, radiation biology, biochemistry, molecular biology,

genetics, and experimental physiology will be particularly welcome. The editorial board has been expanded to include experts in the histories of some of the fields just enumerated: Daniel J. Kevles of Caltech, John E. Lesch of Berkeley, and William Provine of Cornell. Some things have not changed. The journal's temporal coverage still runs from the consolidation of the scientific revolution of the seventeenth century to as close to the present as the availability of historical sources permits; it still prefers longish manuscripts; and its editorial address remains the Office for History of Science and Technology, 470 Stephens Hall, University of California, Berkeley, CA 94720.

The Institute for Scientific Information (ISI) announces the release of a new menu-driven software product called the *Editor*, which formats references in fifteen styles supplied with the program plus user-designed styles. For more information, contact Richard Lowe, Software Products, ISI, 3501 Market Street, Philadelphia, PA 19104; telephone (215) 386-0100.

With funding from the National Endowment for the Humanities and the sponsorship of the American Council of Learned Societies, a group of specialized historians, geographers, art historians, religion professors, and media resource specialists have spent seven years creating a comprehensive package of teaching aids to add an Islamic studies component to existing undergraduate and secondary level courses in the humanities. Among the products of this **Islamic Teaching Materials Project**, "*Islam-Fiche*," a microfiche anthology of 225 translated selections from primary source materials in the arts and humanities, includes selections related to technology, natural science, and medicine. For more information contact Kathy Sullivan, telephone (202) 337-0855, or the project director, Herbert Bodman, Jr., History Department, 554 Hamilton Hall, University of North Carolina, Chapel Hill, NC 27514; telephone (919) 962-2115.

Copies of *Islamicate Celestial Globes: Their History, Construction, and Use*, by Emilie Savage-Smith (Smithsonian Studies in History and Technology, 46), ix 354 pp., are being distributed by the Smithsonian Institution free of charge. Those using university or library letterhead stationery can obtain a copy by writing Dalton Tart, Distribution Section,

Smithsonian Institution Press, 1111 North Capitol, Washington, DC 20560. Those without university or library affiliation should write to Theresa J. Slowik, Technical Publications Editor, Smithsonian Institution Press, Room 2100, 955 L'Enfant Plaza, Washington, DC 20560.

Copies of a Linda Hall Library exhibition catalogue, *Jesuit Science in the Age of Galileo*, may be obtained free upon request from the library at 5109 Cherry Street, Kansas City, MO 64110.

An exhibition, "**The Measure of Man**," covering instruments, theory and practice of anthropometry, and experimental psychology 1800-1900, was scheduled at the Istituto e Museo di Storia della Scienza, Florence, Italy, 15 May-12 July 1986. For further information and a catalogue of the exhibition with articles by G. Barsanti, C. Pogliano, Simonetta Gori Savellini, and P. Guarnieri, contact Pinuccia Bonetti at the museum, 50122 Florence.

Books Received by Isis March-May 1986

Ordering information: Books and publications listed in the *HSS Newsletter* are available from the publisher. The History of Science Society cannot fill orders for non-HSS publishers.

Note: Most books on the Books Received List that will be reviewed in *Isis* have already been assigned to reviewers. If you are interested in reviewing a forthcoming book for *Isis*, please fill in the coupon "News of Forthcoming Books" in this section.

Joseph Adelson. *Inventing Adolescence: The Political Psychology of Everyday Schooling*. x + 296 pp., figs. New Brunswick, N.J./Oxford: Transaction Books, 1986. \$29.95.

Silvio A. Bedini. *Clockwork Cosmos: Bernardo Facini and the Farnese Planisfero*. (Studi e Testi, 317.) 222 pp. illus., figs., apps., index. Vatican City: Biblioteca Apostolica Vaticana, 1985.

Hans Blumenberg. *Lebenszeit und Weltzeit*. 378 pp., index. Frankfurt am Main: Suhrkamp Verlag, 1986. DM 48.

Paolo Bonasoni. *The Algebra Geometrica of Paolo Bonasoni, ca. 1575: Being the Only Known Work of The Early Forgotten Renaissance Mathematician*. Edited and translated by Robert Schmidt. 202 pp., figs. Annapolis, Md.: Golden Hind Press, 1985.

Augustine Brannigan, Sheldon Goldenberg (Editors). *Social Responses to Technological Change*. (Contributions in Sociology, 56.) ix + 292 pp., figs., bibl., index. Westport, Conn./London: Greenwood Press, 1985. \$35.

W. F. Bynum, Roy Porter (Editors). *William Hunter and the Eighteenth-Century Medical World*. xi + 424 pp., illus., index. Cambridge/London/New York: Cambridge University Press, 1985. \$49.50.

W. F. Bynum, Roy Porter, Michael Shepherd (Editors). *The Anatomy of Madness: Essays in the History of Psychiatry*. Volume I: *People and Ideas*. xiii + 316 pp., illus., indexes. London/New York: Tavistock Publications, 1985. \$70.

W. Cavini, M. C. Donnini Macciò, M. S. Funghi, D. Manetti. *Studi su papiri greci di logica e medicina*. (Accademia Toscana di Scienze e Lettere "La Colombaria," 74.) 216 pp., illus., figs., bibl., index. Florence: Leo S. Olschki Editore, 1985. L. 39,000 (paper).

Bruce Chandler (Editor). *The Time Museum: Catalogue of the Collection*. Volume I: *Time Measuring Instruments, Part 1: Astrolabes and Related Instruments*, by A. J. Turner. xii + 268 pp., illus., figs., app., bibl., index. Rockford, Ill.: The Time Museum, 1985. \$120.

Paul M. Churchland, Clifford A. Hooker (Editors). *Images of Science: Essays on Realism and Empiricism*. With a reply from **Bas C. van Fraassen**. (Science and Its Conceptual Foundations.) viii + 309 pp., figs. Chicago/London: University of Chicago Press, 1985. \$45 (cloth); \$18.95 (paper).

Ronald W. Clark. *The Life of Ernst Chain: Penicillin and Beyond*. x + 217 pp., illus., bibl., index. New York: St. Martin's Press, 1985. \$25.

Nicholas Copernicus. *Complete Works*. Edited by **Pawel Czartoryski**. Translation and commentary by **Edward Rosen** with the assistance of **Erna Hilfstein**. Volume III: *Minor Works*. 224 pp., index. Warsaw/Cracow: Polish Scientific Publishers, 1986. [Not exported outside the countries of the Warsaw Pact.]

Joseph J. Corn (Editor). *Imagining Tomorrow: History, Technology, and the American Future*. vi + 237 pp., illus., figs., index. Cambridge, Mass./London: MIT Press, 1986. \$17.50.

Hector Currie. *Cinema, Drama, Schema: Eastern Metaphysic in Western Art*. xi + 225 pp., figs. New York: Philosophical Library, 1985. \$14.95.

Rodney Dale. *The Sinclair Story*. viii + 184 pp., illus., figs. London: Duckworth, 1985. £9.95.

Norman Daniels. *Just Health Care*. (Studies in Philosophy and Health Policy.) xiii + 245 pp., bibl., index. Cambridge/London/New York: Cambridge University Press, 1985. \$32.50 (cloth); \$9.95 (paper).

Howard Davis, David Gosling. *Will the Future Work? Values for Emerging Patterns of Work and Employment*. xvii + 122 pp., figs., bibl. Geneva: World Council of Churches, 1985. SFr 14.90; £4.95; \$7.25.

Max Delbrück. *Mind From Matter? An Essay on Evolutionary Epistemology*. Edited by **Gunther S. Stent, Ernst Peter Fischer, Solomon W. Golomb, David Presti, and Hans-Jakob Seiler**. ix + 290 pp., illus., figs., indexes.

Oxford/London/Edinburgh: Blackwell Scientific Publications, 1985. \$29.95 (cloth); \$14.95 (paper).

Harold G. Dick, Douglas H. Robinson. *The Golden Age of the Great Passenger Airships: Graf Zeppelin and Hindenburg*. 226 pp., illus., figs., apps., bibl., index. Washington, D.C.: Smithsonian Institution Press, 1985. \$24.95.

Anne Digby. *Madness, Morality and Medicine: A Study of the York Retreat, 1796-1914*. (Cambridge History of Medicine.) xvii + 323 pp., illus., figs., app., bibl., index. Cambridge/London/New York: Cambridge University Press, 1985. \$39.50.

A. Djebbar. *L'analyse combinatoire au Maghreb: L'exemple d'ibn Munim (XII^e-XIII^e s.)*. (Publications Mathématiques d'Orsay.) 124 pp., figs., bibl., index. Orsay: Université de Paris-Sud, 1985.

John Douglas. *Medical Topography of Upper Canada*. Introduction by **Charles G. Roland**. (Resources in Medical History, 2.) xv + 45 pp., index. London: Burgess & Hill, 1819; rpt. Canton, Mass.: Science History Publications, 1986. \$9.95.

Pierre Duhem. *Medieval Cosmology: Theories of Infinity, Place, Time, Void, and the Plurality of Worlds*. Edited and translated by **Roger Ariew**. xxxi + 601 pp., bibl., index. Chicago/London: University of Chicago Press, 1986. \$35.

Paul R. Ehrlich. *The Machinery of Nature*. 320 pp., illus., apps., bibl., index. New York: Simon & Schuster, 1986. \$18.95.

Carolyn Eisele (Editor). *Historical Perspectives on Peirce's Logic of Science: A History of Science*. 2 volumes. x + 1130 pp., figs., index. Berlin/New York/Amsterdam: Mouton, 1985. DM 460; \$209.60. [Distributed in the U.S. by Walter de Gruyter, Hawthorne, N.Y.]

Alberto Elena. *Las quimeras de los cielos: Aspectos epistemológicos de la revolución copernicana*. 237 pp., figs., bibl., indexes. Madrid/Mexico/Bogota: Siglo XXI Editores, 1985.

Menso Folkerts, Uta Lindgren (Editors). *Mathematica: Festschrift für Helmuth Gericke*. (Boethius: Texte und Abhandlungen zur Geschichte der exakten Wissenschaften, 12.) x + 742 pp., illus., figs., bibl. Stuttgart: Steiner, 1985. DM 98.

Sharon M. Friedman, Sharon Dunwoody, Carol L. Rogers (Editors). *Scientists and Journalists: Reporting Science as News*. (AAAS Issues in Science and Technology Series.) xvii + 333 pp., apps., index. London: Collier Macmillan Publishers, 1986.

Howard Gardner. *The Mind's New Science: A History of the Cognitive Revolution*. xv + 423 pp., bibl., indexes. New York: Basic Books, 1985. \$22.50.

Kurt Gödel. *Collected Works*. Edited by **Solomon Feferman, John W. Dawson, Jr., Stephen C. Kleene, Gregory H. Moore, Robert M. Solovay, and Jean van Heijenoort**. Volume I: *Publications, 1929-1936*. xvi + 474 pp., illus., app., bibl., index. Oxford/New York: Clarendon Press of Oxford University Press, 1986. \$35.

Peter W. Graham. *Literature and Medicine*. Volume IV *Psychiatry and Literature*. 173 pp.,

illus. Baltimore, Md.: Johns Hopkins University Press, 1985.

L. F. Haber. *The Poisonous Cloud: Chemical Warfare in the First World War*. xiv + 415 pp., illus., figs., bibls., index. Oxford/New York: Clarendon Press of Oxford University Press, 1986. \$59.

Karl Haffner. *Festschrift für Jean Starobinski*. (Gesnerus: Quarterly Publication of the Swiss Society of the History of Medicine and the Natural Sciences, 42.) 333 pp., illus., figs. Aarau: Editions Sauerländer, 1985.

P. M. Harman (Editor). *Wranglers and Physicists: Studies on Cambridge Mathematical Physics in the Nineteenth Century*. viii + 261 pp., figs., bibl., index. Manchester/Dover, N.H.: Manchester University Press, 1985. £27.50.

Vernon Herbert, Attilio Bisio. *Synthetic Rubber: The Project That Had to Succeed*. (Contributions in Economics and Economic History, 63.) xi + 243 pp., figs., bibl., index. Westport, Conn./London: Greenwood Press, 1985. \$45.

Caroline L. Herzenberg. *Women Scientists From Antiquity to the Present: An Index*. xxxix + 200 pp., bibl. West Cornwall, Conn.: Locust Hill Press, 1986. \$30.

Hans-Peter Hils. *Meister Johann Liechtenauers Kunst des langen Schwertes*. (Europäische Hochschulschriften, Series II: Geschichte und ihre Hilfswissenschaften, 257.) xx + 355 pp., illus., figs., apps., bibl., index. Frankfurt am Main/Bern/New York: Peter Lang, 1985.

Sally Haines Hocker. *Herbals and Closely Related Medico-botanical Works, 1472-1753*. (Kenneth Spencer Research Library, and the History of Medicine Collection, Clendenning Medical Library.) (University of Kansas Publications Library Series, 50.) viii + 94 pp., illus., figs., index. Lawrence: University of Kansas Libraries, 1985.

Louis C. Hunter. *A History of Industrial Power in the United States*. Volume II: *Steam Power*. xxiii + 732 pp., illus., figs., apps., index. Charlottesville: University Press of Virginia for the Hagley Museum and Library, 1985. \$50.

Jean Itard. *Essais d'histoire des mathématiques*. Revised with introduction by **Roshdi Rashed**. (Bibliothèque Scientifique Albert Blanchard.) 386 pp., figs., index. Paris: Librairie Scientifique et Technique with the Centre National des Lettres, 1984.

Danielle Jacquart, Claude Thomasset. *Sexualité et savoir médical au moyen âge*. (Les chemins de l'histoire.) 269 pp. Paris: Presses Universitaires de France, 1985. Fr 135 (paper).

Pat Jalland, John Hooper (Editors). *Women from Birth to Death: The Female Life Cycle in Britain, 1830-1914*. xii + 337 pp., bibl., index. Atlantic Highlands, N.J.: Humanities Press International, 1986. \$35.

Anne Hudson Jones (Editor). *Literature and Medicine*. Volume IV: *Psychiatry and Literature*. Edited by **Peter W. Graham**. 173 pp., illus. Baltimore, Md.: Johns Hopkins University Press, 1985.

Howard L. Kaye. *The Social Meaning of Modern Biology: From Social Darwinism to*

Sociobiology. 184 pp., bibl., index. New Haven/London: Yale University Press, 1986. \$20.

Oleg Ivanovic Kedrovskij. *Wechselbeziehungen von Philosophie und Mathematik im geschichtlichen Entwicklungsprozess*. 288 pp. Leipzig: B.-G. Teubner Verlagsgesellschaft, 1984.

Desmond King-Hele. *Erasmus Darwin and the Romantic Poets*. 294 pp., illus., index. New York: St. Martin's Press, 1986. \$29.95.

W. O. Kupsch; S. D. Hanson (Editors). *Gold and Other Stories as told to Berry Richards: Prospecting and Mining in Northern Saskatchewan*. xx + 307 pp., illus., figs., apps., bibl., index. Regina: Saskatchewan Mining Association, 1986. \$26.95 (cloth); \$19.95 (paper).

John Tate Lanning. *The Royal Protomedicato: The Regulation of the Medical Profession in the Spanish Empire*. Edited by **John Jay TePaske**. 485 pp., app., bibl., index. Durham, N.C.: Duke University Press, 1985. \$37.50.

Victor Lowe. *Alfred North Whitehead: The Man and His Works*. Volume I: 1861-1910. xi + 351 pp., illus., figs., bibl., index. Baltimore/London: Johns Hopkins University Press, 1985. \$27.50.

Chris Mattison. *Snakes of the World*. 190 pp., illus., figs., bibl., index. New York/Oxford: Facts on File, 1986. \$17.95.

Marco Messeri. *Causa e spiegazione: La fisica de Pierre Gassendi*. (Collana de filosofia diretta da Mario Dal Pra, 18.) 167 pp. bibl. Milan: Franco Angeli, 1985.

Charles Mollan; William Davis; Brendan Finucane (Editors). *Some People and Places in Irish Science and Technology*. 107 pp., illus., figs. Dublin: Royal Irish Academy, 1985. Ir£10 (cloth); Ir£5 (paper).

D. J. Mulvaney; J. H. Calaby. "So Much That is New." *Baldwin Spencer, 1860-1929: A Biography*. xii + 492 pp., illus., figs., bibl., index. Melbourne: University of Melbourne Press, 1985. \$35. (Distributed in U.S. and Canada by International Specialized Book Services, Beaverton, Ore.)

Raymond S. Nickerson. *Using Computers: Human Factors in Information Systems*. xiv + 434 pp., bibl., indexes. Cambridge, Mass.: Bradford Books, MIT Press, 1986. \$22.50.

David E. Nye; Christen Kold Thomsen (Editors). *American Studies in Transition*. (Odense University Studies in English, 9.) 324 pp., illus. Odense: Odense University Press, 1985.

Mary Jo Nye. *Science in the Provinces: Scientific Communities and Provincial Leadership in France, 1860-1930*. xi + 328 pp., illus., index. Berkeley/Los Angeles/London: University of California Press, 1986. \$35.

John M. O'Donnell. *The Origins of Behaviorism: American Psychology, 1870-1920*. (The American Social Experience Series, 3.) xii + 299 pp., bibl., index. New York/London: New York University Press, 1985. \$40.

Kathleen Okruhlik; James Robert Brown (Editors). *The Natural Philosophy of Leibniz*. (The University of Western Ontario Series in

Philosophy of Science, 29.) viii + 342 pp., index. Dordrecht/Boston/Lancaster: D. Reidel, 1985. Dfl. 110; £27.95; \$39. (Distributed in the U.S. and Canada by Kluwer Academic Publishers, Hingham, Massachusetts.)

Susan Oyama. *The Ontogeny of Information: Developmental Systems and Evolution*. ix + 206 pp., indexes. Cambridge/London/New York: Cambridge University Press, 1985. \$34.50 (cloth); \$12.95 (paper).

Harry W. Paul. *From Knowledge to Power: The Rise of the Science Empire in France, 1860-1939*. ix + 415 pp., bibl., index. Cambridge/London/New York: Cambridge University Press, 1985. \$49.50.

Rudolf Peierls. *Bird of Passage: Recollections of a Physicist*. xii + 350 pp., illus., index. Princeton: Princeton University Press, 1985. \$29.50.

David Pepper; Alan Jenkins (Editors). *The Geography of Peace and War*. vi + 222 pp., illus., figs., index. Oxford/New York: Basil Blackwell, 1985. \$5 (cloth); \$14.95 (paper).

Henry Petroski. *Beyond Engineering: Essays and Other Attempts to Figure Without Equations*. xii + 256 pp., figs., bibl. New York: St. Martin's Press, 1986. \$17.95.

Melba Newell Phillips (Editor). *Physics History from AAPT Journals*. iv + 228 pp., illus., figs. College Park, Md.: American Association of Physics Teachers, 1985. \$10.

John A. Pitts. *The Human Factor: Biomedicine in the Manned Space Program to 1980*. (The NASA History Series.) xiii + 387 pp., illus., figs., apps., bibl., index. Washington, D.C.: Scientific and Technical Information Branch, NASA, 1985.

Roy Porter (Editor). *Patients and Practitioners: Lay Perceptions of Medicine in Pre-industrial Society*. (Cambridge History of Medicine.) 356 pp., index. Cambridge/London/New York: Cambridge University Press, 1985.

Claus Priesner (Compiler). *Der wissenschaftliche Nachlass von Hermann Staudinger (1881-1965) im Deutschen Museum*. (Veröffentlichungen des Forschungsinstituts des Deutschen Museums für die Geschichte der Naturwissenschaften und der Technik.) 204 pp. Munich: Deutsches Museum, 1982. (Photo-offset from typescript.)

W. V. Quine. *The Time of My Life: An Autobiography*. xii + 499 pp., illus., bibl., index. Cambridge, Mass./London: Bradford Books, MIT Press, 1985. \$19.95.

John M. Riddle. *Dioscorides on Pharmacy and Medicine*. (History of Science Series, 3.) xxviii + 298 pp., illus., figs., bibls., index. Austin: University of Texas Press, 1985. \$35.

Guenter B. Risse. *Hospital Life in Enlightenment Scotland: Care and Teaching at the Royal Infirmary of Edinburgh*. (Cambridge History of Medicine.) xiv + 450 pp., figs., apps., bibl., index. Cambridge/London/New York: Cambridge University Press, 1986.

Giuseppe Roccatagliata. *A History of Ancient Psychiatry*. (Contributions in Medical Studies, 16.) ix + 296 pp., bibl., index. New York/Westport, Conn./London: Greenwood Press, 1986. \$45.

Nathan Rosenberg; Claudio Frischtak (Editors). *International Technology Transfer: Concepts, Measures, and Comparisons*. (Sponsored by Subcommittee on Science and Technology Indicators, Committee on Social Indicators, Social Science Research Council.) xxix + 329 pp., figs., index. New York/Philadelphia/Eastbourne, U.K.: Praeger, 1985. \$43.95.

Emilie Savage-Smith. *Islamicate Celestial Globes: Their History, Construction, and Use*. (Smithsonian Studies in History and Technology, 46.) ix + 354 pp., illus., figs., bibls., indexes. Washington, D.C.: Smithsonian Institution Press, 1985.

Kenneth F. Schaffner (Editor). *Logic of Discovery and Diagnosis in Medicine*. (Pittsburgh Series in Philosophy and History of Science.) vii + 248 pp., figs., bibl., index. Berkeley/Los Angeles/London: University of California Press, 1985. \$35.

Moritz Schlick. *Die Probleme der Philosophie in ihrem Zusammenhang: Vorlesung aus der Wintersemester, 1933/34*. Edited by **Henk Mulder, Anne J. Kox, and Rainer Hegselmann**. (Suhrkamp Taschenbuch Wissenschaft, 580.) 253 pp., bibl. Frankfurt am Main: Suhrkamp Verlag, 1986.

J. A. Schufle. *Torbem Bergman: A Man Before His Time*. ix + 547 pp., illus., figs., apps., index. Lawrence, Kan.: Coronado Press, 1985. \$35. (Photo-offset from typescript.)

Steven Shapin; Simon Schaffer. *Leviathan and the Air Pump: Hobbes, Boyle, and the Experimental Life*. xiv + 440 pp., illus., figs., app., bibl., index. Princeton, N.J.: Princeton University Press, 1986. \$60.

Neil M. Smelser; Dean R. Gerstein (Editors). *Behavioral and Social Science: Fifty Years of Discovery*. (Committee on Basic Research in the Behavioral and Social Sciences, 1983-1984.) x + 298 pp., figs., bibls. Washington, D.C.: National Academy Press, 1985. \$29.50 (North America); \$35.50 (overseas).

S. S. Stevens. *Psychophysics: Introduction to its Perceptual, Neural, and Social Prospects*. Edited by **Geraldine Stevens**. Introduction by **Lawrence E. Marks**. xiv + 329 pp., illus., figs., apps., bibl., indexes. New York: Wiley, 1975; rpt. New Brunswick, N.J./Oxford: Transaction Books, 1986. \$16.95.

D. R. Stoddart. *On Geography and Its History*. xi + 335 pp., illus., figs., indexes. Oxford/New York: Basil Blackwell, 1986. \$29.95.

Beroald Thomassen. *Metaphysik als Lebensform: Untersuchungen zur Grundlegung der Metaphysik im Metaphysikkommentar Alberts des Grossen*. (Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters; Neue Folge, 27.) vi + 182 pp., bibl. Münster: Aschendorff, 1985. DM 48.

James Trefil. *Meditations at 10,000 Feet: A Scientist in the Mountains*. xiii + 236 pp., illus., figs., index. New York: Charles Scribner's Sons, 1986. \$16.95.

Wallace Tucker; Karen Tucker (Editors). *The Cosmic Inquirers: Modern Telescopes and Their Makers*. 221 pp., illus., bibl., index. Cambridge, Mass./London: Harvard University Press, 1986.

Paul U. Unschuld. *Medicine in China: A History of Ideas*. xi + 423 pp., figs., app., bibl.,

index. Berkeley/Los Angeles/London: University of California Press, 1985.

Elliot S. Valenstein. *Great and Desperate Cures: The Rise and Decline of Psychosurgery and Other Radical Treatments for Mental Illness.* xiv + 338 pp., illus., figs., bibl., index. New York: Basic Books, 1986. \$19.95.

Willem H. Vanderburg. *The Growth of Minds and Cultures: A Unified Theory of the Structures of Human Experience.* With a foreword by Jacques Ellul. (Technique and Culture, 1.) xxvi + 334 pp., bibl., index. Toronto/Buffalo/London: University of Toronto Press, 1985. \$27.50.

Brian Vickers, Nancy S. Struever. *Rhetoric and the Pursuit of Truth: Language Change in the Seventeenth and Eighteenth Centuries.* v + 121 pp. Los Angeles: William Andrews Clark Memorial Library, University of California, Los Angeles, 1985.

Jerry Weinberger. *Science, Faith, and Politics: Francis Bacon and the Utopian Roots of the Modern Age. A Commentary on Bacon's Advancement of Learning.* 342 pp., index. Ithaca, N.Y./London: Cornell University Press, 1985. \$32.50.

Albrecht Wellmer. *Zur Dialektik von Moderne und Postmoderne: Vernunftkritik nach Adorno.* (Suhrkamp Taschenbuch Wissenschaft, 532.) 166 pp. Frankfurt am Main: Suhrkamp Verlag, 1985.

Langdon Winner. *The Whale and the Reactor: A Search for Limits in an Age of High Technology.* xiv + 200 pp., bibl., index. Chicago/London: University of Chicago Press, 1986. \$17.50.

Maxwell M. Wintrobe. *Hematology, the Blossoming of a Science: A Story of Inspiration and Effort.* xii + 563 pp., illus., figs., bibl., index. Philadelphia: Lea & Febiger, 1985. \$60; \$79.95 (Canada).

Norman E. Zinberg. *Drug, Set, and Setting: The Basis for Controlled Intoxicant Use.* xv + 277 pp., bibl., index. New Haven: Yale University Press, 1986. \$10.95.

CONTENTS

New Society Executive Position	1
HSS Election Candidates' Biographies	2
HSS Associate Scholars Announced	6
HSS Thematic Conferences Funded	7
HSS Annual Meeting Travel Support	7
HSS Employment Survey	8
News from Washington	11
HSS Annual Meeting Program	12
Positions	18
Fellowships & Grants	18
Calls for Papers	20
Meetings	20
Awards, Honors & Appointments	22
Dissertations	23
Prize Competitions	24
Archives	24
Publications	25
Books Received by Isis	25

TV TAPES

The Trustees of the Keith R. Porter Endowment for Cell Biology have undertaken to create a series of TV tapes that will introduce distinguished pioneers in modern biology to present and future students. "Keith R. Porter and the Electron Microscope in Cell Biology" is the prototype in the series. Cassettes of this tape, which runs for 37 minutes, are avail-

The Newsletter of the History of Science Society is published in January, April, July, and October. Regular issues are sent to those individual members of the Society residing in North America. Air-mail copies are sent to those members overseas who pay \$5 yearly to cover postal costs. The Newsletter is available to non-members and institutions for \$20 a year.

The *Newsletter* is overseen by a Steering Committee consisting of the President, the Secretary, and the Editor of the History of Science Society. It is edited by the Secretary, Dr. Edith Sylla, and is produced at the Society's Publications Office under the supervision of Dr. Frances Kohler. Send news items to Newsletter, History of Science Society, c/o Edith Sylla, School of Humanities and Social Sciences, North Carolina State University, Box 8101, Raleigh, NC 27695-8101. The deadline for receipt of news is the tenth of the month prior to publication; for articles and other long copy, the first of the month.

able either as UCA 3/4-inch U-matic tape (60 minute; suitable for broadcast or showing on large screen) or VHS 1/2-inch tape (60 minutes; suitable for VCRs). Transcripts of the edited tape and the unedited interviews on which it is based will be available in September 1986. Please address inquiries to Mary A. Bonneville, MCDB Biology, Campus Box 347, University of Colorado, Boulder, CO 80309-0347.

History of Science Society
215 South 34th Street/D6
Philadelphia, PA 19104

FIRST CLASS
U.S. POSTAGE
PAID
PERMIT NO. 2147
PHILADELPHIA, PA

HISTORY
OF SCIENCE
SOCIETY



06-18654

JUL 22 1986

PROF KEITH R BENSON
DPT BIOMED HISTORY SB-20
SCH OF MED-UNIV OF WASH
SEATTLE, WA

98195

NEWSLETTER

Deadline for October Newsletter
September 10