

Newsletter of The History of Philosophy of Science (HOPOS) Working Group

Fall 1998
Volume IV, Issue 1

ISSN 1527-9332

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The History of Philosophy of
Science (HOPOS)
Working Group

<http://scistud.umkc.edu/hopos>

From the Editor

This issue of the HOPOS Newsletter marks a return to your mailbox and the HOPOS website after an absence of nearly a year and a half. Our organization continues to grow and attract interest because of all the good efforts of the Steering Committee, the active participation of our membership, and the intrinsic value and interest of our cross-disciplinary field. We are happy to resume publication, in order to meet the demand for information critical to our continued intellectual explorations and professional pursuits.

The HOPOS Newsletter will remain a reliable, if occasional, source for learning about scholarly activities in our area: conferences, publications, grants, jobs, and the like. The infrequent publication (2 to 3 times a year) of the newsletter constrains our ability to present timely notices, but readers of the listserv will note that this function is performed nicely by that medium. What the newsletter can offer, instead, is a periodic summary of such notices. I also invite readers to submit conference reports (cf. section 3), which can be attached to the HOPOS website version of the newsletter for future reference.

As the new editor, I offer two innovations. First, I will be introducing a modest book reviews section to alert readers to new and newish volumes of interest—preferably not previously reviewed in the ‘standard’ publications of our field, such as *Isis*, *Philosophy of Science*, *Studies in the History and Philosophy of Science*,

Perspectives on Science, etc. I envision very short reviews, perhaps of 500-1,000 word length—more informative than the HSS Newsletter listings, but less time-consuming for the reader (or author!) than, for example, the *Isis* reviews. Given the volume of academic publishing and the limited space in any given journal, it seems fair to assume that the list of books reviewed in this venue need not overlap with the list of those (previously) reviewed elsewhere. In this issue, we feature reviews of two books which explore different angles of seventeenth century ‘cognitive science’—to wit, the study of memory and vision—and its philosophy.

Second, this issue features an article that inaugurates a series on the HOPOS-related activity and infrastructure in different locales. It is hoped that such annotated travelogue/research guides can be developed for numerous major HOPOS research sites, to help both the serendipitous traveler and those on lengthy research jaunts. The current article, penned by your loyal and industrious editor, attempts to introduce the resources of Paris to the reader. The editor is seeking further submissions on other locales, which might include (for example) cities like Chicago, Florence, or London—or perhaps larger regions (California, or France minus Paris?).

There is also a report on the recent HOPOS meeting at Notre Dame, written by the local arranger, Phillip Sloan. His thorough account omits only the central detail that his own generous and constant efforts were instrumental

in making the conference a tremendous success.

Thanks again to my fellow HOPOI for the opportunity to serve you in the cause of our newsletter.

Cheers,
Saul Fisher



HOPOS conference at Notre Dame: a report

Narrowly ducking a late-season blizzard, HOPOS held its second biennial meeting on March 12-15 at the University of Notre Dame in South Bend, Indiana, hosted by the Notre Dame Program in History and Philosophy of Science. By all quantitative measures the meeting was a great success. Official registrants numbered 101, representing fifty-one institutions, including four nations outside the US, and the program committee, chaired by Cassandra Pinnick and Warren Schmaus, put together eighteen parallel sessions with forty-seven session papers and two plenary sessions.

The distribution of topics displayed the wide interests of HOPOS members. An opening session on "The Science of Experience" with papers by Gary Hardcastle and Todd Davis, looked at the issue of experiment and practice in recent decades, while in another session Michael Heidelberger and Michael Friedman discussed aspects of Helmholtz's impact on J. von Kries and Schlick. Early modern interests were represented in a double session with Roger Ariew, Dan Garber, Dennis DesChene and Bill Newman entitled "Early

Seventeenth-Century Physics: Scholastics vs. Novatores."



Henri Poincaré

Following the business meeting and lunch, Warren Schmaus, R. Lanier Anderson and Gary Hatfield explored the relations between philosophy, psychology, and the *Geisteswissenschaften* in the late nineteenth century. A parallel session featured Paul Lodge, Lisa Downing, and John Roberts in an examination of aspects of Newtonian and Leibnizian methodologies. William Whewell and August Comte were the subject of a session on nineteenth-century philosophy of science with Laura Snyder, Phil Sloan and Christopher McClellan. At the same time Wolfgang Malzkorn of Bonn, Eric Watkins, and Martin Carrier of the University of Heidelberg analyzed three aspects of Kant's methodology.

Prior to the reception in the Snite Museum of Art and dinners at local restaurants, Tom Nickles was introduced by George Gale to deliver the first of two major plenary addresses. Tom offered a comprehensive examination of recent issues in the development of the philosophy of science under the title "Popper, Kuhn, and Feyerabend and the Decline of Method."

Saturday began with parallel sessions on Wittgenstein and the picture theory with Jean Leroux and Kelly Hamilton, as Paul Pojman and Owen Chapman examined aspects of the logical empiricist tradition. A double session on scientific method in antiquity heard from Jim Lennox on Aristotle, Alan Bowen on Ptolemy, Donald Morrison on Proclus, and Michael Dixon on Epicurean induction.

Afternoon parallel sessions explored the logical empiricist tradition, with Thomas Uebel of the London School of Economics, Alan Richardson, and T. A. Ryckman. Lisa Shabel and Eric Palmer explored issues in early modern methodology in another session. Papers by David Stump, Torsten Wilhold of Humboldt University, and George Reisch examined aspects of late nineteenth and early twentieth century methodologies while in a parallel session Saul Fisher and Anthony Larivière dealt with the notion of the "mechanical philosophy." Jean Miller closed this session with an examination of Cavendish's experiments on electricity.

Leading in to the Saturday evening banquet, Rose-Mary Sargeant introduced Ernan McMullin's magisterial address "The Newtonian Legacy in the Philosophy of Science," that summarized for the assembled audience Ernan's many years of writing and teaching on the history of the philosophy of science in the modern period.

Four sessions on Sunday morning closed the conference. In one, Leslie Graves treated Sewall Wright on causation and correlation, and Laura Rediehs dealt with anti-realism and quantum mechanics. A parallel session with Andrew Black and Edward Slowik examined aspects of Hume's anthropology and

Descartes' theory of space and motion. Papers by Zeno Swijtink on German resistance to sampling theory, by Peter Kjaergaard of the University of Aarhus on Hertz, Wittgenstein and Hilbert filled one final session, while those of David Nartonis on American philosophy of science and Thomas Larson on Aquinas and mathematical physics closed a full and invigorating conference.

With this rich diet of methodology and history and philosophy of science, the conference demonstrated the viability of HOPOS and generated enthusiasm for the next meeting in Vienna in 2000. I wish to thank all who helped me in the arrangements of this conference, and in particular the conference staff headed by Harriet Baldwin.

*Phillip Sloan (Local Arrangements)
Director, Reilly Center for Science,
Technology and Values, and
Program of Liberal Studies
University of Notre Dame*



News of the profession.

Call for Reports.

In future issues of the Newsletter, we hope to offer concise reports on conferences of interest to HOPOS. If you are interested in writing such reports, please contact the Editor.

Conference Calendar.

- May 7-9, 1998, Harvard University, MA.
Conference on Logical Empiricism in North America (LENA). For information, go to: <http://www.phil.vt.edu/lena>.
- May 14-16, 1998, Ghent University, Belgium

Congress on Creativity and Discovery. For information, go to: <http://allserv.rug.ac.be/~jmeheus/schedule.html>.

- July 3-5, 1998, University of Southampton, UK
Darwin's Millennium: The First Science and Culture Conference. For information, go to: <http://www.soton.ac.uk/~darwin>.
- July 22-26, 1998, The Hebrew University, Jerusalem, Israel
Workshop on the History of Chemistry. Sponsored by The Sidney M. Edelstein Center for the History of Science, Technology and Medicine at the Hebrew University and the IUHPS/DHS Commission for the History of Modern Chemistry (CHMC). For information, contact Tony Travis at: travis@cc.huji.ac.il.
- July 31-August 2, 1998, The Johns Hopkins University, MD
The Mid-Atlantic Conference In the History of Science, Medicine, and Technology. For information, go to: http://www.med.jhu.edu/gradweb/history_of_science/MAC.html.
- August 28-September 1, 1998, University of Durham, UK
The European Society for the History of the Human Sciences - XVIIth Annual Meeting. For information, contact James Good at: j.m.m.good@durham.ac.uk.
- September 14, 1998, Heidelberg, Germany
Meeting of the Working Group for the History of Astronomy. For information, go to: <http://www.astro.uni-bonn.de/~pbrosche/aa/treffen1998.html>.
- September 15-16, 1998, University of Southampton, UK
Plural Medicine: Orthodox and Heterodox Medicine in Western

and Colonial Countries During the 19th and 20th Centuries. SSHM-Autumn Conference. For information, contact Waltraud Ernst at: WER@soton.ac.uk.

- September 17-20, 1998, Minneapolis, MN
Annual Student Meeting for the History, Philosophy, and Sociology of Science, Technology, Medicine (Mephistos). For information, go to: <http://home.att.net/~Olorin/mephistos/meph2.htm>.
- September 22-23, 1998, The University of Liverpool, UK
Visual Representations and Interpretations, The Foresight Centre, University of Liverpool. For information, go to: <http://www.csc.liv.ac.uk/~ien/VRI>.
- September 18-20, 1998, University of Reading, UK
The British Society for the Philosophy of Science Annual Conference: 'The Concepts of Cognitive Science'. For information, go to: <http://www.dur.ac.uk/~df10www/bsps/Events.html#conf>.
- October 17-18, 1998, University of Toronto, CA
The Midwest Seminar in the History of Early Modern Philosophy, Autumn Meeting. For information, contact Elmar Kremer at: ekremer@chass.utoronto.ca.
- November 13-14, 1998, Wellcome Symposium for the History of Medicine, UK
Models in the Sciences, Technology and Medicine: Displaying the Third Dimension. Contact Frieda Houser at the Wellcome Institute: +44-171-611 8619 /Fax: 8862
- November 14-15, 1998, Virginia Tech, Blacksburg, VA.

Eighth Southeastern Seminar in Early Modern Philosophy. For information, contact Eric Watkins at: watkins@vt.edu.

- November 14-15, 1998, University of Pittsburgh, Pittsburgh, PA
Philosophical Problems in the Historiography of Science. An International Joint Conference of the Division of History of Science and the Division of Logic, Methodology, and Philosophy of Science of the International Union of History and Philosophy of Science. For information, contact Wesley C. Salmon at: wsalmon+@pitt.edu.
- February 22-26, 1999, Mumbai, India
International Workshop on the History of Science (WHOS): Implications for Science Education. Organized by Homi Bhabha Centre for Science Education (HBCSE), Tata Institute of Fundamental Research (TIFR), Mumbai, India (<http://www.tifr.res.in/~hbcse>). For information, contact the WHOS Secretariat at: whos@hbcse.tifr.res.in.
- April 22-24, 1999, Newport, Rhode Island
The International Berkeley Society, conference on "The Legacy of George Berkeley: From the 18th to the 21st Century". For information, contact Galen A. Johnson at: gjohnson@uriacc.uri.edu.
- May 6-9, 1999, Kalamazoo, Michigan
Special Session of the 34th International Congress on Medieval Studies: The Sciences in Later Medieval Culture. For information, contact Scott Lightsey at: lightsey@udel.edu.
- July 1-4, 1999, The University of Notre Dame
Fourth Biennial History of Astronomy Workshop. For

information, contact Steven J. Dick at: dick@ariel.usno.navy.mil or Michael J. Crowe at: Crowe.1@nd.edu.

- July 14-17, 1999, Silicon Valley/San Jose, California
International Conference of the Society for Philosophy and Technology in conjunction with the Society for Philosophy and Geography. For information, contact Deborah G. Johnson at: johnsd@rpi.edu, or go to <http://www.spt.org>.
- September 14-16, 1999, Zurich; September 17-18, 1999, Lausanne
Neurosciences and Psychiatry: Crossing the Boundaries. The International Conference of The European Association for the History of Psychiatry (EAHP), the meeting of The European Club for the History of Neurology (ECHN), and the meeting of The International Society for the History of the Neurosciences (ISHN) will be held jointly in Switzerland. For general information go to: <http://bri.medsch.ucla.edu/archives/ishnhome.htm>. For information about submitting abstracts, contact Dr. Caroline Jagella at: cjagella@mhiz.unizh.ch
- September 15-19, 1999, Pavia and Lake Como, Italy
5th International History, Philosophy and Science Teaching Conference. Papers due May 1st, 1999. For information, go to www.cilea.it/volta99.

Symposia.

- Centre Koyré and REHSEIS, Paris
Histoire des sciences, Histoire du texte. Themes for 1998-99: (1) Mathematical shapes, objects et research tools: their modes of production, frameworks and research programs, and discursive

relations; and (2) Forms of scientific texts. For information, go to: http://www.ehess.fr/div-histoire/koyre/centre_a_koyre.html

- University of Manchester, Centre for the History of Science, Technology and Medicine, and Wellcome Unit for the History of Medicine
Seminars for the first semester of 1998-99 meet at 4.00 pm, Tuesdays, in Room 3.29, 3rd Floor, Maths Tower, Oxford Road. For information, contact Paula Guest at: pguest@fs4.ma.man.ac.uk.
- University of Cambridge, Department of History and Philosophy of Science
Seminars for the Michaelmas Term 1998 meet at 4.30 pm in Seminar Room 2, Free School Lane, on Thursdays. For information, contact Peter Lipton at: pl112@hermes.cam.ac.uk.
- Université de Paris 8 Vincennes-Saint Denis, Department of Mathematics, History of Science team
Seminar for 1998- 99: Sciences, legitimacy and mediations. This seminar proposes to examine how scientific concepts are constituted, lost and transformed, to explore the nature of their originality, and the historical conditions of their legitimacy. Seminars meet in Room A 148, Université Paris 8, Vincennes-Saint Denis, 2 rue de la Liberté, Saint-Denis (tel: 01 49 40 64 20).
- REHSEIS, Paris
Seminar on the History of Mathematics 1998-99: The practices of demonstration, the modalities of justification in mathematics. Seminar meets at 37 Rue Jacob, Paris, 3rd floor., room 307. For information, contact K. Chemla at: chemla@paris7.jussieu.fr.

- Archives - Centre d'Étude et de Recherches Henri Poincaré (ACERHP), Nancy, France
The 1998-99 seminar meets Tuesdays, 6 pm to 8 pm, Université Nancy 2, building J, room 303. For information, contact Philippe Nabonnand at: Philippe.Nabonnand@plg.univ-nancy2.fr
- Royal Institution Centre for the History of Science and Technology, UK
Research Seminar, September to November, 1998. For information, contact Frank James at: fjames@ri.ac.uk
- University of Leeds
HPS Seminars for Autumn, 1998, meet in room G17 of the Michael Sadler Arts Building, Woodhouse Lane, University of Leeds. Leeds LS2 9JT UK. For information, go to: <http://www.leeds.ac.uk/html/hps.htm>.

Journals.

- Metascience.
Metascience is a review journal which publishes reviews of books in history and philosophy of science and related fields. To review a sample copy, write to E Gillingham (Blackwell) at: egilling@blackwellpublishers.co.uk with 'Metascience-sample copy request' in the subject line and your full name, postal address, and whether you are planning to: (a) submit a review, (b) recommend your library to subscribe, or (c) subscribe to the journal yourself.
- History of Psychology.
This new journal is published quarterly by the American Psychological Association for its Division of the History of Psychology. For information, go to: <http://www.wpi.edu/~histpsy>.

- The British Journal for the Philosophy of Science.
Tables of contents for current issues available at: <http://www.oup.co.uk/phisci/hdb>.
- Foundations of Chemistry.
A webpage for Foundations of Chemistry can be viewed at <http://www.cco.caltech.edu/~scerri>
- South African Journal of Philosophy.
For information on a special issue (now the first number of 1999) on the Philosophy of Science, go to: <http://sun.soci.niu.edu/~phildept/Announce/SouthAfrica.txt>
- Studies in History and Philosophy of Biological and Biomedical Sciences.
The table of contents of Studies in History and Philosophy of Science is available at: <http://www.elsevier.com/inca/publications/store/3/0/5/8/6/30586.pub.shtml>
Contributions and proposals should be sent to Dr Marina Frasca-Spada at: mfs10@cam.ac.uk.

Listservs.

- HISTNEUR.
To subscribe to HISTNEUR-L (the History of Neuroscience Internet Forum), see instructions at: <http://bri.medsch.ucla.edu/archives/histneur.htm>. Archives are available at <http://bri.medsch.ucla.edu/archives/hnl/mgshnl.htm>.
- Historia Matematica.
You can subscribe to the Historia Matematica list by sending a request to: majordomo@chasque.apc.org with the following command in the body of your message: 'subscribe historia-matematica' [There is no 'h' in 'matematica'.] Subscriptions must be approved by the list owner, Julio Gonzalez Cabillon.

- Philchem.
The International Society for Philosophy of Chemistry sponsors a discussion list, philchem. To subscribe, write to: listserv@vm.sc.edu and put the following in your subscription message: 'subscribe philchem your name'
- Theuth.
A new francophone listserv regarding the history of science, entitled 'Theuth', has been established at the Université de Paris VII. The list is directed by Joseph Kouneither and Alain Herreman. To subscribe, write to: listserv@paris7.jussieu.fr, leave out the subject line, and put the following in your subscription message: 'sub theuth your_email_address your name'

Electronic Resources.

- The SHiPS Teachers Network is now officially on-line at: <http://www2.utep.edu/~allchin/ship.s>. a central major resource for teachers who are interested in integrating history, philosophy and sociology of science into their classrooms. If you are aware of links worth including, contact the editor, Douglas Allchin, at allchin@utep.edu.
- "Profiles in Science"
The U.S. National Library of Medicine (NLM) is sponsoring a website, entitled "Profiles in Science", which presents the history and development of discoveries in medicine. Go to: <http://www.profiles.nlm.nih.gov>. HOPOI who wish to submit their own published or unpublished documentation or commentary, and can provide copyright permission, can contact Joshua Lederberg at: lederberg@mail.rockefeller.edu.
- Bio-bibliographical Directory to Writers on the Theory, History, and Culture of Science and the Humanities

<http://www1.uni-bremen.de/~kr538/directory.html>.

This directory offers bibliographical information for about 670 (mostly) German-language authors, the only machine-readable version of Francis Bacon's *Advancement of Learning* (1605), and two short pieces by Kant and Comte. Contact Dr. Hartmut Krech (kr538@zfn.uni-bremen.de), The Culture and History of Science Page

Publications.

* Boi, L., Giaccardi, L., and R. Tazzioli (Intro., and notes), *La découverte de la géométrie non-euclidienne sur la pseudosphère. Les lettres de L. Beltrami à Jules Hoüel (1868-1881)*, Paris: Albert Blanchard, 1998.

* Heidelberger, Michael and Friedrich Steinle (eds.), *Experimental Essays - Versuche zum Experiment*, Baden-Baden (Germany): Nomos-Verlagsgesellschaft, 1998. (ZiF - Interdisziplinäre Studien, Bd. 3 / Interdisciplinary Studies, vol. 3.).

* Knobloch, Eberhard, *Mathematik an der Technischen Hochschule und der Technischen Universität Berlin 1770 – 1988*. Berlin: Verlag für Wissenschafts- und Regionalgeschichte, 1998

Jobs, Fellowships, Grants and Awards.

Note: These announcements are truncated in the interests of space and lack crucial application information. Please contact any relevant parties listed here *in advance* of actually applying, and be advised that these notices are not advertisements and do not meet the requirements of formal notification on the part of prospective employers.

- Australian National University, Humanities Research Centre

Visitors Program. The HRC will fund up to 20 short-term Visiting Fellowships (of up to three months) in 2000 for scholars with an interest in pursuing research on problems within the broad field of 'Law and the Humanities' and those with projects in any humanities field. Closing date for applications is 31 December 1998. Guidelines and applications forms are available at: <http://www.anu.edu.au/HRC>.

- British Society for the History of Science - Singer Prize

The Singer prize is awarded by BSHS every two years to the writer of an unpublished essay based on original research into any aspect of the history of science, technology or medicine. The Prize is intended for younger scholars or recent entrants into the profession and may be awarded to the writer of one outstanding essay, or may be divided between two or more entrants. For information, contact Dr. J. Hughes, BSHS Secretary, at: hughes@fs4.ma.man.ac.uk. The deadline for entries is October 31, 1998.

- Cornell University, Department of Science and Technology Studies
Cornell University is seeking to fill two tenure-track/tenured professorial positions in Science and Technology Studies (AOS are open, but it is expected that one appointment will be made in Biology and Society). For information, contact: li10@cornell.edu or go to: <http://www.sts.cornell.edu/CU-STS.html>. Applications will be reviewed starting September 15, 1998.

- Iowa State University, Department of History
Iowa State University is seeking an Assistant professor (tenure track) in History of Technology and/or Science (Europe or U.S. since

1800). For information contact Professor Alan I Marcus at: aimarcus@iastate.edu. Deadline is December 11, 1998, or until the position is filled.

- Linda Hall Library of Science, Engineering, and Technology
The Linda Hall Library invites applications for 1998-1999 humanities fellowships for two to eight weeks of research in the library's collections on the history and philosophy of science, engineering, and technology. Candidates are encouraged to inquire about the appropriateness of a proposed topic before applying, and to consult the library's online catalog, Leonardo, available through the library's homepage: <http://www.lhl.lib.mo.us>. For information, contact Bruce Bradley, Librarian for History of Science and Special Operations, at: bradleyb@lhl.lib.mo.us.

- Max Planck Institute for the History of Science, Berlin
The Max Planck Institute is seeking to fill a research position (Assistant Professor level U.S. system) for two years (possible renewal for one year), beginning April 1, 1999. The position will belong to an independent research group on the history and philosophy of chemistry organized by Ursula Klein. For information, go to: http://www.mpiwg-berlin.mpg.de/JOBS_E.HTM. Deadline for applications is November 30, 1998.

- Rice University, Department of Philosophy
Rice University is seeking an Assistant Professor with philosophy of science as AOS, to start Fall 1999. For information, contact: Committee B, Philosophy Department MS-14, Rice University, 6100 Main Street, Houston, TX, 77005. Application deadline is November 16, 1998.

- Smithsonian Institution Libraries, SIL/Dibner Library Resident Scholar Program
The Smithsonian Institution Libraries is offering study grants of 1-3 months for research in the Dibner Library of the History of Science and Technology and other library collections of the Smithsonian. The program is open to historians, librarians, bibliographers, and pre- and post-doctoral students. For guidelines and an application form, write to: libmail@sil.si.edu. Deadline for proposals: December 1, 1998.
- Università degli Studi di Lecce (Italy), Interdepartmental Center for Studies of Descartes and the Seventeenth Century
The Centro Interdipartimentale di Studi su Descartes e il Seicento of the Università degli Studi di Lecce is offering 3-6 post-doctoral (post-laurea) positions for research on Descartes, the history of Cartesianism, or philosophical, scientific, or religious aspects of seventeenth thought related to cartesian philosophy. Funding is available up to 8,000,000 Lira (about \$4,500) for a six-month period, subject to possible extension. For information, contact the Center Director (Prof.ssa Giulia Belgioioso) at: cartesio@ilenic.unile.it. The deadline for applications is December 5, 1998.
- Universities of Sheffield and Leeds, UK
The Universities of Sheffield (Centre for Nineteenth Century Studies) and Leeds (Division of History & Philosophy of Science) are offering three post-doctoral research fellowships for work on the "Science in the Nineteenth-Century Periodical" Project. For information and applications, write to Professor Sally Shuttleworth at: S.Shuttleworth@sheffield.ac.uk. Closing date for applications: 15

October 1998.

- University of Notre Dame, Program of Liberal Studies
The Program of Liberal Studies, a Great Books department with 150 undergraduate majors, seeks a historian of science or philosopher of science for a tenure track position beginning Fall 1999. For information, contact: F. Clark Power, Chair, Program of Liberal Studies, at: F.C.Power.1@nd.edu; for information about the Program go to: www.nd.edu/~pls.
- Vanderbilt University, Department of History
Pending final approval, the Department of History at Vanderbilt University will seek a visiting lecturer or assistant professor in the history of medicine/science for Spring, 1999. For information contact Arleen Tuchman at: tuchmaam@ctrvax.vanderbilt.edu or Matthew Ramsey at: matthew.ramsey@vanderbilt.edu.

Regional maps of HOPOS activity and infrastructure.

A new series of reports.

Paris, France (No. 1).

I came to Paris in 1994 to conduct research for my dissertation and take up as a visiting student at the CNRS history of science unit run by Jean Dhombres. This was my first extended visit to France as an advanced student, and I initially found the organization and availability of research institutions and tools in the history and philosophy of science to be something of a mystery. I therefore resolved to design a map of such institutions and tools—after divining this information myself (!)—for other foreign researchers.

This project naturally took a backseat to such less trivial matters as completing my dissertation and sampling French wines. Herewith, only a few years later, the results of my cartographic exercise.

Educational and research institutions.

There is a curious order to the multifarious array of French educational and research institutions, and this order is best understood in light of the historic French role in the creation and celebration of the modern state—and not the modern university. The lasting power of statism is manifest in the continued elite status of the Grandes Écoles (which include, for example, the revered École Polytechnique and the École Normale Supérieure). The last terrific challenge to the State—the student-supported uprisings and strikes of 1968—produced a perfectly statist response: the explosion of the previously small and overcrowded Université de Paris into thirteen sprawling institutions. Finally, the French vision of the unification of the sciences has it that l'État leads the way: the Centre National des Recherches Scientifiques (CNRS) is the government directorate for research in all manner of academic disciplines, the researchers of which are organized into literally thousands of units in and out of existing university structures. There are yet other sorts of institutions—public and private—with an educational mission, and these include museums, libraries, and archives. The bulk of research *per se* (particularly in science studies), however, is done by persons attached to the schools and the CNRS.

Universities and other institutions of higher education.

Université de Paris. In this vast university system, with several departments of philosophy and

history, there are not very many historians of the philosophy of science. But there are some, and they tend to be concentrated in a few places. The principal school in this regard is Paris I (<http://www.univ-paris1.fr>), where we find two relevant Centres de Recherche, the Centre d'histoire des sciences et des mouvements intellectuels and the (Centre d') Histoire et Philosophie des Sciences. The former, which is organized as a research team (Équipe d'Accueil, or EA, no. 1452; <http://panoramix.univ-paris1.fr/annuaire/node149.html>), was initially lead by Jacques Roger and remains dedicated to a conceptually-rich history of biology, as well as such themes as the history of blood and scientific revolutions. Both academic centers are located in the (geographic) Centre Malher of Paris I, located at 9, rue Malher 75004, tel. 42.78.33.22. The latter (<http://www.univ-paris1.fr/annuaire/node162.html>), is organized as a doctoral studies unit connected to Paris I, as part of what would count for a department in American universities, (UFR 10 – Philosophy). It is also a research unit of the CNRS (see below). Under the direction of Philippe de Rouilhan (general director) and Anne Fagot-Largeault (director of the center *qua* division of UFR 10), this unit pursues a tremendous range of HOPOS-related studies, from mathematics to the social sciences and much in between. There are some thirty researchers with various affiliations, including not only Paris I and the CNRS but also the Collège de France (Jacques Bouveresse) and the Université de Dijon (Jean Gayon). The Histoire et Philosophie des Sciences unit is particularly active—they feature regular lecture series—and welcoming to visiting scholars.

The *Grandes Écoles* are, collectively, a bureaucratic puzzle. In any case, though, they tend to

train their students in technical fields not directly touching on HOPOS-related matters. One exception to this is the ENS (École Normale Supérieure) de Fontenay-St. Cloud, which lies south of Paris (31 avenue Lombart 92266, accessible by RER B2, direction Robinson; <http://www.ens-fcl.fr/ecole/philo.htm>). During the past academic year (1997-98), Michel Blay and Vincent Jullien coordinated a course on the history of the philosophy of mathematics, teaching seminars on history of methodology, atomism, and Galileo, and special one-day programs dedicated to Comte and Gassendi.

Another exception is the École Polytechnique. Although its central academic units do not teach history or philosophy of science, the well-known CREA is a semi-autonomous research unit within the school (as well as a CNRS unit; see 'CNRS' below) and its library houses a valuable and fascinating collection of scientific instruments (see 'Museums' below).

Perhaps the most significant exception, though, is the Ecole des Hautes Études en Sciences Sociales or EHESS (<http://www.ehess.fr>) which is housed in the Maison des Sciences de l'Homme or MSH (54 boulevard Raspail 75006—the site of the old Cherche-Midi military prison). For reasons of status and cachet that only the French could fathom, the EHESS might not count as a truly *Grande École* but then it is difficult to otherwise place the school in the spectrum of academic institutions. By all other accounts it is a center of much fine research and scholarly accomplishment, not least in HOPOS-related studies. In the history of sciences unit, seminars in the past academic year have covered the history of the probability calculus and statistics (directed by Marc Barbut of the EHESS-based Centre d'Analyse et

de Mathématiques Sociales or CAMS; see http://www.ehess.fr/centres/cams/s_emin/hist_cal.html), the history and philosophy of mathematics, the history of mechanics, and the history and historiography of life and earth sciences. In several cases these seminars are taught by persons attached to other institutions such as the Centre Alexandre-Koyré (see 'CNRS' below). In such circumstances they may also take place and even carry 'credit' (in the murky French sense) at those other institutions. The EHESS also has a 'philosophy and epistemology' unit ('epistemologie' in French generally refers to what Anglophones call 'philosophy of science', whereas 'théorie des connaissances' ranges over the theory of knowledge). Recent seminars have covered the nature of proof, philosophy of biology, philosophy of engineering, and philosophy of social sciences.

The MSH also hosts several other relevant institutions, including the CNRS-related Centre Historique de Géométries (tel. 49.54.22.54), which recently sponsored a seminar on 'historical, philosophical and mathematical references to formalisms, forms, and sense-data'. In addition, much activity of the (Continental-oriented) Collège International de Philosophie occurs at the MSH.

CNRS.

Units dedicated to history and/or philosophy of science fall under the 'Human and Social Sciences' department of the CNRS. Many of these units are located in Paris, and a good number of them are also affiliated with other institutions (one central, though not exhaustive, source of information is <http://web.dsi.cnrs.fr/annuaire>). What follows is a list of the relevant Parisian units, with addresses, directors, affiliations, subjects researched and/or taught,

and some annotated remarks. Different acronyms designate different levels of CNRS organization, e.g. GDR (Groupement de Recherche), UMR (Unité Mixte de Recherche), and UPR (Unité Propre de Recherche).

Centre Alexandre-Koyré (UMR 48) Museum National d'Histoire Naturelle, Pavillon Chevreul, 57 rue Cuvier, 75231 Paris Cedex 05; tel 43.36.70.69; http://www.ehess.fr/div-histoire/koyre/centre_a_koyre.html. Director: Roger Chartier Affiliations: EHESS, MNHN History and philosophy of science. This Centre, tucked away in a tiny, hard to find building on the campus of the MNHN, is a beehive of activity. Their splendid array of seminars (typically sponsored jointly with other institutions like the CAMS or UPR 21) covers, for example, the development of scientific knowledge, the history of life and social sciences, and the history of science teaching. There is also a monthly colloquium on varying methods and traditions in the historiography of science. In addition to the typical research activities of their members, they are sponsoring two new editions: D'Alembert (complete works) and Euler (works on probability, in conjunction with the CAMS). The Centre A-Koyré has a wonderful little library (tel. 43.36.68.64), which makes the same demands on its users as the parent library of the MNHN (see 'Libraries' below).

Centre de Recherche en Épistémologie Appliquée (CREA) (UMR 7656) École Polytechnique, 1, rue Descartes 75005; tel 46.34.36.23; <http://www.polytechnique.fr/rech/lab/CREA> Director: Jean-Pierre Dupuy Affiliations: École Polytechnique Analytic philosophy of mind, language, and social, natural, and cognitive sciences.

HOPOS luminary Joelle Proust is here, which fact is more than enough to recommend exploring the seminars and activities of this research unit. Hélas, there are no other historians here, though there are several other excellent researchers in philosophy of science.

Centre d'Histoire des Sciences et des Philosophies Arabes et Médiévales (ESA 7062 / URA 1085) Centre d'Histoire des Sciences et des Doctrines, B. P. 8, Batiment C, Rez-de-chausée, 7 rue Guy Moquet, 94801 Villejuif; tel 49.58.35.99; (Métro 7 direction Villejuif Louis Aragon) Director: Roshdi Rashed Affiliations: École Pratique des Hautes Études, Université Paris 7 Medieval and arabic history and philosophy of science. This unit is currently sponsoring editions of Al-Kindi's writings on optics, and Al Farabi's writings on the classification of the sciences.

Centre de Documentation d'Histoire des Techniques (CDHT) (UPR 21) 5, rue du Vertbois 75003; tel 53.01.80.64; <http://www.cnam.fr/instituts/cdht> Director: André Guillaume Affiliations: UPR21, CNAM, EHESS History of engineering. This unit shares the CNRS designation UPR 21 with the LHST (despite having neither any CNRS researchers on staff nor any common research area). In addition to documenting the history of the CNAM, the researchers here pursue projects in the general history of engineering and supervise doctoral studies.

Centre de Recherche en Histoire des Sciences et des Techniques Cité des Sciences et de l'Industrie Parc de la Villette 75019 Director: John Krige

Centre Science, Technologie et Société (STS) (UPR 318) Conservatoire National des Arts et Métiers (CNAM) 2 rue Conté 75003; tel 40.27.20.16 Director: M. Salomon

Histoire des Techniques et des Sciences en Chine, au Japon et en Corée (GDR 798) Collège de France, 52, rue du Cardinal Lemoine 75005; tel 44.27.10.06 Director: Pierre-Étienne Will History of science and engineering in East Asia.

Institut d'Histoire des Sciences (URA 1079) 13, rue du Four 75006; tel 43.54.60.36 Director: Philippe de Rouilhan Affiliations: Paris I (see above) History and philosophy of science.

Laboratoire d'Histoire des Sciences et des Techniques (LHST) (UPR 21) 27, rue Damesme 75013; tel 45.65.97.42 Director: Jean Dhombres Affiliations: EHESS, UMR 48 General history and historiography of science, with special emphasis on mathematics.

Médecine Grecque (URA 1255) Université de Paris 4, UFR de Grec, 16, rue de la Sorbonne 75005; tel 40.46.27.47 Director: Jacques Jouanna History of ancient medicine and science.

Recherches Épistémologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques (REHSEIS) (UPR 318) 27, rue Damesme 75005; tel 45.81.14.85; REHSEIS has a new location: Room 307, Building A or B, 3rd floor, 37 rue Jacob, 75006 Paris (Metro Saint Germain des Près or Mabillon).

http://www.sigu7.jussieu.fr/hpr/rehs_presentation.html.

Director: Michel Paty
 Affiliations: Université Paris 7
 History and philosophy of science.
 A bit of confusion reigns over the designation of this rather active unit. This past year, it became affiliated with the Geography, History, and Social Science Department at Jussieu (Paris VII), and so changed classification to become a 'mixed' CNRS/university unit, or UMR. The CNRS listings indeed identify such a unit in the logical place of REHSEIS, which is: Recherches d'Histoire, d'Épistémologie et de Philosophie des Sciences (REHPSCI; UMR 7596). But REHSEIS shows no sign of changing its name (see the website).

Museums.

Paris does not lack for science museums, learning centers, and curated collections attached to its august scientific institutions. I list below well-known highlights of science history tourism plus a few sights off the beaten track.

Cité des Sciences et de l'Industrie

Parc de la Villette 75019; tel 40.05.73.70; <http://www.cite-sciences.fr>

This stunning complex is a science museum and discovery center intertwined. The interactive exhibits are generally successful, but from a historical perspective I found most impressive the exhibit on the history of computing. Taking a page from the Centre Pompidou, the curators are apparently devoted to refreshing the character of the exhibits with some frequency. This museum is thus worth several visits, particularly over a stay of long duration.

Conservatoire National des Arts et Métiers (CNAM)

292, rue Saint-Martin 75003; tel 40.27.20.20;

<http://www.cnam.fr/museum/index.html>

The museum, along with the whole Conservatoire, has been going through a slow restoration and renovation for some time, and is currently expected to open in the summer of 1999. In the meantime, one may profit from a virtual visit to their intriguing website.

École Polytechnique – Collection d'objets scientifiques du Service Patrimoine

1, rue Descartes 75005; <http://www.polytechnique.fr/bibliotheque/collection.html>

To celebrate its bicentennial in 1994, the École Polytechnique put its fine collection of scientific instruments on display in its library. One can preview some elements of the collection at the library's website.

Musée de l'Assistance Publique Hôpitaux de Paris

47, quai de la Tournelle 75005; tel. 40.27.50.05

This museum records the history of Paris's public hospitals, from medieval times through the present.

Musée de l'Institut Pasteur

3, boulevard Raymond Poincaré, 3, avenue Pasteur 92430 Marnes-La-Coquette (SNCF from Gare St Lazare to Garches/Marnes-La-Coquette, or Métro 10 to Boulogne/Pont de St Cloud followed by the bus line no. 460 to the Garches/Marnes-La-Coquette SNCF station); tel. 47.01.15.97; <http://www.pasteur.fr/units/musee>

The museum of the Institut Pasteur is **not** located at the Institut itself (25, rue Docteur Roux 75015)! It is nevertheless worth a trip to the banlieues (suburbs) to see the place initially given over to Pasteur to provide him with a quiet place to pursue his battle against rabies. This suburban museum now traces the history of the medical struggle to conquer infectious disease from Pasteur's day through the present.

Historians with research objectives are advised to contact the documentation services back in Paris (tel. 45.68.82.82).

Musée d'Histoire de la Médecine

Université René Descartes, 12 rue de l'École de Médecine 75006; tel. 40.46.16.93

This museum features a collection of surgical instruments.

Museum National d'Histoire Naturelle (MNHN)

57, rue Cuvier 75005; tel 40.79.30.00

The Grande Galerie was reopened after an exquisite renovation in 1995, and is as lovely a natural history museum as I have seen.

L'Observatoire de Paris

61, avenue de l'Observatoire 75014; tel. 40.51.21.70;

<http://www.observatoire.fr>

The Paris Observatory is open for public viewing only one day a month (the first Saturday, at 2:30 pm)—upon prior written request! The average waiting period is three months, so it is highly advised to plan ahead. To gain this special entry, one must write to the 'Service des Relations Extérieures de l'Observatoire de Paris' and include a self-addressed stamped envelope (IRCs will probably suffice in lieu of French postage). If one wants to visit the far more modern facilities at the Observatory at Meudon as well, one must write separately (their address ends with '92195 Meudon Principal Cedex'). It is fascinating to visit Claude Perrault's (1667) architectural tribute to the compass, and the institutional home of Laplace, Delambre, Arago, and Le Verrier.

Palais de la Découverte

4, avenue Franklin D. Roosevelt; tel 40.74.81.82; <http://palais-decouverte.fr>

I was surprised to find out that the Palais de la Découverte survived the opening of the ultra-modern

Cité des Sciences et de l'Industrie, but I was also pleased to find that this older cousin of the Parc de la Villette 'discovery center' is still worth a visit. Some of the exhibits—particularly in the physical sciences—compare quite favorably on a pedagogical scale, even if they lack a bit of the Cité's pizzazz. Young visitors may in fact benefit from the less cluttered and busy environment.

Libraries and archives.

Paris has several wonderful libraries and archives but they are generally plagued by the twin terrors of information science: organization and access. A major coup for the cause of public access has been achieved by the opening of the *Bibliothèque Nationale de France* (Quai de la Gare [newly renamed 'Quai François Mauriac'] and rue de Tolbiac 75013; tel. 53.79.59.59) but this element of the BNF is limited to books, journals, and successor media of this century. For most historical research one still needs to make a pilgrimage to the old BN site (58, rue de Richelieu 75002) and present documentation of one's research needs which meets the exalted standards of the Keepers of the French Printed Word. (In my mind, the BN librarians will never live down their total lack of interest in my letter of approval from the Fulbright commission.) Happily, you can tell in advance which site you need to visit, by looking up the works first on the BNF webpage (<http://www.bnf.fr>; actually, you eventually need to telnet to the Opale online catalogue at: opale02.bnf.fr). Beyond the BNF—whichever libraries one visits—it is often the case that gaining entry requires proof of one's researcher status, so it is a good idea to make a regular practice of carrying around important (or at least important-looking) papers and plenty of little photos for reader's cards. If one hasn't such photos on hand, it is

still easy enough in Paris to find ID photo machines, often enough located on a university campus.

At the Tolbiac site, a single day's entry (the 'Titre d'Accès') costs an astonishing 20 FF and an annual pass costs 200 FF (half for students). If one is conducting research on behalf of the state (e.g. has a CNRS affiliation) then the fees are waived. At the Richelieu site, one may acquire a two-day 'Laissez-Passer' free of charge, but this is renewable only after two month's time. Otherwise, one may acquire a 'Carte de Lecteur' good for eight days—35 FF—or for one calendar year beginning January 1—230 FF (half for students). The more expensive Richelieu annual pass is good at the Tolbiac site, but not the other way around.

Bibliothèque Mazarine

L'Institut de France, 23, quai de Conti 75006; 44.41.44.06
For infrequent visitors, the Mazarine requires a Carte d'Entrée which is valid for 6 sittings over 6 months; otherwise, researchers can obtain a long-term Laissez-Passer. The collection is not completely catalogued electronically, but one can find their holdings on alchemy-related subjects at <http://www.levity.com/alchemy/alms21.html>. The library has an appreciable elegance and general quiet, so it is a generally nice place to read or write even if one has exhausted its many bibliographic riches.

Bibliothèque Sainte-Geneviève

10, place du Panthéon 75005; <http://www.univ-paris1.fr/bsg/accueil/index.htm>
The BSG, as it is known, was designed by Henri Labrouste and is accordingly yet another lovely place to study. This beauty has not escaped public attention though, and so the library's main reading room is generally quite full, primarily with students from the nearby Sorbonne schools (Paris I

and IV). It is crucial that one arrives as early as possible (10 am, Monday through Saturday) or else the wait for a seat may seem interminable (as was true at the old BN—thank goodness for the 2,20 FF coffee machine!). One must first register in order to enter, and receipt of a 'Carte de Lecteur' requires one piece of ID (bring something impressive, such as a passport) and a small photograph for the card. The BSG also offers a higher-status 'Carte d'Accès Privilégié', for which one must present more documentation indicating that one merits greater privilege. The holdings are supposed to be completely incorporated into the BNF electronic catalogue (see telnet address above), but my experience suggests that this is sometimes not so. Their card catalogue still stands, in any case (last I checked).

Bibliothèque du Museum National d'Histoire Naturelle (MNHN)

38, rue Geoffroy Saint-Hilaire 75005; tel. 40.79.36.33
There are entrances to this beautifully-redesigned library from the street-side and from the Jardin des Plantes. I think it preferable to stroll through one of the world's best maintained public gardens, past the statues of Buffon and Lamarck, but the approach from rue Geoffroy Saint Hilaire works just as well (and runs by the gorgeous Institut Musulman et Mosqué). This library is generally underutilized (a terrible fact to advertise) which may have something to do with the rather prompt service. The librarians are also quite pleasant and eager to help. The holdings include items from the seventeenth century onwards, so much good work may be achieved here. Acquisition of a 'Laissez-Passer' requires the typical documentation of researcher or student status and identification.

Archives de l'Académie des Sciences

L'Institut de France, 23, quai de Conti 75006; <http://www.acad-sciences.institut-de-france.fr/mission/patrimoine.html#ommaire>)

A useful guide to this and other archival sources is Eric Brian and Christiane Demeulenaere-Douyère (eds.), *Histoire et Mémoire de l'Académie des Sciences: Guide des Recherches*, Paris and London: TEC & DOC Lavoisier, 1996.

Bibliothèque de l'Institut Pasteur
28, rue du Docteur Roux 75015;
<http://www.pasteur.fr/units/biblio>

Bibliothèque de l'Observatoire de Paris
61, avenue de l'Observatoire 75014;
<http://www.bibli.obsppm.fr/apropo.html>)

Médiathèque Spécialisée, Cité des Sciences et de l'Industrie.
30, avenue Corentin-Cariou 75930 Paris Cedex 19 (Parc de la Villette); tel 40.05.76.94

Many of the aforementioned CNRS units have libraries which can be used by visiting researchers, and several of these libraries can be searched through a single online catalogue (the Catalogue collectif d'Histoire des Sciences et des Techniques) accessible through a website provided by the CNRS (<http://dodge.grenet.fr:8001/themes/his.html>).

Bookstores.

I have yet to meet Hopoi who are not bibliophiles, stricken by that passion for books which generally though not universally includes the desire to cart them away. If libraries and archives are great places to visit bibliographic treasures, bookstores are great places to invite slightly lesser treasures to cohabitation. Here are some places to make romantic encounters of the second sort, with HOPOS-related books:

Paris is still home to many, many used and antique bookstores. Among those with significant collections in history, science, or philosophy are:

La Boutique de l'Histoire (*history; 24, rue des Écoles 75005; tel 46.34.03.36;
<http://ourworld.compuserve.com/homepages/bhistoire>)

Librairie Benelli (history and science; 244, rue Saint-Jacques 75005; tel 46.33.73.51)

Librairie Cart-Tanneur (* natural history and botany; 11bis, rue Vauquelin 75005; tel 43.36.02.85;
<http://www.franceantiq.fr/slam/cart-tanneur>)

Librairie Florence de Chastenay (alchemy; 76, rue Gay-Lussac 75005, tel 43.54.05.78)

Librairie Maille (* science and medicine; 3 rue Dante 75005; tel 43.25.51.73)

Librairie la Table d'Émeraude (* alchemy and esoterism; 8, rue des Trois Portes & 21, rue de la Huchette; tel 43.25.40.32)

Librairie J. Vrin (* philosophy; 6, place de la Sorbonne and 71, rue Saint-Jacques [additional location!] 75005; tel 43.54.03.47 & 43.54.70.49; <http://www.vrin.fr>)

Librairie la 42e Ligne (social sciences and medicine; 24, rue de Fleurus 75006; tel 45.49.47.17)

Librairie Bayarré (science and medicine; 21, rue de Tournon 75006; tel 43.54.91.99)

Librairie Albert Blanchard (* science, medicine, engineering, and math; 9, rue de Médicis 75006; tel 43.26.90.34;

<http://www.essor.contacts.tm.fr/albert-blanchard>)

Librairie Bonnefoi (history of ideas and philosophy; 1, rue de Médicis 75006; tel 46.33.57.22;

<http://www.franceantiq.fr/slam/bonnefoi>)

Librairie Alain Brioux (* sciences, engineering, and medicine; 48, rue Jacob 75006; tel 42.60.21.98)

Librairie René Cluzel (science; 61, rue de Vaugirard 75006; tel 42.22.38.71;

<http://members.aol.com/netlibris/cluzel>)

Librairie Paul Jammes (science; 3, rue Gozlin 75006; tel 43.26.47.71)

Librairie Laffitte (social sciences; 13, rue de Buci 75006; tel 43.26.68.28)

Librairie Lepert-Scheler (science; 42, rue Jacob 75006; tel 42.61.42.70;

<http://www.franceantiq.fr/slam/lepert>)

L'Intersigne (ancient science, medicine, esoterism; 66, rue du Cherche-Midi 75006; tel 45.44.24.54;

<http://www.franceantiq.fr/slam/tersign>)

Librairie Pages d'Histoire (*history; 8, rue Bréa 75006; tel 43.54.43.61)

Librairie Thomas-Scheler (science and medicine; 19, rue de Tournon 75006; tel 43.26.97.69)

Librairie Fougerolle (science; 67, rue de Suffren 75007; tel 43.06.96.82)

Librairie Chamonal (science and medicine; 5, rue de Drouot 75009; tel 47.70.84.87)

Librairie Sylva Sylvarum (an irresistible name!—history of ideas, social sciences and philosophy; 123, rue de Faubourg du Temple 75010; tel 42.40.82.81)

Librairie Clio (*history, 38, avenue Villemain 75014 tel 45.41.59.20)

Librairie le Tour du Monde (science and philosophy; 9, rue de la Pompe 75016; tel 42.88.58.06;
<http://www.franceantiq.fr/slam/tmond>)

Librairie des Carrés (science; 42, rue Royale 78000 Versailles; tel 39.20.06.32;

<http://www.franceantiq.fr/slam/libcarrés>)

This list is organized in typical Parisian fashion, by arrondissement, which helps pick out the relevant parts of town for the road-weary. An asterisk indicates that these are the primary specializations of the bookstore.

In assembling this list I was aided greatly by visiting the website of SLAM (Syndicat National de la Librairie Ancienne et Moderne; <http://www.franceantiqu.fr/slam>, with links to seven other national antiquarian bookseller groups ('guilds' seems more appropriate here). Visitors to Paris who are also interested in other subject matters are highly advised to pay this site a visit before travelling.

There is less choice—or perhaps just less wandering in search of the unfindable—among bookstores for new books. Good history bookstores include *Pages d'Histoire* and *La Boutique de l'Histoire* (cf. above). For new science books, there is no better than *Eyrolles* [perhaps most like NYC's McGraw-Hill bookstore, which is to say best at applied science] (57-61 Boulevard Saint Germain 75005; tel 44.41.11.74; <http://www.eyrolles.fr>) though it is also worth a visit to *Librairie Interférences* (33 rue Linné 75005; tel 47.07.70.06; <http://www..>). As far as philosophy pur et dur is concerned, there is decent browsing at *Gibert Jeune* (Place Saint Michel; tel 43.25.70.07) and *Gibert Joseph* (26-30-32 Boulevard St. Michel 75006) but the largest selection is to be found at the deservedly famous *J. Vrin* (6, place de la Sorbonne 75005; tel 43.54.03.47). One should not neglect the showcase bookstore for the *Presses Universitaires de France* (49, Boulevard Saint Michel 75005; tel 44.41.81.20).

Journals.

There is nothing particularly Parisian about the relevant French journals except that, as with much else in French life, the center of activity is in the capital. The French journal which is most consistent and of greatest interest to Hopoi is the largely Parisian-run *Revue d'Histoire des Sciences*, under the direction of Claire Salomon-Bayet (Université de

Paris I) and Jean Dhombres (Université de Nantes and CNRS UPR 21 [Paris]), and edited by Michel Blay (CNRS, Paris) and Jean Gayon (Université de Dijon and CNRS URA 1079 [Paris]). Further information can be obtained at <http://www.puf.com/edition/rhistsci.htm>. Another journal of particular interest is the *Cahiers d'Histoire et de Philosophie des Sciences*, published by the Société Française d'Histoire des Sciences et des Techniques (see below). General interest journals include *Archives de Philosophie* (editorial offices: 35, rue de Sèvres 75006, tel. 45.44.58.91), *Philosophie* (editorial offices: 7, rue Bernard Palissy 75006, tel. 44.39.39.20), *Revue Philosophique de la France et de l'Étranger* (editorial offices: 12, rue Jean de Beauvais 75005, tel. 43.26.22.16), and *Rue Descartes* (editorial offices: Collège International de Philosophie, 1, rue Descartes 75005). In addition, one should scour around for the tremendously occasional *Corpus* (editorial offices: Association pour la revue Corpus, 99, avenue Ledru-Rollin 75011, tel. 43.55.40.71), which is less a standard journal than a collection of critical essays relating to and in honor of volumes issued in the invaluable Fayard book series, the *Corpus des Oeuvres de Philosophie en Langue Française*. The *Corpus* journals are much harder to find in libraries or bookstores than the volumes they discuss, but they are worth the search. Finally, there is the *Archives Internationales d'Histoire Des Sciences*, which is actually edited at the office of the Enciclopedia Italiana in Rome but which is officially headquartered at the Académie Internationale d'Histoire des Sciences (12, rue Colbert 75002). At the same address, one finds the Centre Internationale de Synthèse, which publishes the *Revue de Synthèse* (tel. 42.97.50.68).

Other.

I hope to have pointed the Paris-bound HOPOS scholar in the right directions, but there are naturally many other resources to uncover. Among these:

- The Société Française d'Histoire des Sciences et des Techniques (SFHST, rue Mahler, 75002; tel. ; <http://www.rc-obs-azur.fr/cerga/hdsn/sfhst.html>) goes through cycles of activity and is in something of an upswing. At a minimum, this means that there is a new president (Vincent Jullien of ENS Fontenay-Saint-Cloud) and that the website features reasonably up-to-date listings of current seminars, colloquia, and exhibitions.
- The listserv *Theuth* resides on a server at Jussieu and features discussion of history and philosophy of science. The website, at <http://www.sigu7.jussieu.fr/hpr/theuth-index.html>, provides a c.v. for numerous list participants, most of whom are currently or formerly at Jussieu, REHSEIS, or both.
- Books of some HOPOS relevance are occasionally reviewed in *Le Magazine Littéraire* (<http://www.magazine-litteraire.com>), *La Quinzaine Littéraire*, and even in the Paris-centric daily, *Libération* (<http://www.liberation.fr>).
- Other publishers, not cited above, include Fayard (75 rue Saints Pères 75006—this is also a bookshop; tel. 45.49.82.00), Minuit (7 rue Bernard Palissy 75006; tel. 44.39.39.20), the Comité des Travaux Historiques et Scientifiques (CTHS; 1, rue Descartes 75005; tel. 46.34.47.64), and Belin (8, rue Férou 75006; tel. 55.42.84.00).
- Collège de France (<http://www.college-de-france.fr/college/college.html>). This institution is rich with HOPOS-related history and has a small, totally disheveled archives (with a helpful archivist, however). Though most courses nowadays

bear little direct relation to HOPOS studies, there are some professors—Jacques Bouveresse is notable among them—with relevant interests.

- Burial grounds. I have not spent much time researching the resting places of historical figures in science and philosophy of science who number among the permanent Parisians. I hoped to find Pierre Gassendi's grave, for example, with little success (the church in question was overturned in the Revolution and the stones were subsequently scattered all over the church's floor). One may have better luck consulting these reference works:

* Dansel, Michel, Les cimetières de Paris: promenade insolite, pittoresque et capricieuse (Denoel, 1987)

* Le Clere, Marcel, Guide des cimetières de Paris (Hachette, 1990)

* Barozzi, Jacques, Guide des cimetières parisiens (Hervas, 1990)

I offer these guideposts in the hope of making obvious what I often found, as a visiting scholar, somewhat mysterious. I also wish that this small survey will help integrate Parisian scholarly activities in our field into the network of activities among the broader, global set of institutions such as our own, international HOPOS Working Group. French scholarship on an individual level enjoys great renown, and now it is time to recognize the institutions and resources which stand behind the good work of such individuals.

Saul Fisher

*The Andrew W. Mellon Foundation
New York, USA*



Book Reviews

Philosophy and Memory

Traces: Descartes to Connectionism

John Sutton. Cambridge: Cambridge University Press, 1998, xvii + 372.

Philosophy and Memory Traces is a richly textured and fascinating book with a dual focus. On the one hand it is a historical study of 'alien aspects of the world-views we have lost' (p.28); a study of animal spirits and theories of distributed memory from Descartes to Coleridge. On the other hand it is a defense of contemporary connectionism. Yet these two foci mutually illuminate each other.

Sutton limits his survey of theories of memory to autobiographical memory and in particular to theories of distributed memory. In singling out autobiographical memory he is able to contain his study within reasonable limits and at the same time tap in to such philosophical issues as personal identity. So the reader should not expect to find a comprehensive treatment of other forms of memory. In fact, some other types of memory, such as Baddelley's working memory, are not even mentioned. Furthermore, in exploring the history of distributed models of memory, Sutton is attempting to redress the balance in historical treatments of memory theory, a balance that has been weighted heavily toward archival theories. But more than this, he is shedding light on a rich history of reflection on memory theory that is a precursor to modern connectionism.

Descartes is the only thinker to come in for detailed exegesis. Yet

this is as it should be. Sutton has tapped a rich new seam in the history of neurophilosophy in general, and in Cartesian neurophysiology in particular. This warrants the extended treatment that it receives and represents a new high-watermark in discussion of Cartesian memory. It is symptomatic of the dominance of archival models of memory that Descartes' somewhat bizarre superpositional theory, its descendants and the critical responses to it, have remained unexplored. Sutton's treatment of it, I believe, should set the agenda for some time to come in this area of Cartesian scholarship. This is not to say that in Descartes Sutton finds a problem-free adumbration of connectionism. For the picture that emerges of Descartes' is one in which there resides a tension between a crude distributed model of memory, in which memories are recreated rather than stored, and a central executive, the soul. This latter feature of Descartes' account is the antithesis of contemporary connectionism.



René Descartes

There is a distinctive English bias in Sutton's treatment of reactions to Descartes' memory theory. Those discussed include Digby, Hooke, Hartley and Coleridge. It would have been interesting to see a treatment of the neo-Cartesian defenses of the Cartesian view. While Malebranche gets receives some discussion, La Forge's

interesting chapter on memory in his Treatise on the Human Mind (1666) is entirely neglected. Yet this is not a weakness of Sutton's work, as he makes no claims to an exhaustive treatment. Rather it highlights further work to be done in the area.

The breadth of scholarship of this book is impressive, the prose is alive and engaging (though some of his sentences could have been dissected—see the 13-liner on p. 26!). Philosophy and Memory Traces is a fine book whose historical and philosophical lessons are well worth remembering.

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Vision: Variations on Some Berkeleian Themes.

Robert Schwartz, Oxford: Blackwell, 1994, vii+162.

In Vision, Robert Schwartz provides clear exposition of George Berkeley's views about visual perception of spatial properties and makes these views relevant to continuing psychological and philosophical debates. Schwartz divides his book into four essays. In the first two, he presents careful descriptions of Berkeley's views on visual perception of distance and size, and argues that they are superior in some respects to views of his contemporaries, as well as those of current psychologists.

In the third essay, Schwartz provides an examination of the claim that visual perception of spatial properties is inferential. He distinguishes five meanings of "inferential," and argues that with relation to each, this claim is

supported (or opposed) on the basis of epistemological and metaphysical considerations which have little bearing on a psychological theory of visual perception. The fourth essay, in which Schwartz compares Berkeley and J. J. Gibson on spatial perception, provides a case in point. Despite differences between these theorists over the "directness" of visual perception, both emphasize the role of movement in an adequate psychological theory of visual perception.

A major claim of the book is that Berkeley supported his theory of visual perception of spatial properties on the basis of empirical psychological considerations about how visual perception works that are largely independent of his epistemological and metaphysical views. Here I sketch this argument.



Bishop Berkeley

Schwartz's exposition of Berkeley's theory examines its two fundamental claims: first, that the visual ideas of spatial properties are not immediate, and second, that the spatiality of visual perception is derived from tactual perception and thus that visual perception has no inherent spatiality. Berkeley held that an idea is immediate if having the idea is not the result of a mental process but rather is the result of a merely physiological process. In defense of the view that visual ideas of distance aren't immediate

Berkeley offered the so-called one-point argument, according to which visually locating a point along a line perpendicular to the eye requires mental processing of some sort.

Berkeley's primary rivals, the optic writers (including René Descartes, Isaac Barrow, André Tacquet, and William Molyneux), also accepted the one-point argument and denied the immediacy of visual ideas of distance. The dispute between Berkeley and the optic writers was instead over how to describe the mental process by which we visually perceive spatial properties, including both distance and size. The optic writers claimed that the mental process which results in visual ideas of spatial properties involve abstract geometrical reasoning undertaken independently of visual sensations. Berkeley, by contrast, characterized the mental process in terms of the association of visual sensations (including sensations of blur, interposition, and perspective) with tactual sensations.

The originality of Berkeley's theory consists in his development and defense of a sensory account of the mental process which results in these ideas. Fundamental to this sensory account is Berkeley's claim that the spatiality of visual perception is derived from tactual sensations of movement and, its corollary, that visual perception has no inherent spatiality.

According to Berkeley, although the visual field has spatial organization (up, down, right, left), this organization is not inherent to the visual field. Visual sensations acquire spatial significance—they come to represent spatial properties—through being associated with tactual sensations of up, down, left, and right. Through this process of association, the visual field acquires spatial organization, and visual perception of size and

distance acquires spatiality. Thus the mental process that results in visual ideas of spatial properties is not simply a sensory process, but requires a certain sort of sensory input, namely, tactual sensations.

Schwartz claims that Berkeley argued against the optic writers from a psychological standpoint. Berkeley held that it is implausible that visual perception of spatial properties requires undertaking geometrical reasoning. We can't become introspectively aware of having the appropriate geometrical data required for the purported calculations, or of undertaking these calculations. Berkeley claimed that a mental process involving association of visual and tactual sensations is more psychologically realistic, for we can become introspectively aware of the appropriate sensory data as well as the associations. Furthermore, Berkeley argued that his sensory account could better explain certain visual effects, for example, the moon illusion (in which the moon looks larger on the horizon than it does at its zenith).

Schwartz also holds that Berkeley defended the claim that visual perception has no inherent spatiality on the basis of psychological considerations. For example, the discovery that the retinal image is inverted presents the puzzle of how our visual fields are right side up. The optic writers held that visual perception involves geometric reasoning which reverses the retinal image.

Berkeley's claim that the spatial organization of the visual field isn't inherent provided an alternative solution. As Margaret Atherton ([Berkeley's Revolution in Vision](#) [Cornell University Press, 1990]) spells out in similar spirit but more detail, Berkeley held that the retinal image is a tactual, not visual,

image. (Although this tactual image is inverted relative to tactual objects, our tactual perception of spatial properties isn't inverted because the retinal image isn't fundamental to tactual perception.) Thus, the relation between the retinal image and the visual field is mediated by a mental process of association of visual sensations with tactual sensations, with the result that the visual sensations acquire the spatial significance of tactual sensations. And again, this alternative is more psychologically realistic because it involves sensory association rather than geometric reasoning.

Schwartz shows persuasively that Berkeley argued against the optic writers on the basis of empirical psychological considerations rather than a priori epistemological and metaphysical claims, and that from a psychological standpoint Berkeley's sensory account of vision is in some respects a better than the optic writers' abstract geometrical reasoning account. However, although Schwartz makes clear that a sensory account needn't bring with it the claim that visual perception has no inherent spatiality, he doesn't make clear enough the crucial role Berkeley's a priori philosophical views play with regard to this claim. Berkeley's claim that visual perception has no inherent spatiality assumes that in visual perception what we're aware of is a visual field constituted by visual sensations. But if we hold instead that what we're aware of is a field of view constituted by physical objects, then what we're aware of is inherently spatially organized, and visual perception does have inherent spatiality (cf. Schwartz's discussion p. 29).

Engaging, clear, and trenchant, [Vision](#) successfully bridges centuries and fields of study. It

provides nourishing reading for all those interested in the philosophy or science of vision.

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