

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

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From the Editor

Welcome to / Bienvenue à
HOPOS 2002—Montréal!

This international conference takes place June 21-23 at Concordia University. A brief welcome message appears below; please visit the HOPOS 2002 website (<http://www.hopos2002.org>) for full details.

To help illuminate the conference setting, the travelogue piece for this issue—researched and developed by Rodney Snooks—focuses on HOPOS-related resources of

Québec. The article relates a variety of historical developments and paints a lively picture of a bilingual scholarly landscape in HOPOS-related studies. Those attending HOPOS 2002 in Montréal should benefit from this rich survey of Québec institutions, and the people who toil there in HPS.

The book reviews in this issue range over works on Karl Popper's early years (part one of Malachi Hacoheh's biography, reviewed by Diederick

Raven), a contemporary programme for *naturphilosophie* with historical roots (Luciano Boi's edited collection of essays, reviewed by Chris McClellan), early modern logic and method (Fred Wilson's collection of essays, reviewed by Eric Palmer), the materialism of Baron d'Hallbach (a recent translation, reviewed by Elena Philip-paki), and social constructionism (Ian Hacking's series of essays, reviewed by Warren Schmaus).

À bientôt!
Saul Fisher



HOPOS 2002 in Montréal

Welcome to HOPOS 2002—the fourth international congress of the Working Group in History of Philosophy of Science—in the beautiful and cosmopolitan city of Montréal!

The congress is being held in cooperation with Concordia University, McGill University, the Université de Montréal, and the Université du Québec à Montréal.

Montréal is HOPOS's first Canadian and first Francophone venue. The charms of the city and its inhabitants are so great that we

have endeavored to put together an exceptionally fine program just to keep you at the conference (!).



The plenary speakers are François Duchesneau (Université de Montréal) and Don Howard (University of Notre Dame).

We hope you get the chance to wander around the city a

bit—no matter how exciting the congress—and take in the midsummer evenings. (Yes, those prices are Canadian dollars!)

We trust everyone will have a splendid time at the congress meetings and banquet (June 22) and in their Montréal séjour.

Alan Richardson
University of British Columbia
HOPOS 2002
Program Committee and
Local Organizing Committee

Andrew Wayne
Concordia University
HOPOS 2002
Local Organizing Committee



Kabul University Library: A Public Appeal

Book donations are sought for the Kabul University library, which at one time housed more than 200,000 books and has dwindled down to 500 books in 2002. The infrastructures of Afghanistan, Kabul, and the university there are, not surprisingly, in very uncertain state.

SABRE Foundation (<http://www.sabre.org/books/books.html>), which runs successful book donation programs around the world, has been approached to organize a program in Afghanistan. The foundation works with a partner organization in neighboring Uzbekistan and is optimistic that a program can be set up in Afghanistan. While details are not yet available, SABRE hopes to organize the program in a way that librarians in Afghanistan have a voice in what is sent to ensure they get materials they need and can use.

In the meantime, books for the university should be sent to: *Mr. Muhammad Sadiq Waddid*, Chief Librarian, Kabul University, c/o Mr. Martin Hadlow, UNESCO Islamabad, PO Box 2034, 44000 Islamabad, PAKISTAN. Boxes should be well sealed. They should also have affixed to them a sealed envelope containing a letter indicating the contents and the purpose of the contents, and stating that the contents are not meant for resale. The letter should indicate that the final destination for the books should be as above (books sent directly to the Library may be intercepted, hence the 'neutral' address.)

For information, contact Daphne Mullett (d.mullett@unesco.org) or M.H. Sadat (hsadat@yahoo.com).



News of the profession.

Call for Reports.

The Newsletter features occasional, concise reports on conferences of interest to HOPOI. If you are interested in writing such reports, please contact the Editor.

Seminars, Conference and Colloquia.

- June 21-22, 2002
Università di Roma III, Italy
Triennial Congress of SILFS (Società Italiana di Logica e Filosofia delle Scienze)
For information, contact Massimo Stanzione at massimostanzione@libero.it.

- June 22-26, 2002
Granada, Spain
29th Symposium of International Committee for the History of Technology (ICOHTEC)
For information, go to <http://www.icohtec.org>.

- June 26-29, 2002
University of Amsterdam, The Netherlands
Sixth International Conference on the History of General Relativity
Jointly sponsored with the Pieter Zeeman Foundation.
For information, go to <http://www.science.uva.nl/~kox/HGR6.html> or contact A.J. Kox (kox@science.uva.nl).

- July 3-7, 2002
Vienna, Austria
Karl Popper 2002 Centenary Congress
For information, go to <http://www.univie.ac.at/karlpopper2002/>.

- July 12-14, 2002
University of Canterbury, Christchurch, NZ
Popper Centenary Conference
For information go to <http://www.phil.canterbury.ac.nz>.

- August 4-8, 2002
Georgetown University, Washington, DC
6th Summer Symposium of the International Society for the Philosophy of Chemistry
For information, go to the ISPC website at <http://www.georgetown.edu/earleyj/ISPC.html> or contact J. E. Earley, Sr. (earleyj@georgetown.edu).

- August 30, 2002
University of East Anglia, Norwich, UK
Workshop on the Philosophy of Thomas Kuhn and its Impact on Contemporary Thought
For information, go to http://homepages.ed.ac.uk/ajbird/Kuhn_workshop/further_information.html.

- July 22-27, 2002
The University of Wales, Aberystwyth
8th International Conference of the International Society for the Study of European Ideas (ISSEI)
For information go to <http://www.aber.ac.uk/visitors/conferences/issei/index.html> or contact Ezra Talmor (issei@nachshonim.org or ilissei@nachshonim.org.il) or Daniel Meyer-Dinkgrafe (dam@aber.ac.uk).

- July 31-August 3, 2002
York, UK
EASST 2002 Conference on Responsibility under Uncertainty: Science, Technology and Accountability
For information, go to <http://www.york.ac.uk/easst2002/>.

www.york.ac.uk/org/satsueasst2002/ or contact Paul Rosen (pir8@york.ac.uk).

- September 6, 2002
University of Liverpool, UK
Contemporary Challenges in Teaching History and Philosophy of Science
For information, contact Graeme Gooday (g.j.n.gooday@leeds.ac.uk) or David Mossley (d.mossley@leeds.ac.uk) or go to http://www.prs-ltsn.leeds.ac.uk/phil_science/events/HPSTM2.rtf.

- September 12-13, 2002
St. John's College, University of Durham, UK
Science and Beliefs: From Natural History to Natural Science (1700-1900)
For information, go to <http://www.dur.ac.uk/m.d.eddy/Science&Beliefs.html> or contact M. D. Eddy (m.d.eddy@durham.ac.uk).

- September 15-22, 2002
University of Konstanz, Germany
International Summer School on Philosophy and Probability
For information, go to <http://www.uni-konstanz.de/struktur/zwn/summerschool2002> or contact Stephan Hartmann (stephan.hartmann@uni-konstanz.de).

- September 16-20, 2002
Paris, France
8th International Summer School in History of Science: Rethinking Scientific Knowledge in the 16th and early 17th Centuries
For information, write to school02@mnhn.fr or go to http://www.ehess.fr/centres/kovre/Centre_A_KOYRE.html.

Seminars, Conference and Colloquia.

- September 20-22, 2002
School of History, Technology and Society, Georgia Institute of Technology, Atlanta GA
Joint Atlantic Seminar in the History of the Physical Sciences (JASHOPS) 2002: Distributed Sites of Knowledge Production
For information contact Jahnavi Phalkey (jahnavi.phalkey@hts.gatech.edu) or John Krige (john.krige@hts.gatech.edu).
- September 23-27 2002
Fortezza Sangallo, Nettuno, Italy
3rd Summer International School of Philosophy and History of Biology and Medicine
Sponsored by the Comune di Nettuno and the Università degli Studi di Cassino. For information go to http://netming.com/unicivica2/sifsb_home.htm or contact Stefano Canali (scanali@getnet.it).
- September 25-30, 2002
International School of History of Physics, Erice, Sicily
Workshop on Science and Religion: Historical and Contemporary Perspectives
For information, contact William R. Shea (william.shea@ihs-ulp.u-strasbg.fr).
- October 3-5, 2002
Institut Jean-Nicod, Paris, France
Joint Meeting of the Division of History of Science and the Division of Logic, Methodology and Philosophy of Science, IUHPS: New perspectives on the relation between history and philosophy of science
For information, contact Laure Cartron (laure.cartron@ehess.fr).
- October 17-19, 2002
UNSW, Sydney, Australia
International Pendulum Project (IPP) Conference
For information, go to <http://www.arts.unsw.edu.au/pendulum> or contact Michael R. Matthews (michaelmatt@optushome.com.au).
- November 7-10, 2002
Milwaukee, Wisconsin.
Philosophy of Science Association, 18th Biennial Meeting
For information, go to <http://www.pitt.edu/~psa2002> or contact Sandra D. Mitchell (psa2002@pitt.edu).
- November 7-10, 2002
Milwaukee, Wisconsin
History of Science Society
For information, go to <http://www.hssonline.org> or contact hssexec@u.washington.edu.
- November 7-10, 2002
Milwaukee, Wisconsin
Society for the Social Studies of Science (4S) meeting
For information, go to <http://www.4sconference.org>.
- November 16-17, 2002.
University of North Carolina, Chapel Hill
Southeastern Seminar in Early Modern Philosophy
For information, contact Don Garrett (don_garrett@unc.edu) or go to <http://www4.ncsu.edu:8030/~dmjphi/SESeminar/index.html>.
- December 5-6, 2002
Max-Planck-Institute for the History of Science, Berlin
The Experimentalization of Life. Configurations between Science, Art, and Technology
For information, contact Peter Geimer (geimer@mpiwg-berlin.mpg.de).
- December 6, 2002
University of Cambridge, UK
Chem@300—Three Centuries of Chemistry at Cambridge
Jointly sponsored by the Department of Chemistry, the Society for the History of Alchemy and Chemistry, the Historical Group of the Royal Society of Chemistry, and the Whipple Museum of the History of Science. For information, contact chem-300@lists.cam.ac.uk.
- December 12-14, 2002
Lecce, Italy
Joint meeting of the Midwest Seminar in Early Modern Philosophy, Centre d'Etudes Cartésiennes (Université de Paris IV), and the Centro di Studi Cartesiani (University of Lecce)
For information, contact Steven Nadler (smnadler@wisc.edu).
- April 28-29, 2003
Royal Institution, London, UK
Molecular Biology in the 20th Century
Jointly sponsored by the Royal Institution and Wellcome Centre to mark the 50th anniversary of the determination of the structure of DNA at the Royal Institution. For information, go to <http://www.ri.ac.uk/DFRL/F.James> or contact Frank A.J.L. James (fjames@ri.ac.uk).
- September 24-26, 2003
Paris, France
International meeting on Correspondence and History of Biology (18th-20th Centuries)
Jointly sponsored by the Centre Alexandre Koyré, Muséum National d'Histoire Naturelle, and Université Paris I-Sorbonne. For information, contact Nicolas Robin or Josquin Debaz (correspondances@voila.fr).

Memorial notes.

- Roger French (1975-2002)
The University of Cambridge regrets to announce that Roger Kenneth French, University Lecturer in History of Medicine, and author of works on medieval and Renaissance medicine, died on May 14, 2002, aged 64 years. For information, contact Tamara Hug (hps-admin@lists.cam.ac.uk).
- James T. Cushing (1937-2002)
With deep sadness and regret, the University of Notre Dame announces the death on March 30, 2002 of James T. Cushing. Cushing's work in history and philosophy of physics and the history and philosophy of science will be warmly remembered. There will be an annual prize for work in the history and foundations of physics in Cushing's memory; for information, contact Don Howard (Don.A.Howard.43@nd.edu).
- Jacques Merleau-Ponty (1916-2002)
Jacques Merleau-Ponty died on the night of June 7-8, 2002. Merleau-Ponty (cousin of Maurice) fought with the Résistance, led a distinguished career at the Université de Paris 10-Nanterre, served as president of the Société française de philosophie, and authored numerous works on the history and philosophy of cosmology and physics. For information, contact Michel Paty (paty@paris7.jussieu.fr) or Jean-Jacques Szczeciniarz (szczeciniarz@paris7.jussieu.fr).

Jobs, fellowships, and other opportunities.

- *Institute for Advanced Study SAH Memberships* Princeton, New Jersey Memberships in the School of Historical Studies are available for the academic year 2003-2004. The School of Historical Studies supports scholarship principally in the history of western and near eastern civilization. The Ph.D. (or equivalent) and substantial publications are required of candidates at time of application. For information, go to <http://www.hs.ias.edu> or contact Marian Zelazny (mzelazny@ias.edu). Deadline for applications is November 15, 2002.

- *ACLS/Frederick Burkhardt Fellowships for Recently Tenured Scholars* For the upcoming academic year, the American Council of Learned Societies will provide Frederick Burkhardt Fellowships for recently tenured faculty, for residence at one of several research centers. Scholars applying for academic year 2003-2004 must have begun a tenured contract at a US or Canadian institution no earlier than

October 1, 1998. For information, go to <http://www.acls.org/burkguid.htm> or contact grants@acls.org. Deadline for applications is October 1, 2002.

- *2003 International Graduate Research Scholarships at the Unit for History and Philosophy of Science, University of Sydney, Australia* Master's or PhD scholarships are available through the International Postgraduate Research Scholarship program sponsored by the Australian Department of Education, Training and Youth Affairs (DETYA). For information on the unit (department), go to <http://www.usyd.edu.au/su/hps/>; for information on the application process, go to <http://www.usyd.edu.au/su/ios/scholarships/iprs.html>. The Unit's faculty have strengths in the history, philosophy, and social studies of medicine, mathematics, and science. Deadline for application is August 31, 2002.

- *University of Texas at Austin, Austin, TX* Open rank, tenure track, effective September 1, 2003. AOS: Philosophy of Science; AOC: History of Science. Ph.D. required. For information on the department, go to <http://www.utexas.edu/cola/depts/philosophy>. Deadline for submissions is October 1, 2002.

- *Chair in History and Philosophy of Science at the University of Melbourne* The deadline for applications is July 3, 2002. For information, go to <http://www.hr.unimelb.edu.au/r/> or contact Keith Hutchison (k.hutchison@unimelb.edu.au).

- *Postdocs and Doctoral Scholarships Offers at CLEA* The Center Leo Apostel at Brussels Free University is offering several postdocs and doctoral scholarships, for research on the application of quantum structures to fields of reality other than the micro-world, focused mostly on cognition and biology, though philosophical aspects of this research also will be considered. For information go to <http://www.vub.ac.be/>

CLEA/joboffers or contact Diederik Aerts (diraerts@vub.ac.be).

- *Philosophy, Probability and Modeling Research Group, Konstanz, Germany* This international interdisciplinary research group seeks candidates for doctoral studies, fellowships and postdocs; for information, contact Stephan Hartmann (stephan.hartmann@uni-konstanz.de) or go to <http://spot.colorado.edu/~bovens/SK-prize.htm>.

- *Institute of European History, Department of General History, Mainz, Germany* The Institute awards fellowships for a six- to twelve-month research stay. Eligibility is open to all young historians with a research project in German and European history since the 16th century. Fellows typically work on their dissertation or a post-doc research project. Deadline for Applications is August 3, 2002. For information, go to <http://www.inst-euro-history.uni-mainz.de> or contact Heinz Duchhardt (duch@inst-euro-history.uni-mainz.de).

Electronic Resources.

- A new version of Panopticon Lavoisier, including a bibliography and inventory of Lavoisier's manuscripts and instruments is available at <http://moro.imss.fi.it/lavoisier>.

- The educasup.philo website features French multimedia teaching resources

for philosophy; go to <http://www.u-bourgogne.fr/philo/educasup>.

- The website of the National Archive for the History of Computing has moved to <http://www.chstm.man.ac.uk/nahc>.

- Randy Allen Harris's website on rhetoric and incommensurability is located at <http://www.incommensurability.com>.

- The new British Society for the History of Science *Guide to History of Science Courses in the UK* is located at <http://www.chstm.man.ac.uk/bshs>.

- The History of Science Society's Syllabus Sampler II, featuring syllabi in the history of science and STS topics is located on the HSS website at <http://www.hssonline.org>.

- The Archives of Scientific Philosophy website has moved to <http://www.library.pitt.edu>.

Books, publication series, and journals.

- Thomas Fuchs, The Mechanization of the Heart: Harvey and Descartes [Mechanisierung des Herzens, Marjorie Grene, trans.]. Rochester, Woodbridge: University of Rochester Press, 2001 (\$65.00) ISBN 1580460771. For information, go to <http://www.urpress.com>.
- Andreas Huttemann, Kausalität und Naturgesetz in der frühen Neuzeit. (Studia Leibnitiana, Sonderheft, 31). Stuttgart: F. Steiner, 2001 (€ 22,50 / sFr 36,00) ISBN 3515078584. For information, go to http://www.dav-buchhandlung.de/buchlang.php3?titel_id=51953.
- Dominique Lecourt, La Philosophie des Sciences. (Collection « Que sais je ? ») Paris: PUF (€ 6.50) ISBN 2130520723. For information, go to <http://www.puf.com/livres/22416789a.html>.
- William R. Newman and Anthony Grafton (eds.), Secrets of nature: astrology and alchemy in early modern Europe. Cambridge, MA, London: MIT Press, 2001 (\$50.00 / £34.50) ISBN 0262140756. For information, go to <http://mitpress.mit.edu/catalog/item/default.asp?sid=7C84751F-B842-4DF1-967A-FF71944384D3&tttype=2&tid=8639>.
- Pascal Nouvel (ed.), Enquête Sur le Concept de Modèle, Paris: PUF (€ 23) ISBN 2130526195. For information, go to <http://www.puf.com/livres/22418685a.html>.
- Laurent Rollet (ed.), Henri Poincaré: Scientific Opportunism / L'Opportunisme scientifique. An Anthology, Basel: Birkhäuser, 2002 (€ 58 / CHF 88) ISBN 3-7643-6539-0. For information, go to <http://www.birkhauser.ch/books/math/6539.htm>.
- Anne-Françoise Schmid (ed.) Bertrand Russell – Correspondance sur la philosophie, la logique et la politique avec Louis Couturat. Paris: Éditions KIME, 2002 (€ 53). For information, go to http://perso.wanadoo.fr/kime/fr_une.htm.
- Klaus Volkert, Das Homöomorphismusproblem insbesondere der 3-Mannigfaltigkeiten in der Topologie 1892-1935. Paris: Editions Kimé, 2002. For information, go to http://perso.wanadoo.fr/kime/fr_une.htm.
- A new book series called “rePRINT - Texte der Wissenschaft bei ParErga” will reprint original sources in 19th and early 20th century life sciences, physics, and philosophy of science. The first volume—Ernst Mach, Erkenntnis und Irrtum. Skizzen zur Psychologie der Forschung (5th ed. of 1926)—is now available. For information go to <http://www.parerga.de/reprint> or contact Martin Eberhardt (reprint@parerga.de).
- A new journal, Phenomenology and the Cognitive Sciences, has been announced. For information go to <http://www.wkap.nl/prod/j/1568-7759>.
- The January 2002 issue of The Pantaneto Forum <http://www.pantaneto.co.uk/issue5/front5.htm> is now out. For information, contact Nigel Sanitt (nigel@pantaneto.co.uk).
- Revue de Philosophie de l'économie. For information, go to <http://www.revuephiloco.com>.
- The journal CRITIQUE has dedicated a special issue, Sciences dures? (June-July 2002, no. 661-662) to philosophy, history, and sociology of science. For information, contact Isabelle Chave (critique@leseditionsdeminuit.fr).
- A new annual, Eighteenth-Century Thought, has been announced. For information, contact James G. Buickerood (Editor) at jim@twinearth.wustl.edu or buickeroodj@msx.umsl.edu, or go to <http://www.eighteenthcenturythought.org>.

Awards and Calls for Papers.

- The American Philosophical Association, in conjunction with the APA Committee on Philosophy and Computers, has established the Barwise Prize for contributions to philosophy and computing. For information, go to <http://www.apa.udel.edu/apa/opportunities/prizes/summary.html>.
- The Managing Editor of Acta Biotheoretica invites philosophers of biology to submit manuscripts. For information go to <http://www.kluweronline.nl/issn/0001-5342> or contact Thomas Reydon (reydon@rulsfb.leidenuniv.nl).
- The Basic Prize in History of Science is open to any new scholar in history of science, technology, or medicine, or closely related areas. Only first-time authors will be considered, and manuscripts must not be under contract with any publisher at the time the award is decided. Manuscripts must be book-length, unpublished, and either fall clearly within the subject area or be closely relevant to it. The Prize will consist of publication by Basic Books; a \$7,500 advance against royalties; and a \$1,000 stipend for travel to the annual convention of the History of Science Society. All manuscripts must be received by June 30, 2002. For information contact William Frucht (william.frucht@perseusbooks.com).

Regional maps of HOPOS activity and infrastructure.

Québec (No. 7).

Report on HOPOS-related resources in Québec.

Introduction

While the cultural homogeneity of North America is often exaggerated, Québec is someplace really different, even for those of us born and raised not far away. It is, as Canadians might say, a distinct society, and has been so since before the birth of Canada. Québec's French majority is only the beginning of the story: Catholicism, the majority faith, separates it from Protestant-majority English Canada, and Québec's code of civil law is descended from French practice rather than English.

At the same time, particularly in the Montréal region, one sees a rich mixture of the English and French cultures. One sometimes has a sense of living in two places at once. It is common to overhear conversations in which French and English are mixed freely, even to the point of hearing questions posed in one answered with the other. The scope for invention of bilingual tropes is not to be overestimated, and the newcomer can take some wit even from advertisements in Montréal's *métro*. Aside from spoken bilingualism, the Montréal resident enjoys the architecture, music, and celebrations of both cultures.

And if there is one thing that the *québécois* enjoy, it is celebrating. In all cities street festivals are ubiqui-

tous, particularly in the summer. In most large cities elsewhere it would be unthinkable to close down major thoroughfares for this purpose; in Montréal and Québec City it is done frequently, without hesitation or complaint. In fact, visitors should refrain from driving in Montréal's downtown if they are unfamiliar with the city, for street festivities are likely to lead to delay. The *métro* is quite adequate for access to all Montréal universities, each of which has a namesake station.

Québec's cultural diversity and cosmopolitan character stem not only from English and French roots but also from (among others) Irish, Italian, Jewish, and Portuguese cultures, as well as those of recent immigrants from Eastern Europe, Asia and the Arab world. Numerous aboriginal peoples, too, have increasingly come to participate in public life in recent years (as elsewhere in North America).

Over the years, Québec has been a source of intellectually engaging public issues. Numerous constitutional crises involving Québec have been a focus of Canadian controversy for a long time, and it is only recently that scholars have taken an interest in issues concerning accommodation of local minority groups commensurate with their importance here. Secession from Can-

ada has been considered many times, raising the issue of political legitimacy. Québec life also arguably exhibits a communitarian tendency, according to which government pledges to preserve a popular way of life.

Québec on the whole exhibits a friendlier attitude to intellectuals than that seen in most of North America. At least until recent times, especially among francophones, university professors have been regarded with a certain reverence.

Academic life in Québec reflects the varying sources of its culture, and the European influence is quite marked as compared to most of North America. In particular, continental influences are strong both in the English and the French humanities departments, including philosophy. Many *québécois* have undertaken an advanced education in continental Europe, and legal interpretation follows largely continental models.

Historically, HOPOS-related activities were centred at McGill University and the Université de Montréal. McGill continues to have major research strengths in the history and philosophy of science and mathematics as well as the history and social studies of medicine. Université de Montréal continues to be strong in history and philosophy of biology, mathematics, and logic. The two newer universities in town, Université du Québec à Montréal (1969) and Concordia University

(1974), both have strengths in philosophy of science, with UQAM also strong in history of science and technology, and philosophy of cognitive science. Montréal is home to four university library systems but certainly the best place to start for HOPOS-related resources is the Mossman collection within the Schulich Library of Science and Engineering at McGill.

The reader can get a good idea of recent research in philosophy of science in Québec from the two volumes of essays in honor of the logician Hugues Leblanc: Mathieu Marion & Robert S. Cohen (eds.), *Québec Studies in the Philosophy of Science* (Boston Studies in the Philosophy of Science, vol 177 & 178; Dordrecht, Boston, London: Kluwer Academic Publishers, 1995).

In the following I offer a snapshot of HOPOS-related institutions, resources, and activities in Québec.¹ The focus is on the major scholarly centers of Montréal and Québec City. Institutions are grouped and listed alphabetically by city. As an anglophone Montréal resident, I thank those scholars who helped me to represent the significant work of the francophone institutions and scholars. For any omissions I apologize.²

Academic and Scholarly Institutions (including Libraries).

While the greatest number of scholarly institutions in Québec is found in Mon-

(Continued on page 7)

HOPOS-related resources in Québec

(Continued from page 6)

tréal, other significant institutions are located in Lennoxville, Québec City, Sherbrooke, and Trois Rivières.

Lennoxville

Bishop's University

<http://www.ubishops.ca>
(tel (819) 822-9600)

This university of 2,500 students is located in the Eastern townships, a bilingual enclave east of Montréal. It was established in 1843 by Anglican bishops at the present location but is now a secular school, for undergraduates.

Department of Philosophy
<http://www.ubishops.ca/ccc/div/hum/philo/home.html>

Lennoxville J1M 1Z7
(tel (819) 822-9600)

Among the members of this small department, George Englebretsen (member of department since 1969; genglebr@ubishops.ca) specializes in logic and Dale Stout (dstout@ubishops.ca; cross-listed with Psychology), works in philosophy of science.

Montréal

Concordia University

<http://www.concordia.ca>
(tel (514) 848-2424; communications@concordia.ca)

Concordia was founded in 1974, amalgamating the former Loyola College in the west side of the city and the downtown Sir George Williams University. Loyola College was founded in 1896, and moved to what is now Concordia's west end campus in 1916; it primarily

had been a liberal arts college. Sir George Williams started as an evening school in 1873, offering classes at the downtown YMCA, and taking the name of the YMCA's founder. It soon evolved into a full-fledged university, but continued for many years without a campus of its own. Today Concordia has its own downtown campus but its history is still reflected in numerous annexes in nearby office buildings, as well as many programs offered for part-time and non-traditional students. It also offers numerous graduate programs and sponsors a few small research institutes.

Department of Philosophy
<http://artsandscience.concordia.ca/philosophy/index.html>

PR201 2100 Mackay St. Montréal H3G 1M8

(tel (514) 848-2500;

phildept@alcor.concordia.ca)

In this small department, three scholars work in philosophy of science: Andrew Wayne (awayne@alcor.concordia.ca) is concerned in recent work with foundational issues in physics, and issues touching on the nature of representation and evidence; and Murray Clarke (murc@vax2.concordia.ca) works on the philosophical significance of cognitive science. Vladimir Zeman (vzeman@total.net) has research interests in the history of philosophy of science and technology, and has written on neo-Kantian explorations in philosophy of science.

Graduate programs: M.A. Philosophy, Ph.D. Humanities (an interdisciplinary

program including Philosophy).

Department of Mathematics and Statistics

<http://www.mathstat.concordia.ca>

(tel (514) 848-2831; mathsta@vax2.concordia.ca)

This department includes a graduate program in mathematics pedagogy and thus includes scholars outside the mainstream of mathematics research. For example, professor Anna Sierpiska (sierp@vax2.concordia.ca) works primarily on the elusive notion of 'understanding' in mathematics, with several recent books on the topic. Twareque Ali (stali@neumann.concordia.ca) works on the foundations of physics.

Graduate program: M.T.M. (master in the teaching of mathematics).

Publication of interest:

Sierpiska, Anna. *Understanding in Mathematics*. Washington, DC: Falmer, 1994.

McGill University

<http://www.mcgill.ca>

(tel (514) 398-4455)

McGill University, Québec's oldest and largest English post-secondary institution, was founded in 1821 and began operation in 1829, from an endowment left by the wealthy businessman James McGill. Originally in the outskirts of Montréal and thus a 'country school' in the tradition of Oxford and Yale, it is now just up the hill from the downtown corridor. It is a comprehensive university, including a full slate of graduate programs, many research institutes, a medi-

cal school and a law school (one of the oldest in North America).

Department of History

(incorporating Classics)

http://www.arts.mcgill.ca/progr_ams/history

(tel (514) 398-3975)

There are four scholars working primarily in history of science: Faith Wallis (faith.wallis@mcgill.ca; cross-listed with Social Studies in Medicine) studies history of medicine and medical science; Myron Echenberg (myron.echenberg@mcgill.ca) studies the social history of medicine in Africa; Valentin Boss (valentin.boss@mcgill.ca) studies 17th and 18th century science; and Robin Yates (robin.yates@mcgill.ca) studies history of philosophy, science, and technology of China.

Graduate programs: M.A. and Ph.D.

Publications of interest:

Boss, Valentin. *Newton and Russia; the Early Influence, 1698-1796*. Cambridge, MA: Harvard University Press, 1972.

Department of Philosophy

http://www.arts.mcgill.ca/progr_ams/philo

855 Sherbrooke St. W.

Montréal H3A 2T7

(tel (514) 398-6060;

info.philosophy@mcgill.ca)

McGill's department is well regarded for its strength in philosophical logic and history and philosophy of mathematics, with a number of scholars working extensively in these areas. Michael Hallett (hallett@philo.mcgill.ca) is engaged in extensive study of David Hilbert's research program for mathematics.

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HOPOS-related resources in Québec

(Continued from page 7)

Storrs McCall (mccall@philo.mcgill.ca) has been exploring the possibilities of modal logic in understanding philosophy of mathematics and quantum theory. Emily Carson (carson@philo.mcgill.ca) works on Kant's philosophy of mathematics and its influence on twentieth-century philosophy of mathematics, and has interests in 17th and 18th century science. Stephen Menn (spmenn@philo.mcgill.ca) studies Aristotle's physics, Greek geometry, and modern and early modern mathematics. Yet other scholars work in the history and philosophy of science (proper). Greg Mikkelsen (gregory.mikkelsen@mcgill.ca; cross-listed with the School of Environment) pursues research on definitions in ecology and biology; Eric Lewis (eric@philo.mcgill.ca) studies Greek atomism and ancient chemistry; and the distinguished scholar Mario Bunge continues his well-known work on foundations of philosophy of science. Another well-known scholar, William R. Shea, pursued research in HPS at McGill for many years before his appointment in the 1990s at the Institut d'histoire des Sciences of the Université Louis Pasteur (Strasbourg, France). The department recently hosted an international conference on intuition in the philosophy of mathematics and physics. Graduate programs: M.A., bioethics specialization, Ph.D., philosophy.

Publications of interest:

Bunge, Mario. *Method, Model, and Matter*. Boston: Reidel, 1973.
McCall, Storrs. *A Model of the Universe: Space-time, Probability, and Decision*. New York: Oxford University Press, 1994.
Hallett, Michael. *Cantorian Set Theory and the Limitation of Size*. Oxford: Oxford University Press, 1984.

Department of Social Studies in Medicine

<http://www.mcgill.ca/ssom>
(tel (514) 398-6033)

This department within the Faculty of Medicine was founded in 1974 by the late David Bates. It offers graduate programs in association with the Faculty of Arts, and is an interdisciplinary research and teaching unit devoted to the study of medicine in society (both contemporary and historical). There are six professors, including Faith Wallis (History). George Weisz (george.weisz@mcgill.ca) studies the history of medicine and medical science in Europe for the last two centuries, especially as regards their social aspects. Since its founding, the department has sponsored numerous seminars and conferences, including such speakers as Ian Hacking.

Graduate programs: M.A. and Ph.D., each with three specialties: medical history, medical anthropology, and medical sociology.

Osler Library of the History of Medicine

<http://www.health.library.mcgill.ca/osler>
(tel (514) 398-4475 ext 09873;

osler.library@mcgill.ca)

This library was founded in 1929 starting with an initial donation of over 8,000 volumes from its benefactor, William Osler. It is devoted to a comprehensive coverage of the history of medicine, and includes historical manuscripts, reprints of classic works, and a large selection of contemporary writing in history of medicine. David Bates was its librarian before founding the Department of Social Studies in Medicine.



Mario Bunge

Schulich Library of Science and Engineering

<http://www.library.mcgill.ca/psel/physci.htm>

(tel (514) 398-4769)

This library, which primarily serves scientists and engineers at McGill, took its name from a generous benefactor in just the last year. Another benefactor, the late Donald Mossman, has made possible an extensive special collection (located in the regular stacks). This extensive collection includes all the best (and even some of the mediocre) works of contemporary history and philosophy of science, as well as numerous classic scientific works. A visitor to Montréal seeking to study these fields can do little better than to start by visiting Schulich.

Université de Montréal

<http://www.umontreal.ca>

The university ('U de M') started out in 1878 as a campus of Laval University. It received its own charter in 1920, and is now one of Canada's largest universities, incorporating numerous graduate programs and Faculties of Law and of Medicine. The campus is located on the slopes of historic Mount Royal.

Department of Philosophy

<http://www.fas.umontreal.ca/philo>

Pavillon 2910, boul. Édouard-Montpetit, Montréal H3T 1J7
(tel (514) 343-6464; jean-pierre.marquis@umontreal.ca)

This department includes several scholars interested in logic and philosophy of science: François Duchesneau (francois.duchesneau@umontreal.ca) studies early modern philosophy (especially Locke, Descartes and Leibniz) and tracks the historical evolution and philosophical presumptions of biological theories (Duchesneau is one of the plenary speakers at HOPOS 2002); Yvon Gauthier (gauthiyv@philo.umontreal.ca) is interested in logic and philosophy of mathematics and physics; Maurice Lagueur (lagueurxm@philo.umontreal.ca) has research interests in philosophy of economics, social science, and history; François Lepage (francois.lepage@umontreal.ca) focuses on logic; and Jean-Pierre Marquis (jean-pierre.marquis@umontreal.ca) has research interests in philosophy of mathematics and science.

The department has a re-

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HOPOS-related resources in Québec

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search group on 'Reason and Naturalism' that includes a colleague from Laval University (Renée Bilodeau). In the past year, it hosted a conference for the Society for Exact Philosophy (<http://web.phil.ufl.edu/SEP/index.html>), a scholarly group devoted to the application of rigorous logical methods to philosophical problems, founded by Mario Bunge and Hugues Leblanc in 1971.

Graduate programs: M.A. and Ph.D.

Publications of interest:

Duchesneau, François. *Leibniz et la méthode de la science*. Paris: Presses universitaires de France, 1993.

Gauthier, Yvon. *La logique interne des théories physiques*. Paris: J. Vrin / Montréal: Bellarmin, 1992.

Department of History
<http://www.fas.umontreal.ca/hst>
morinc@hst.umontreal.ca

Three scholars work in history of science: Othmar Keel (keel@cam.org), whose work focuses on 18th and 19th century evolution of European medical clinics, and history of medicine in Québec; Yakov Rabkin (rabkin@hst.umontreal.ca), who studies the historical impact of science and technology, especially in the former Soviet Union; and Jacques Ruelland (jruelland@progression.net), who did graduate work in philosophy and history, and specializes in modern European history of science. Graduate programs: M.A. and Ph.D.

Publications of interest:

Keel, Othmar. *L'avènement de la médecine clinique mod-*

erne en Europe. Montréal: Montréal University Press, 2001.

Ruelland, Jacques C. *De l'épistémologie à la politique. La philosophie de l'histoire de Karl R. Popper*. Paris: Presses universitaires de France, 1991.

Centre for Mathematical Research (Centre de recherches mathématiques, CRM)
<http://omega.crm.umontreal.ca/>

This research unit is one of the largest of its kind in North America, with over one hundred scholars, including members from all nearby universities and numerous visiting faculty.

One member—Liliane Beaulieu (beaulieu@crm.umontreal.ca)—is presently a researcher at CNRS in Paris (Archives de la Création Mathématique—UPS 2065), where she studies the celebrated French mathematicians who collaborated under the name 'Bourbaki'.

Institute for the History and Sociopolitics of Science (*defunct*)

Founded in 1972 in response to a growing interest in the implications of science in society, this multidisciplinary group directed by Camille Laurin included social scientists and historians. It closed in 1985 after having trained a generation of historians of science in Québec, hosting numerous events, and establishing a place in the Canadian academic scene for its object of study. Graduates and former faculty work in Canada and abroad, and include Keel, Rabkin, and Ruelland (U de M History Depart-

ment), and Gingras and Gagnon (UQAM History Department).

Université du Québec à Montréal

<http://www.uqam.ca/>
(tel (514) 987-3000)

This large university ('UQAM') was established in 1969 by the amalgamation of numerous colleges. Located in the eastern part of downtown Montreal close to the old city, it is an urban university, with tunnel access to most buildings and direct access from the métro. As part of the Université du Québec system, UQAM was first conceived as an undergraduate university, but it now has many graduate programs, a law and business school, and strong departments and research activity in biology, environmental sciences, and computer science.

Department of Economic Sciences

http://www.unites.uqam.ca/eco/bienvenue_a.html
(tel (514) 987-4114; eco@uqam.ca)

Two scholars examine the history of economic methodology: Gilles Dostaler (dostaler.gilles@uqam.ca) studies recent history of economic thought with reference to political ideologies; and Robert Leonard (leonard.robert@uqam.ca) examines the progression of methodology and philosophy of 20th century economics, with reference to its ties to science-minded philosophers such as the logical empiricists.

Publication of interest:

Beaud, Michel and Dostaler, Gilles. *La Pensée Économique depuis Keynes: Historique et Dictionnaire des Prin-*

cipaux Auteurs. Paris: Seuil, 1993.

Department of History

<http://www.unites.uqam.ca/dhis/index.htm>
(tel (514) 987-4154)

Among these historians, Robert Gagnon (gagnon.robert@uqam.ca) studies history of science, technology, and the professions; and Yves Gingras (gingras.yves@uqam.ca) specializes in history of modern science. The two recently collaborated on a study of the impact of innovation on university organization and the modern organisation of biomedical research teams. The History Department participates in the CIRST research unit (see below).

Graduate programs: M.A. and Ph.D.

Publication of interest:

Gingras, Yves. *Physics and the Rise of Scientific Research in Canada*. Montreal: McGill-Queen's University Press, 1991.

Department of Philosophy
<http://www.philo.uqam.ca>

W-5350, Pavillon Thérèse-Casgrain, 455, boulevard René-Lévesque Est, Montréal H2L 4Y2 (tel (514) 987-4161 philo@uqam.ca)

One scholar—Denis Fisette (fisette.denis@uqam.ca)—works on philosophy of cognitive science, particularly with reference to phenomenology. Several others work in logic, formal semantics, and philosophy of logic, social science, computer science, and psychology, including Jocelyne Couture

(couture.j@uqam.ca), Luc Faucher (faucher.luc@uqam.ca),

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*HOPOS-related resources in Québec**(Continued from page 9)*

Pierre Poirier (poirier.pierre@uqam.ca) and Serge Robert (robert.serge@uqam.ca). In 1992, the noted logician Hugues Leblanc (1924-1999) joined the UQAM department in retirement. Though québécois by origin, his career was principally in the USA; he remained at UQAM until 1996. In philosophy of science, Robert Nadeau (nadeau.robert@uqam.ca) works extensively in philosophy of economics, on the history of the Austrian school and its contribution to economic methodology. Finally, Paul Dumouchel (dumouchel.paul@uqam.ca) works on the influence of biological models and early cybernetics on Hayek and has published on the history of early French psychiatry. Graduate programs: M.A. and Ph.D.

Publications of interest:
Nadeau, Robert. *Vocabulaire technique et analytique de l'épistémologie*. Paris: Presses universitaires de France, 1999.
Robert, Serge. *Les Mécanismes de la Découverte Scientifique*. Ottawa: Presses de l'Université d'Ottawa, 1993.

Center for Interuniversity Research on Science and Technology (CIRST)
<http://www.unites.uqam.ca/cirst>
cirst@uqam.ca
Located at UQAM, this research unit has participants from five universities and other institutions such as the federal government agency *Statistics Canada*. It is one of the largest research

units for science and technology studies in North America. Research ranges from standard philosophical issues (Robert Nadeau and Andrew Wayne) to the role of technology in business innovation. Graduate programs: CIRST offers M.A. and Ph.D. degrees in association with numerous departments, including UQAM's History Department, Sherbrooke's Economics Department, and McGill's Social Studies in Medicine Department.

Logical, Inferential and Cognitive Competence (Compétence Logique, Inférence et Cognition, *CLIC*)
<http://www.philo.uqam.ca/clic>
Serge Robert (Philosophy) is the director of this institute, devoted to a pure cognitive science approach to these topics, together with a focus on related philosophical issues.

The Research Group in Comparative Epistemology (Groupe de Recherche en Epistémologie Comparée, *GREC*)
<http://www.philo.uqam.ca/recherche/grec/grec.html>
For anglophone readers it may not be clear from the name of this research group that it is one of the largest in Canada for philosophy of science, with participants from many Québec universities. Headed by Robert Nadeau (Philosophy), it is the chief forum in the province for this field of study. In particular, the Group publishes a paper series (*Cahiers d'épistémologie*; see 'Journals') for Québec authors and visitors.

Québec City

Université Laval
<http://www.ulaval.ca>
(tel (418) 656-3333)

First founded as a seminary school in 1663, Laval was chartered as a university in 1852, and is the oldest French university in North America. Its main campus is located in the suburb of Sainte-Foy, with a school of architecture in the heart of old Québec City, a strikingly beautiful area of downtown surrounded by stone walls. It is a large university with many graduate programs. It also features a Museum of Geology (see below).

Faculty of Philosophy
<http://www.fp.ulaval.ca/Fp/FacNet/index.html>
Pavillon Félix-Antoine-Savard, bureau 644, Québec G1K 7P4 (tel (418) 656-2244; fp@fp.ulaval.ca)
Three scholars work principally on HOPOS-related topics: Renée Bilodeau (renee.bilodeau@fp.ulaval.ca) studies philosophy of psychology, including its relation to morality; François Tournier (Francois.Tournier@fp.ulaval.ca) studies philosophy of psychology, psychoanalysis, and psychiatry, as well as logic; and Henri-Paul Cunningham (Henri-Paul.Cunningham@fp.ulaval.ca) studies philosophy of technology. Graduate programs: M.A. and Ph.D.
Publication of interest:
Tournier, François. *Ideologie, Science et Histoire*. Montréal: Québec University Press, 1985.

Sherbrooke

Université de Sherbrooke
<http://www.usherbrooke.ca/>
Sherbrooke was founded in 1954. The organization of this university clearly follows European rather than American practice, and professors of philosophy and theology work side-by-side. It has numerous graduate programs including a doctorate in law. It also has a campus in Longueuil (across the river from Montréal).

Faculty of Theology, Ethics, and Philosophy
<http://www1.usherbrooke.ca/fat/ep/>
2500, boulevard de l'Université, Sherbrooke J1K 2R1 (tel (819) 821-7611; information@courrier.usherb.ca)
This faculty started out as theology alone (1961), then absorbed philosophy from the Faculty of Letters and Human Sciences. Two philosophy scholars pursue research in HOPOS-related areas: Maurice Gagnon (mgagnon@courrier.usherb.ca) works in the philosophy of space-time and its relations to larger issues of philosophy of science; and André Lacroix (alacro01@courrier.usherb.ca; Longueuil campus) works in philosophy and ethics of social science (especially economics). Theology professor Claude Mailloux (claudio.mailloux@courrier.usherb.ca) studies issues of philosophy of social science in relation to theology. Graduate programs: M.A. and Ph.D. in philosophy.

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HOPOS-related resources in Québec

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Trois-Rivières

Université du Québec à Trois-Rivières

<http://www.uqtr.ca/>
(tel (819) 376-5011)
UQTR was founded in
1969, and educates about
ten thousand students.

Department of Mathematics
and Computer Science
<http://www.uqtr.ca/DMI/>
(tel (819) 376-5011 ext 3802)
One scholar, Harry White
(harry_white@uqtr.ca),
works on mathematical
presentation and the concept
of proof.

Department of Philosophy
<http://www.uqtr.ca/philolo/>
Pavillon Ringuet (4th floor),
3351, boulevard des Forges,
Trois-Rivières G9A 5H7
(tel (819) 376-5011 ext 3181)
One researcher, Daniel Van-
derveken (daniel_vanderveken@uqtr.quebec.ca), fo-
cuses on logic, with an on-
going project into formal
semantics of speech acts; he
participates in the interdisci-
plinary *groupe de recherche
sur la communication et le
discours* (Research Group
for Communication and
Discourse). Claude Panac-
cio (claudpanaccio@uqtr.ca) is a scholar of modern
and medieval philosophy of
language, with a special
interest in nominalism. He
is the current editor of *Di-
alogue*, journal of the Asso-
ciation Canadienne de Phi-
losophie (<http://www.usask.ca/philosophy/dialogue>).
Finally, Stéphane Courtois
(stephane_courtois@uqtr.uebec.ca) studies philoso-
phy of social science and
the role of hermeneutics.
Graduate programs: M.A.

and Ph.D.

Publications of interest:

Searle, John R. and Daniel
Vanderveken. *Foundations
of Illocutionary Logic*. New
York: Cambridge University
Press, 1985.
Panaccio, Claude. *Les mots,
les concepts et les choses.
La sémantique de Guil-
laume d'Occam et le nomi-
nalisme d'aujourd'hui*,
Montréal: Bellarmin /
Paris: J. Vrin, 1992.

Other Scholarly Centers.

Observatoire des sciences et des technologies (OST)

3465 Durocher Street, Mont-
real H2X 2C6 (tel (514) 499-
8288; Benoît Godin, director
(benoit.godin@inrs-urb.quebec.ca))

The OST is a research insti-
tute dedicated to the devel-
opment of statistical tools
for measuring the evolution
of science and technology.

Scholarly Societies and Professional Associations.

The French-Canadian Association for the Ad- vancement of Science (l'Association Canadienne- Française pour l'Avance- ment des Sciences)

<http://www.acfas.ca/acfas/>
(tel (514) 849-0045; acfas@acfas.ca)

This organisation was
founded in 1933 to work for
the interests of francophone
scientists. It works with
university researchers, cor-
porations, and the Québec
provincial government to
offer international scientific
conferences, educate and
present scientific findings to
the public, and give awards
to outstanding students and
working scientists.

The Philosophical Society of Québec (Société de phi- losophie du Québec)

<http://www.fp.ulaval.ca/Fp/spq>
(soc.philo.de.quebec@fp.ulaval.ca)

This is the general associa-
tion for philosophy in Qué-
bec, which publishes *Phi-
losophiques* (see 'journals',
below).

Museums.

Centre de démonstration en sciences physiques

<http://www.cdsp.qc.ca/>
Collège François-Xavier-
Garneau, Pavillon Jean-
Baptiste-Cloutier
1660, boul. de l'Entente
Québec City, G1S 4S3
(tel (418) 688-8310 ext 2390;
cdsp@cegep-fxg.qc.ca)

This institution is devoted to
educating the public in sci-
ence through demonstration
experiments.

Museum of Geology (at Uni- versité Laval)

[http://www.mdq.org/english/in-
dex.htm](http://www.mdq.org/english/index.htm)
Pavillon Adrien-Pouliot, Cité
Universitaire
Sainte-Foy G1K 7P4
(tel (418) 656-2131 ext 8127;
André Lévesque, curator (tel
656-2131 ext 8127;
alevesqu@ggl.ulaval.ca))

Founded in the university's
charter year of 1852, the
museum maintains collec-
tions of rocks, minerals and
fossils.

Montreal Museum of Ar- chaeology and History

(Pointe-à-Callière)
[http://www.musee-pointe-a-
calliere.qc.ca/](http://www.musee-pointe-a-calliere.qc.ca/)
350 Place Royale
Corner of De la Commune
Old Montréal H2Y 3Y5
(tel (514) 872-9150)

Journals.

There are occasionally arti-
cles on philosophy of sci-
ence in the *Laval
théologique et philosophique*
journal
(<http://www.ftsr.ulaval.ca/ltp/>)
or the *Société de Philoso-
phie du Québec* journal,
Philosophiques (available
electronically at
[http://www.erudit.org/erudit/
philoso/index.html](http://www.erudit.org/erudit/philoso/index.html)).

However, no Québec jour-
nal is dedicated to philoso-
phy or history of science.
The closest one comes to a
serial publication of this sort
is the GREC series of occa-
sional papers, *Cahiers d'É-
pistémologie* (ISSN 0228-
7080), which has included
titles such as these:

- Robert Nadeau, *La philoso-
phie des sciences après
Kuhn* (no 9409)
- Gérard Lafleur, *Karl Popper
et la méthodologie économi-
que : la rationalité et le prin-
cipe de rationalité* (no 9022)
- Nicolas Kaufmann, *Le projet
de l'Encyclopédie de l'em-
pirisme logique : Neurath vs
Carnap* (no 8407)

For a complete list of titles
since 1981, go to
[http://www.philo.uqam.ca/p-
df/liste.pdf](http://www.philo.uqam.ca/pdf/liste.pdf).

Publishers.

Université Laval Press
<http://www.ulaval.ca/pul/>
Pavillon Maurice-Pollack, Bu-
reau 3103, Cité universitaire,
Sainte-Foy G1K 7P4
(tel (418) 656-2803; [pres-
ses@pul.ulaval.ca](mailto:pres-ses@pul.ulaval.ca))
Laval's press publishes
mostly in French and is the
oldest French university
press in Canada. The selec-
tion of HOPOS-related ma-

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HOPOS-related resources in Québec

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materials is limited, but there are some books on the continental encounter with science, and on philosophy of science education.

McGill-Queen's University Press

<http://www.mqup.mcgill.ca/>
3430 McTavish Street, Montréal H3A 1X9
(tel (514) 398-3750; mqup@mqup.ca)

This large general press features numerous titles covering aspects of history of science—and somewhat fewer in philosophy of science.

Université de Montréal Press
<http://www.pum.umontreal.ca>

3535, chemin Queen-Mary, bureau 206, Montréal H3V 1H8
(tel (514) 343-6933; pum@umontreal.ca)

Université de Montréal's academic imprint is not one of the largest, and not the strongest in history and philosophy of science. There are some titles on history of medicine, especially in Québec.

Université du Québec Press
<http://www.puq.quebec.ca/>

Édifice le Delta I, 2875 boul. Laurier, bureau 450 Sainte-Foy G1V 2M2
(tel (418) 657-4399; puq@puq.quebec.ca)

Like U de M, the University of Québec's imprint shows more interest in social sciences than in history and philosophy as construed by HOPOI. Some titles address topics such as the impact of technology on social structures and the history of psychology.

Bookstores in and around Montréal.

Academic and General Book Shop

385 Sherbrooke W.
Montréal (tel (514) 849-3833)
This shop offers new and used books in many academic disciplines, including general philosophy, philosophy of science, and history.

Archambault

<http://www.archambault.ca/store/default.asp>
2151 Boulevard Lapinière, Brossard (tel (450) 671-080) (plus four other locations in Montréal and area)

This very large French bookstore sells new popular and academic books, and is well stocked with texts in HOPOS genres.

Argo Book Shop

1915 St. Catherine W., Montréal (tel (514) 931-3442)
This small shop offers new books in philosophy and history of science from academic presses.

Biosfaire

4571 Saint-Denis, Montréal (tel (514) 985-2467)
This used and rare bookstore includes some titles in history of science.

ex libris Books

1628B Sherbrooke W., Montréal (tel (514) 932-1689; rcampbell@securenet.net)
This bookstore offers used and rare books including medicine, science, and history of ideas.

Footnotes

1454 rue Mackay, Montréal (tel (514) 938-0859)
This very small shop has an

extensive ordering system and frequently has book sales at Concordia with extremely attractive prices. They specialize in academic books, and their sales offer many current books in HOPOS genres.

Librairie-Bistro Olivieri

5219 Côte-des-Neiges
Montréal, H3T 1Y1
(tel (514) 739-3639; service@librairieolivieri.com)
This combination bookstore/bistro near the Université de Montréal features an excellent selection of philosophy books in French—which is also one of the few bilingual philosophy sections in town. Olivieri carries many titles related to HOPOS topics.

Librairie le Chercheur de Trésors

<http://www.bibliopolis.net/chercheurdetresors/>
1339, Ontario E., Montréal (tel (514) 597-2529)
This bookstore features rare and antique books, including numerous historical scientific texts.

Librairie Henri-Julien

4800 Henri-Julien, Montréal (tel (514) 844-7576; jfsylvain@henri-julien.com)
Classics and philosophy.

Librairie U de M

<http://www.librairie.umontreal.ca/>
Social Sciences:
Pavillon Jean-Brillant, 3200, Jean-Brillant, Montréal (tel (514) 343-7362)
Scientific and medical:
Pavillon principal, 2900, Boulevard Édouard-Montpetit, Montréal (tel (514) 343-6210)
Largest bilingual university bookstore in Québec.

McGill University Bookstore
<http://www.mcgill.ca/bookstore>
3420 McTavish St., Montréal (tel (514) 398-7444)
Probably the largest university bookstore in Canada east of Toronto, and the best place to look for specialty titles.

Odyssey Books

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1917 St. Catherine W., Montréal (tel (514) 937-4494) westcott@sprint.ca
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(Continued on page 13)

HOPOS-related resources in Québec

(Continued from page 12)
and philosophy books.

The Word Bookstore
469, Milton St., Montréal (tel
(514) 845-5640; [word-
book@securenet.net](mailto:word-book@securenet.net))
Excellent used and rare
bookstore near McGill; nice
philosophy and history sec-
tions.

*

The bilingual and increas-
ingly multicultural character
of the Québec academy has,
to a degree, fostered parallel
developmental tracks in
philosophy of science and
allied fields of study over
the past several decades.
One prominent line of de-
velopment more strongly
reflects French and German
(and more broadly, Conti-
nental) traditions in science
studies. The other promi-
nent line of development is
more reflective of Anglo-
American (analytic) tradi-
tions. The surprise, per-
haps, is that such mélanges
of varied methods and tradi-
tions goes back to the incep-
tion of science studies in
Québec, and has been grow-
ing more commonplace
steadily ever since. Today,
virtually all Philosophy and
HPS departments in Québec
support research strengths
from both traditions, and
this must be counted as one
of Québec's unique and
significant contributions to
HOPOS-related research.

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Notes

1. For further information on
philosophy in Québec, see
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of Canadian philosophy of
science, see Robert E.
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schaftstheorie* 5 (1974):
341-58.
2. I would like to thank all of
those who have helped me
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article. George Englebret-
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Wayne, and Saul Fisher.

Book Reviews

*Karl Popper, The Formative Years,
1902-1945: Politics and Philosophy in
Interwar Vienna*
Malachi H. Hacohen. xiii + 610pp. Cambridge, UK:
Cambridge University Press 2000. \$54.95.

The aim of this book is
twofold: firstly, to provide
an intellectual biography of
Karl Popper, up to the
publication of his *Open
Society*, and secondly, to
argue that his philosophy
provides important insights
for setting a progressive
liberal agenda to recoup the
social losses of the last two
decades. These two strains
of argument do not easily
cohere and lead to
imbalanced analyses.
Moreover, even were
Popper's philosophy such a
good source for helping to
avoid the dead-ends of
postmodernist thinking, then
that case might well have
been made independently of
his biography. Hacohen's
second aim never gets
beyond the stage of an
appendix to the biography
and as such is insufficiently
argued and unconvincing.

This should not blind us to
the excellent correction he
makes of Popper's own
anachronistic account of his
intellectual development in
his *Autobiography*. Popper
tried to shape his reputation
in the way he wanted—hence
the standard story that from
1919 Popper had been
elaborating the same
philosophy. By 1929, he
realized that his solution to
the problem of demarcation
(testability) could be used to
solve the problem of
induction (by doing away
with induction because all
theories have a hypothetical
status, such that verification

is not an issue) and converted
the former problem into his
fallibilist philosophy of
science. But as Hacohen
makes clear, Popper
formulated neither the
induction problem nor the
demarcation problem before
1930. His early work on the
psychology of science is not
compatible with his
philosophy of science; in
fact, he had to renounce it as
psychologism. In addition,
he gained more than he
acknowledged from his
interaction with the Vienna
Circle (VC).

Popper appropriated his past
by reading back into the
1920s his philosophy of
science after he had
published *Logik der
Forschung*. But there never
was a unified philosophical
position to start with. His
psychology of science tried
to solve the problem of
epistemological validity by
reducing the latter to the
origins of consciousness.
This conflation of the logic
(of science) and the
psychology (of science) made
intellectual progress
impossible. His 1928
dissertation maintained the
autonomy of psychology and
epistemology—but his
psychology could not explain
the growth of knowledge
without encroaching on the
autonomy of epistemology.
Between 1928 and 1932,
Popper changed from a
psychologist of knowledge
into a philosopher of science,
declaring that psychology

Review of Hacothen

was irrelevant to the logic of science and separating the incompatible frameworks by applying the principle that whatever is true in logic must be true in psychology.

Popper's way out of this stalemate depended upon his engagement with the VC, Feigl and Zilsel in particular are portrayed by Hacothen as having been influential. Zilsel's *Das Anwendungsproblem* (1916) was the source of Popper's interest in the induction problem. Sessions with Feigl shaped his own position in contrast with others associated with VC like Carnap. Feigl further suggested that Popper write a book, which would result in *Logik der Forschung* (1935).

The most exciting part of Hacothen's book deals with the period just outlined. He shows an impressive command of the abundant archival material, writes elegantly, argues clearly and persuasively, and clears away much confusion about Popper's early intellectual development—which had been created by Popper or else due to the strange publication record of key texts in his oeuvre. Hacothen sheds new light on the legend of Popper being a positivist. It has always been clear that the theme of Popper's *Logik* is similar to that of VC. Popper and VC both attempted to bring philosophy in tune with revolutionary changes in the natural sciences, and so scientific philosophy was born. When Schlick claimed that Popper was part of their movement he was right, but for Popper the differences

were more significant than the agreements. Popper was a follower of Kant and the VC of Mach, and refused to follow the VC in taking the linguistic turn. Identity with an intellectual movement is partly self-determined and partly ascribed, though, the latter being beyond one's control. Popper proved incapable of dealing with this. When Carnap appropriated falsification and turned it into a meaning criterion he was not following what Popper had in mind. Popper was upset that, in instances such as this, subsequent to publication of his *Logik* not everyone immediately followed his new lead and regard him as the leading philosopher; Eva Hempel described his reaction as his *Verfolgungswahnsinn*. Popper was convinced of an academic conspiracy aimed at diminishing his reputation, though of course nothing of the sort existed.

The *Logik* did not bring Popper the instant success he had hoped nor were academic jobs prospects any good. He was working as a school teacher in Vienna at the time it was published. He went on a lecture tour to England in 1935-36 and was able to get a position in New Zealand, where he wrote his political work, *The Open Society and its Enemies*, which was to make him famous. Many readers have seen the book as a cold-war contribution criticizing communism and social planning yet the cold war had not come into existence when Popper started writing it—this is even more true of the *Poverty of Historicism* (published in 1957, though its underlying material dates from the end

of WWII). Hacothen has reconstructed the background to which Popper was responding when he wrote these works. In the *Poverty* and the *Open Society* Popper generalized the position he was attacking by transforming them into something unrecognizable. For example: who were the historicists Popper was attacking? Hacothen's answer is Red Vienna's Marxists—that is, people like Neurath. Both *Poverty* and *Open Society* are best understood against the background of Vienna's experiment with socialism and democracy after the first world war and the subsequent failure of that experiment. Both works spell out Popper's ambivalence towards Austrian socialism in particular, and their wide readership after WWII is due

to Popper hiding this 'Vienna connection'. Thus his critique of a specific form of socialism (which only existed in a narrowly confined political context) could become an influential line of broad anti-Marxist criticism.

Hacothen's book is an excellent piece of intellectual history, striking a fine balance between the intellectual context in which Popper came of age and the biographical details. It is meticulously researched, well written and important for understanding the development of 20th c philosophy and Popper's Viennese background.

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*Science et Philosophie de la Nature: un Nouveau Dialogue.*

Luciano Boi (ed.) viii + 400 pp. Bern; Berlin; Bruxelles; Frankfurt am Main; New York; Oxford;

What is nature? This profound and old philosophical question seems doomed from the start in the context of contemporary science, insofar as it presupposes the existence of a unified entity that yields the phenomenal world. Our attempts to give coherent description to various phenomena have yielded a cacophony of voices from the special sciences. Some have argued that our best evidence shows nature to be ultimately disordered and plural, bounded and determined only by the possibility

for interested perspectives through which it is investigated.

However, according to Luciano Boi (editor of this volume), it would be premature to draw any deep metaphysical implications from the prevailing discord in science. On the contrary, he sees on the horizon a new basis for drawing relations among concepts of nature, a basis for a unifying natural philosophy developing within the special sciences. Rising above the din of cur-

Review of *Boi*

rent scientific discourse is a novel and recognizable harmony of achievement based on applications of qualitative mathematics and the topological analysis of emergent natural forms. The book of nature, he claims, is written in the language of geometry.

Boi's introductory essay to this anthology outlines central, scientific elements of this new natural philosophy: geometrical theories in physics that promise to unite relativity theory and quantum mechanics, unify fundamental forces, and answer various questions in relativistic cosmology; René Thom's theory of biological forms, epigenesis, and evolution, according to which possible organic forms are conceived as geometrical vectors, or vectors in an abstract space of geometrical forms; and psychological theories (historically related to those of Kant and the Gestalt theorists) that cast mental images as geometrical constructions and that ground the structure of perception in geometry. The fundamental idea of the new concept of nature (anticipated by Erwin Schrödinger and Hermann Weyl, among others) is that the geometrical structure of space-time determines the distribution and activity of matter in the universe, including the evolution of inorganic and organic natural bodies, as well as perceptual faculties and contents. Nature is a complex hierarchy of emerging geometrical forms.

The grand project of natural philosophy described by Boi, a universalized philosophy

of geometry, is merely the point of departure for a diverse collection of essays (eighteen total, written in French, German, and English) addressing related issues from contemporary and historical perspectives. One will not find in this collection a collaborative, systematic formulation of the new natural philosophy Boi endorses. Rather, the collection seems primarily intended to show that the vaguely anticipated central project, once formulated, would be a natural philosophy with a long tradition. The contributing authors include philosophers, physicists, and mathematicians, but all have been inspired, Boi writes, by the *Naturphilosophen* Goethe and Schelling, by Leibniz, Kant, Riemann, Husserl, Gestalt theorists, Poincaré, D'Arcy Thompson, Whitehead, Einstein, Schrödinger, and by Hermann Weyl and René Thom in particular.

HOPOS enthusiasts will appreciate the strong historical orientation of most of the individual papers, yet a search for the collection's binding thematic thread may end in disappointment. It appears at the start, at least, that the guiding theme is geometry as the basis for a new natural philosophy. Thus, in his second essay, Boi attempts to fashion an historical tradition by showing that natural philosophy in the modern era has always reflected deep concern with philosophy of geometry. At this point, however, the focus moves from natural philosophy as geometry to a variety of issues within the

vast subject area of natural philosophy in general. For example, a paper contributed by Anne Fagoult-Largeault *et al*, "Possibilité d'une philosophie de la Nature aujourd'hui" also makes an historical survey of modern views on systematic natural philosophy but in this case to show that the abandonment of this type of project in the nineteenth century led to a split between the natural and the human, as well as the *Natur- and Geisteswissenschaften*. The remedy for this split, they claim, is action theory as the central element of a new natural philosophy. Or consider Miguel Espinoza's "L'intelligibilité naturelle et les mathématiques", which outlines a realist metaphysics of mathematical properties as inherent features of the natural world and as the basis of the intelligibility of nature. Yet while this interesting theory accords with several general features of the program introduced by Boi, without more specific relations—such as an emphasis on contemporary theory of geometry—one does not come away with a sense of an emerging unified foundation to current science or a ground-swelling of support for a new natural philosophy.

Several articles in this collection represent a novel or renewed concern with traditional issues in natural philosophy, as well as the views of traditional natural philosophers, and perhaps it is in this sense that we should understand the 'new dialogue' claimed in the title. Thus, there are articles devoted to aspects of Descartes' natural philosophy,

Kant's natural philosophy, and historical studies of concepts of causality, reductionism, geometry and its relation to perception, and the general concept of nature. Other articles, however, depart from this historical theme, addressing philosophical implications of chaos theory, realism vs. operationalism, philosophical problems of modern physics, and intuition and mathematical proof.

Despite some unclarity concerning thematic organization, however, Boi has compiled an impressive collection of writings that has much to offer anyone interested in the philosophy of science and its history. Further, the collection represents a more holistic, natural philosophical orientation than the narrowly focused and specialized orientation of much contemporary philosophy of science: the contributing authors here, in various ways, renew an older tradition. But to find a renewed interest in natural philosophy, particularly in diverse natural philosophical issues, is not necessarily to find collaborative effort on a unified project or an emerging consensus regarding a holistic conception of nature. It may well be that Boi is right, that a new natural philosophy is on the horizon. A contemporary proponent of the metaphysics of disorder or of scientific disunity, however, would most likely not see in this collection a threat to their convictions.

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The Logic and Methodology of Science in Early Modern Thought: Seven Studies.

Fred Wilson. *x + 602pp.* Toronto: University of Toronto Press, 1999. \$ Canadian 95.00 / £65

Fred Wilson's studies are clear and informative, and the detail is ample, especially concerning Ramus, Bacon, Descartes, Arnauld, Locke, Berkeley, and Hume. Substantial supporting roles are provided for Aristotle, Aquinas, Scotus, Ockham, Galileo, Harvey, Hobbes, Malebranche, Leibniz, Newton, and Mill; minor roles go to Plato, Suarez, Huet, and Glanvill.

This volume is a collection of related essays in early modern logic and philosophy, rather than a unified study, but historical and polemical threads run throughout. The author argues for these general historical themes:

What came with the new science was a new metaphysics and a new epistemology, a new notion of what reason is and what is to count as a reason for things happening. (xvi)

and

Like Cohen, [Kuhn] stresses the continuity of the developments in a way that obscures the fact that part of what was going on in the rise of the new science of Galileo, Boyle, and Newton was the elimination of all attempts to ground explanations in the natures of things. (xvii)

The focus of the collection is on conceptual shifts in ontology and attendant shifts in logic and method for empirical investigation. Wilson promotes some very challenging theses, especially with respect to Hobbes and

Descartes. His focus on theories of mind is innovative and his use of conceptual and historical examples is often good. Wilson is also especially concerned to explain conceptual developments historically, as the presentation of work by less canonical figures such as Glanvill and Huet suggests. That history is set explicitly within the familiar categories of Scholastics, Rationalists, and Empiricists. Yet Wilson's treatment of historical development, as distinct from his study of conceptual change, presents significant weaknesses.

Wilson's first and lengthiest study concerns the developing methodology of science in the 17th and 18th centuries. The cognitive aims of the new science as expressed in Galileo's writing (60) and Bacon's methods of agreement and difference (10ff.) provide a new use for experiment and a new explanatory practice. Wilson suggests that, "...where Aristotle explains the events of the world of sense experience by appeal to a *timeless entity outside* the world of sense experience, Bacon and Descartes (and Hempel) explain the events of the world of sense experience by appeal to a *timeless pattern in* the world of sense experience." Descartes, and even Locke, however, do not yet 'succeed' at eliminating the 'dross' of real essences in service of this empiricist method. Instead, history awaits Newton, Hobbes, and

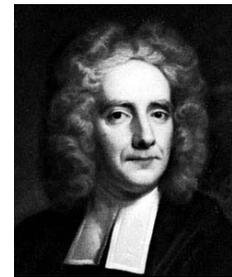
Hume. (121) The schematic, developmental, and triumphalist approach represented in this example indicates the sort of conceptual development that Wilson often concerns himself with in this volume.

Wilson continues with metaphysics and method in the fourth study by arguing that Hobbes belongs among the empiricists. Unfortunately, Wilson here neglects a good deal of recent work concerning Hobbes. The fifth study examines the link between Bacon and Hume with respect to Hume's "rules by which to judge of causes", and notes numerous French and English treatments of this concern, dated mostly before 1700.

Wilson's second study concerns the weakness of the link between Aristotelian syllogistic logic and a distinct logic for the purpose of inquiry. The logical work of Chrysippus, and Cicero come in for very helpful comparison with Aristotle, for some of their concerns are found reflected in those of Ramus, Port Royal, and Burgersdijk. The dialogue between Locke and Sergeant is also especially noteworthy. In Wilson's third study, treatment of logic is extended to Berkeley's ontology. In keeping with his focus on the elimination of essence ontology, Wilson finds in Berkeley "a new ontology, in which predication no longer represents the relation between a property and a substance but rather the relation between a property and a whole [collection of properties] of which it is a part." (270)

Wilson's final pair of studies

concern early Modern arguments for the existence of a necessary being. Wilson argues that scholasticism provides support for a system of explanation that promotes the concept of a necessary being. The final study—the only one not to have some elements published prior to this volume—argues that Descartes' first truth was not the *cogito ergo sum* but the first proof of God's existence. (418, 490) Wilson finds Descartes to be pursuing a novel line of attack against skepticism. Clearly, the thesis disconnects the Cartesian circle, as Wilson notes. (500ff.)



Samuel Clarke (1675-1729)

There is a good deal of very useful historical comparison in this volume to complement conceptual clarity. There is also a tension of purpose between conceptual and historical development. Wilson often writes broadly of the goals of scholastics, rationalists and empiricists, and suggests that individuals were engaged in intellectual dialogue that may be properly understood from the framework of those categories.

However, we are left wondering whether his study tells us much about the actors' goals. For example, Wilson is concerned to explain the rise of Newtonian science and method over Cartesian approaches, and on occasion

Review of Wilson

he asks clearly historical questions, such as, “What brought about this change?” (83) Wilson cites, to good effect, Newtonian criticism of Jacques Rohault in the English edition of Rohault’s *Système du Monde*, edited by John and Samuel Clarke (82–3). This criticism is found in an edition of 1723, however, and though Rohault published in 1671, he did not live to see the publication of Newton’s *Principia Mathematica* in 1687. The evidence cited, then, hardly shows what brought about the change; it simply shows that water has passed under the bridge in the intervening half-century. We learn nothing of whether Samuel Clarke’s criticism was historically significant; finer slices of time and a different form of argument are required for this. The author might have considered that some of Clarke’s criticism dates from 1697; perhaps a comparison with Regis’ work, or citation of an actual exchange between camps, would help make the comparison something other than purely conceptual. In Wilson’s treatment, the empiricists generally follow the rationalists, rather than being matched to available contemporaries. The rationalists themselves follow the Aristotelians, or—rather too often—Aristotle himself, since Wilson is loath to engage what he calls the “bastard tradition in late scholastic textbooks” (18) to which Descartes, for one, explicitly claimed to be responding.

Wilson arrives at these general conclusions:

As Galileo and Boyle, among many, argued, the

older methods had not achieved their ends. This suggested that those older Aristotelian and rationalist cognitive ends could not be achieved. (xx)

and

To claim that the new science that arose in the early modern period is empiricist is to claim that the views of Hume and of the logical positivists of the 1930s about the nature of causation and of explanation are largely correct. (xxi)

Such brief summary by Wilson, like a one-thousand word review, hardly suffices for a volume of 600 pages. Conceptual development is clear here; historical dialogue and intellectual development less so. The first of Wilson’s overarching conclusions is well-played as conceptual study. It is weak as historical explanation where Wilson wishes to perform that work, however. For against whom, explicitly, did Galileo, Boyle, and many others argue about ends, and whom did they convince? Wilson’s result is, at times, jarring whiggish history.

His second conclusion is philosophically interesting, though entirely ahistorical. Wilson does such work well—offering, for example, an illuminating synthesis of Aristotelian logic, epistemology, theory of mind, and metaphysics (cf. 18–50, esp. 46). I recommend this book, from which there is plenty to learn, for its clarity of expression and insight.

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Baron d’Holbach, The System of Nature, vol I. Adapted from original translation by H.D. Robinson, 1868; Introduced by Michael Bush; Greek and English Translation by Alastair Jackson, 296 pp. Manchester, UK: Clinamen Press 1999, £16.99 / \$35.00

It is an open question how much the average historian of philosophy of science knows about 18th c materialism. A further question is whether they should know anything about it—and a new translation of d’Holbach’s *Système de la Nature* focuses our attention on whether that Franco-German Enlightenment author’s work help toward learning about 18th c materialism.

The first question probes the centrality of 18th c materialism in the historiography of Enlightenment science and philosophy of science. A sketchy overview of 20th c scholarship in this domain may provide a quick answer.

English-language scholarship approaches the issue of Enlightenment materialism mainly indirectly, via an examination of theories of matter, motion and mind-body relations in canonical figures of the 17th and 18th centuries (usually from Descartes to Berkeley). There is, thus, abundant literature on the concept and theories of *matter* in individual philosophers but relatively little on the multiple dimensions and ramifications of the (problematic) concept of *materialism* in the early modern period. Notable contributions are Schofield’s *Mechanism and Materialism* (Princeton, 1970) and Yolton’s *Thinking Matter* (Oxford, 1984), which examine the issue of materialism in the light of post-Newtonian active matter

theories, and post-Lockean debates on ‘thinking matter’ in eighteenth-century Britain, respectively. With the exception of Yolton’s later work, *Locke and French Materialism* (Oxford, 1991), the texts of the so-called French materialists (La Mettrie, d’Holbach, Diderot) are generally ignored by English-speaking historians of science and philosophy of science.

French scholarship, on the other hand, works in a different direction. It pays much more attention to historical, cultural, theological and polemical aspects of materialism, than to technical analyses of arguments and concepts in ‘materialist’ texts. The work available on French materialism, in particular, involves an examination of its main representatives from the point of view of the history of ideas, rather than history of philosophy or science, strictly defined. German scholarship follows a similar path. Given the critical reception of French materialism by Marx, Engels, and the whole tradition of Marxist and post-Marxist criticism, there is greater affinity between continental accounts of 18th c materialism than between the two sides of the Channel.

If you find yourself not knowing much about 18th c materialism, this may be a function of the subject’s peculiar position in Enlightenment historiography: materialist texts and thinkers are either (comparatively) mar-

Review of *d'Holbach*

ginalized in anglo-saxon histories of philosophy and science, or simply relegated to a different field of study on the Continent.

Yet why should historians want to know more about 18th c materialism? The reasons are varied. First, Enlightenment discussions on materialism offer a fascinating example of the essential entanglement of science with metaphysics, theology, and ethics in the early modern period. More specifically, they provide an important entrée into Newtonian and post-Newtonian matter theory, its interaction with 18th c chemistry, physiology, and natural history—and its varied appropriations in British, French and German thought. Moreover, 18th c materialism constitutes a sustained attempt to counteract Descartes' dualism and, more generally, to overcome the limitations of 17th c mechanical explanations. Given that our contemporary discussions on materialism generally trace the origin of the mind-body problem as we know it to the infamous Cartesian moment, studying early modern reactions to that problematic division may elucidate current usage of the relevant concepts and categories.



Paul Henri Thiry,
Baron d'Holbach (1723-1789)

Given that 18th c materialism seems relevant and attractive,

would a newly revised translation of d'Holbach's *Système de la Nature* enhance one's understanding of this historical moment? Yes—but with some qualifications.

German-born and French-raised, d'Holbach was an extremely prolific writer, editor, and translator. The two-volume *Système de la Nature* provides an impressive exposition of the fundamental cosmological, psychological, and ethical principles of his thought and has been fairly characterized as his *pièce maitresse*. It is also the most systematic and comprehensive exposition of atheistic materialism in the Enlightenment, and as such constitutes an indispensable guide to the study of the period. First published in 1770, the *Système* appeared in several re-editions during the 18th and 19th centuries, including several English and German translations. Today the text is available in two standard French versions: the Paris, 1990 edition reproduces the 1781 version and the Hildesheim, 1966 edition reproduces the text of 1821—which first revealed the author's identity but also attributed to Diderot revisions, corrections, and the addition of certain notes to the text. The English translation in question here is the second one to appear in this century and the second reproduction of a 19th c translation. In itself, this reproduction would not be so consequential if there weren't problems with the 1868 English edition in the first place. These problems are both philological and philosophical in nature.

First, H.D. Robinson, the original translator, seems to have followed the 19th c tradition of rather free adaptations of the *Système*. Although Robinson's edition provides a more or less accurate translation of the main body of the text, as it appears in the French 1821 edition, it nevertheless incorporates a number of notes entirely absent from any versions of the French texts—and clearly invented by the 'translator' himself, as well as omitting many others. Unfortunately, the current editor of this 19th c reproduction not only has neglected these deviations from the original text but—to add to the confusion—has incorporated his own occasional clarifications of 19th c terms, again without notifying the reader. The result is multiple strata of notes, which may not confuse the casual reader but will disorientate those who intend to do scholarly work based on the English translation of the *Système*.

The second point is philosophical: although the Robinson translation of the core text is readable and accurate overall, it has a substantial disadvantage against the original in relation to key-concepts of d'Holbach's materialism. The *Système* builds a post-mechanistic ontology of active matter, at once setting itself against traditional conceptions of 'substance' and corpuscularian models of qualitatively undifferentiated and inherently passive atoms. Influenced by 18th c theories of chemical affinities, d'Holbach posits the existence of heterogeneous material elements essentially endowed with inner forces of 'elective' attractions and

repulsions. Distancing himself from mechanistic atomism, d'Holbach avoids any reference to 'atoms' or 'particles' and uses exclusively the terms 'molécules', 'matières différentes' and 'éléments' to designate the physico-chemical composition of simple material bodies. Moreover, he draws a clear distinction between the nominal function of the concepts of 'matter' and 'motion' (designated as 'matière' and 'mouvement') and the actual plurality of the essentially varied 'matters' and 'motions' to be found in nature (designated in plural form as 'matières' and 'mouvements'). These subtle yet important distinctions are lost in the English edition, which translates 'particles' for 'matières' or 'molécules' and uses 'matter and motion' uniformly for both the singular and plural modes of the French text. As a consequence, d'Holbach's materialism appears much less differentiated from the whole tradition of mechanical atomism than it is actually meant to be.

Despite the limitations of this current edition, the availability of the *Système* in English translations is an essential precondition for a renewal of interest in 18th c materialism. One hopes, however, that the second volume to appear will at least notify the reader of any interventions in the standard French versions of this important text.

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The Social Construction of What?

Ian Hacking, 272 pp. Cambridge, MA: Harvard University Press 1999 \$17.95 (pb).

As the title of the book suggests, this helpful introduction to current academic controversies is concerned with what exactly is it that is said to be socially constructed. Is it the things themselves? Or just our ideas about them? Both? Or something else entirely? Hacking divides the issue into two parts. The first concerns the debates over the social construction of the natural sciences. Here he presents a fair-minded analysis of the commitments on both sides and lets us know where he stands. The second concerns the way in which the term 'social construction' is used in talking about human affairs. Here he provides an account of how people react to the way in which they are classified and how that results in the need to constantly revise these classifications.

The first half of the book deals more directly with these philosophical issues while the second half includes case studies that develop some of these ideas further and illustrate the strengths and weaknesses of different approaches to understanding science. These later chapters include his own case studies of our changing conceptions of child abuse and the mineral dolomite as well as discussions of a wide range of case studies by other scholars. The book ends with a chapter about the anthropological controversy over the Hawaiian deification of Captain Cook, which provides Hacking with the opportunity to explain his own unabashedly universalist ideas about human nature.

Although much of this material has been published elsewhere, not all of it is readily available and it is useful to have it all brought together in one book.

I have used it with some success in my undergraduate philosophy of science course, as it is a very readable introduction to the views of constructionists like Andrew Pickering, Bruno Latour, and Steve Woolgar, as well as scientists who oppose constructionism, like Steven Weinberg. It also gives brief accounts of a variety of others, including those thinkers from Kant through Russell and Carnap to Goodman who belonged to an older constructionist tradition. I have also been recommending Hacking's book to my constructionist colleagues in History and English, hoping that it will help them understand why many philosophers are less than enthusiastic about social construction.

Hacking rightfully regards the term 'social construction' as a 'miasma'. He finds it so faddish and over-used that in many cases it is no longer clear what is meant by it. 'Construction' could refer to either process or product, or it could mean something more like 'construal' instead. Most social constructionists, he thinks, have totally lost sight of the original metaphor of building or assembling from parts. He regards the term 'social' as largely redundant, especially when people talk about things like the social construction of childhood or gender. How else would they be constructed, if not socially? The term 'social' seems to function largely to distinguish the new from the older schools of constructionist thought in philosophy and mathematics, which Hacking thinks have been more faithful to the construction metaphor.

What Hacking does find common to current uses of the term is the notion of contingency. That is, when people say that

some thing is socially constructed, typically their point is that this thing is not inevitable. Sometimes they also mean that there is something wrong with it and that it ought to be changed. With respect to social constructionist writing about the natural sciences, he finds that Pickering's *Constructing Quarks* (1984) best represents the first usage. According to Hacking, what Pickering means by his title is not that simply our ideas of quarks are socially constructed. Rather, Pickering's claim is that it was not inevitable that high-energy physics would turn to quarks in the 1970s. Hacking makes it clear that this claim is not just another instance of the tiresome thesis of the underdetermination of theory choice. Rather, Pickering's point is that it was not inevitable that even a successful physics would arrive at a specifically quarky fit among theory, auxiliary assumptions, data, interpretation of experimental results, and experimental apparatus. The development of science is like biological evolution: no particular path is pre-determined.

Even scientists who think that Pickering's got his history right tend to think that it is inconceivable that physics could have taken some other path. Hence, Hacking regards the issue of the inevitability versus the contingency of the development of science as the first of three 'sticking points' in the debates over social construction. Indeed, Hacking is least sympathetic to constructionism on this point. For instance, our interest in the mineral dolomite may be a contingent matter, but once we ask about its chemical composition, he believes that an answer that involves magnesium carbonate is inevitable. In the chapter titled 'Weapons Research', which actually discusses a variety of different case studies, he puts the point somewhat differently.

Here he says that only the form and not the content of our knowledge is a contingent affair. The form of knowledge includes the questions we ask, our ways of answering them, and our criteria for good answers. For instance, Hacking holds that the fact that a laser research program ever got developed is a contingent matter that is to be explained by factors external to science. But the truth of any particular proposition that a research program happens to discover is not contingent on such factors.

The second sticking point resembles the ancient controversies between the realists and the nominalists. The current form that this debate takes is the disagreement as to whether there is a real structure inherent in things themselves and whether our classifications reflect this structure. For Hacking, the nominalist side is perhaps best represented by Latour and Woolgar's *Laboratory Life* (1979). Although he is uncomfortable with Latour and Woolgar's notion of something becoming a fact, Hacking is most sympathetic with constructionism in general with respect to its nominalist tendencies. Admittedly it is not immediately clear how he can favor nominalism given that for him the content of science is not contingent. But his geological case study provides an apt illustration. For Hacking, dolomite is a nominal kind, given that people decide at what relative proportion of magnesium and calcium carbonate to draw the line between dolomite and limestone.

The third sticking point has to do with the extent to which the stability of certain results in the sciences is to be explained in terms of external factors. The members of the Edinburgh Strong Programme are perhaps the best representatives of those who favor external explanations, although strictly speaking Hacking says they are

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not constructionists if we mean the term literally. Hacking's stand on externalism connects with his stand on the contingency of science, as he thinks that only the sorts of questions we ask and not the answers we give can be explained by external factors. Nevertheless, he makes it clear that the direction our research takes is very important for determining which answers we will get to see.

Although it may be social construction talk about the natural sciences that gets philosophers excited, Hacking finds that such talk is actually much more common in writings about human affairs. Here it has a lot more to do with things like unmasking ideology and consciousness raising than with metaphysics. Nevertheless, philosophical questions arise here as well, such as whether it is our classifications of things or the things themselves that are socially constructed, and whether these things can be both real and socially constructed. The problem of classification in the human sciences suggests to

Hacking a way to distinguish the natural from the social sciences. For Hacking, the social sciences deal mostly with 'interactive kinds', by which he means that classifications of people interact with the people being classified in virtue of the fact that they know how they are being classified and how others are treating them due to this classification. This knowledge then affects what people will do. As a result, there is a sense in which the individual as well as the classification is socially constructed. However, due to the fact that people will change their behavior in response to the way in which they have been classified, what we once said about them becomes no longer true. Hacking calls this the 'looping effect'. The objects of study in the natural sciences, on the other hand, are indifferent to the way in which they are classified; hence the natural sciences deal with what he calls 'indifferent kinds'.

Of course, some anthropologists classify long-dead people into different cultures

(Mousterian, Aurignacian), and economists and political scientists who take game-theoretic approaches to the study of rational action hardly seem to be studying kinds of people at all. But Hacking would no doubt grant all that. Anticipating a somewhat different objection to his characterization of the social sciences, he takes up the question of whether psychopathologies such as schizophrenia and childhood autism are indifferent or interactive kinds. For Hacking, this turns out to be a semantic more than a metaphysical question. Borrowing concepts from Putnam and Kripke's approach to meaning, he suggests that our stereotypes of these pathologies may be interactive kinds, while the reference of our terms for these diseases may be the underlying neuropathologies, if there are any, which would constitute indifferent kinds. For Hacking, the possibility that psychopathologies may be both indifferent and interactive kinds explains the sense in which these pathologies may be both real and socially constructed. He takes up the question of how something can be both real and so-

cially constructed again in a long chapter on child abuse. However, he is less interested in these semantic questions than in studying the ways in which classifications interact with people, a theme that he has also taken up in earlier works such as *Mad Travelers* (1998) and *Rewriting the Soul* (1995).

The Social Construction of What? may not be a contribution to HOPOS-type scholarship in the way that some of Hacking's earlier works are, such as *The Emergence of Probability* (1975). Nevertheless, it is an important book that could help constructionists and anti-constructionists alike to see each other's position clearly and to at least stop talking past one another.

It has certainly helped me to understand social construction better. And Hacking's lucid prose and dry wit, aimed at deserving targets on both sides, make it a good read, besides.

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