

## **HPS&ST Note**

### **January 2016**

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##### **# Introduction**

This HPS&ST monthly note is sent direct to about 6,600 individuals who directly or indirectly have an interest in the connections of history and philosophy of science with theoretical, curricular and pedagogical issues in science teaching, and/or interests in the promotion of more engaging and effective teaching of the history and philosophy of science. The note is sent on to different HPS lists and to science teaching lists.

The note seeks to serve the diverse international community of HPS&ST scholars and teachers by disseminating information about events and publications that connect to HPS&ST concerns.

Contributions to the note (publications, conferences etc.) are welcome and should be sent direct to the editor: Michael R. Matthews, UNSW, [m.matthews@unsw.edu.au](mailto:m.matthews@unsw.edu.au) .

##### **# ‘The Contribution of HPS to Science Literacy and Policy’, Boston University, February 26-27, 2016.**

The two-day conference and workshop is part funded by the US NSF and sponsored jointly by Boston University Centre for History and Philosophy of Science and Boston University School of Education.

The programme includes:

- Fostering Scientific Literacy through the Development of Epistemic Practices  
**Gregory Kelly** College of Education, Pennsylvania State University
- What Do We Need to Know about Embryos, and Why it Really Matters?

**Jane Maienschein**, Center for Biology & Society, Arizona State U. and Marine Biological Lab

- Teaching Ecological Citizenship and Sustainable Living in the Social Studies Classroom

**Jay Shuttleworth** College of Education, Long Island University, Brooklyn

- How I Learned to Stop Worrying about Making Little Scientists & Love Persuasion: K-12 Science Literacy

**Fouad Abd-El-Khalick** College of Education, University of Illinois at Urbana-Champaign

- Engaging Good Climate Citizens

**Andrew Light** Philosophy and Public Policy, George Mason University and World Resources Institute

- Teachers as Moral Agents? The Challenges of Teaching about and for the Environment

**Li-Ching Ho** School of Education, University of Wisconsin-Madison

- Philosophical Implications of Understanding Citizens as Science Consumers

**Rachel A. Ankeny** School of Humanities, University of Adelaide

- Engagement, the Emerging Frontier: Bridging the Divides between Science, Policy, & Citizenship

**Mahmud Farooque** School for the Future of Innovation in Society, Arizona State University

Further information from conference web site: [www.bu.edu/hps-scied/](http://www.bu.edu/hps-scied/)

Or Peter Garik [garik@bu.edu](mailto:garik@bu.edu)

## # Ernst Mach Centenary Conference 2016, University of Vienna, June 16-18, 2016.

Ernst Mach (1838-1916) – Life, Work, and Influence: An International Conference, University of Vienna and Austrian Academy of Sciences. The Call for Papers and other information is available at:

<http://www.univie.ac.at/ivc/MachCentenaryED.pdf>

Questions can be directed to the local organizer Friedrich Stadler:

[Friedrich.Stadler@univie.ac.at](mailto:Friedrich.Stadler@univie.ac.at)

Mach's reputation as a preeminent physicist, historian and philosopher needs no elaboration. Unfortunately Mach's sterling and insightful work as an educator, both a theorist and practitioner, is not as well-known in the Anglo-American community as it deserves to be. He was one of the foremost contributors to the Enlightenment Tradition in education, and more specifically in science education; however if known at all, his work is often dismissed in the more general trite dismissal of all things positivist.

Conference papers will be in the following sections:

1. Ernst Mach's Life and Work in Context
2. Mach as a Physicist and the Physicists of his Time: Planck, Boltzmann, Einstein ...
3. Mach, Biology, and the Life Sciences: Darwinism, Lamarckism, Theory of Evolution

4. Mach and Physiology, Psychology, Psychoanalysis
5. Mach and the Medical Sciences, esp. the Vienna School of Medicine
6. Mach and the History and Philosophy of Science (HPS, Historical Epistemology)
7. Mach, Didactics, and Pedagogy: Textbooks, Genetic Theory of Learning
8. Mach and „Austrian Philosophy“: F. Brentano, E. Husserl, L. Wittgenstein, K. Popper
9. Mach and the Vienna Circle/Ernst Mach Society, esp. M. Schlick (1882-1936).
10. Mach and Pragmatism: Ch.S. Peirce, W. James, J. Dewey and The Monist
11. Mach, the Social Sciences, and Politics (W.I. Lenin, F. Adler and Austro-Marxism)
12. Mach, Literature, Music, and the Arts (Impressionism, „Jung Wien“, R. Musil etc.)
13. Open Section: Topics not covered above

Special Symposium: “E. Mach, P. Duhem and French Philosophy of Science. On the Occasion of the Centenary of Pierre Duhem’s Death (1861-1916)”

### **# 1st European IHPST Regional Conference, August 22-25, 2016, Europa-Universität Flensburg, Germany**

**Chairs:** Peter Heering & Claus Michelsen ([ihpst16@uni-flensburg.de](mailto:ihpst16@uni-flensburg.de))

**Abstract** submissions by: February 14, 2016.

**Plenary speakers:**

Johannes Grebe-Ellis (Bergische Universität Wuppertal):

Hanne Andersen (University of Copenhagen)

Iwan Rhys Morus (Aberystwyth University)

[http://ihpst.net/content.aspx?page\\_id=22&club\\_id=360747&module\\_id=189361](http://ihpst.net/content.aspx?page_id=22&club_id=360747&module_id=189361)

### **# 3rd Asian IHPST Regional Conference, December 15-18, 2016, Pusan National University, South Korea.**

*Chairs:* Hae-Ae Seo (Biology Education, PNU) & Youngmin Kim (Physics Education, PNU)

*Conference Theme:* **Inquiry in Science and in Science Education: Historical, Philosophical and Pedagogical Dimensions**

This conference follows the previous very successful Asian regional meetings in Seoul (2012) and Taipei (2014).

*Pusan National University* is in Busan, South Korea’s second largest city, located on the southern coast of the country with easy high-speed train and air connection to Seoul. The Conference will open on Thursday evening with a plenary lecture and welcoming reception in the evening and on Friday and Saturday for full day presentations. The Conference will close on Sunday at lunch time and a half-day excursion will be offered in the afternoon. A pre-conference research workshop on HPS and Education themes and methodologies will be organized for graduate students and junior scholars.

*Proposals* for individual papers (1,000 words) and symposia are due by: **June 10, 2016.**

*Inquiries to:* Hae-Ae Seo ([haseo@pusan.ac.kr](mailto:haseo@pusan.ac.kr))

**# The 7th International Conference of the European Society for the History of Science (ESHS) will be held in Prague, 22 - 24 September, 2016.**

The Conference website is available at: <http://www.7eshs2016.cz>

There you will find the presentation of the Conference as well as the various deadlines for registration and submission of abstracts (<http://www.7eshs2016.cz/callforpapers/>).

The submission of stand-alone papers and symposia is now possible at the following <http://7eshs2016.guarant.eu/abstracts/>

**# Division of the History of Science & Technology (DHST) 25<sup>th</sup> International Congress, Rio de Janeiro, Brazil, 23 to 29 July 2017.**

The 25th ICHST will be held in the Praia Vermelha campus of the Federal University of Rio de Janeiro (UFRJ), located in one of the most beautiful and touristic regions in the city, served by various forms of public transport and close to important clusters of hotels, beaches, and numerous artistic and cultural attractions.

More information is available at: <http://www.ichst2017.sbhc.org.br/>



The theme of the 25th Congress is “Science, Technology and Medicine between the Global and the Local”. This theme is construed broadly, and studies of the History of Science, Technology and Medicine at the global, national and local levels, across all periods, and from a variety of methodological and historiographical approaches are encouraged.

Deadline for submission of symposia proposals is 30 April 2016.

Deadline for submission of stand-alone papers 30 November 2016

The minutes of the last meeting of the DHST Council, which took place in Beijing on 12 December 2015, have been posted on the DHST Website:

<https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGhzdHdlYi5vcmd8d3d3fGd4OjZjODI1ZmJmYWVExMzRmNWY>

*The Inter-Divisional Teaching Commission (IDTC) of the DHST/DLMPS will stage a education-related symposium during the congress. This might consist of 3, 5, 7 or more papers depending on number and quality of submissions received by 15 April 2016, thus allowing time for selection by IDTC and final submission to Congress Organising Committee by due date of 30 April.*

Proposals of 1,000 words, including title, author's name, institution and email should be sent as a Word document to the local IDTC contact person:

Andréia Guerra  
Centro Federal de Educação Tecnológica do Rio de Janeiro - CEFET-RJ  
Teknê Group  
Departamento de Pesquisa  
BRAZIL  
[aguerra@tekne.pro.br](mailto:aguerra@tekne.pro.br)

Education symposium papers ideally should connect to the Congress theme (broadly construed) and can deal with the history of science education, the utilisation of history of science in education, curriculum debates about appropriate school and university science programmes, the impact of textbooks on teaching, the role of HPS in teacher education, and other topics. All symposium presenters need to be registered for the congress.

In addition to the symposium, the IDTC will arrange a congress session on 'Engaging and Innovative Teaching in the History of Science'. More details on this will follow.

## # Recent HPS&ST Research Articles

Andersen, H., Hepburn, B. (2015). Scientific Method, *The Stanford Encyclopedia of Philosophy* (Winter Edition), Edward N. Zalta (ed.), Retrieved at: <http://plato.stanford.edu/entries/scientific-method/>

Best, N. W. (2015). Lavoisier's "Reflections on phlogiston" I: against phlogiston theory. *Foundations of Chemistry*, 17(2), 137-151. doi: 10.1007/s10698-015-9220-5 [Note: the second part of this translation is published 'online first' at the same journal with doi: 10.1007/s10698-015-9236-x]

Boudry, M., Blancke S., Pigliucci, M. (2015) What makes weird beliefs thrive? The epidemiology of pseudoscience. *Philosophical Psychology*, 28(8), 1177-1198. doi: 10.1080/09515089.2014.971946  
Retrieved at: <http://tinyurl.com/jabt5gr>

Bussotti, P. (2015). Differential Calculus: The Use of Newton's Methodus Fluxionum Et Serierum Infinitarum in an Education Context. *Problems of Education in the 21st century*, 65(39), 39-65 [discontinuous]. Retrieved at: [http://www.scientiasocialis.lt/pec/files/pdf/vol65/39-65.Bussotti\\_Vol.65\\_pec.pdf](http://www.scientiasocialis.lt/pec/files/pdf/vol65/39-65.Bussotti_Vol.65_pec.pdf)

- Désautels, J. (2015). L'idéologie de/dans l'enseignement des sciences. *Canadian Journal of Science, Mathematics and Technology Education*, 15(4), 344-350. doi: 10.1080/14926156.2015.1093204
- Ensar, F., Sallabaş, M. E. (2016). Understanding Scientific Texts: From Structure to Process and General Culture. *International Journal of Environmental & Science Education*, 11(1), 905-920. doi: 10.12973/ijese.2016.287a
- Galili, I. (2015). From Comparison Between Scientists to Gaining Cultural Scientific Knowledge: Leonardo and Galileu. *Science & Education*, 1-31- doi: 10.1007/s11191-015-9785-3 online first
- Hubert, M. (2015) Quantity of Matter or Intrinsic Property: Why Mass Cannot Be Both. [Preprint]. Retrieved at: [http://philsci-archive.pitt.edu/11806/1/mass\\_newton.pdf](http://philsci-archive.pitt.edu/11806/1/mass_newton.pdf)
- James, J., Joas, C. (2015). Subsequent and Subsidiary? Rethinking the Role of Applications in Establishing Quantum Mechanics. *Historical Studies in the Natural Sciences*, 45(5). 641-702. doi: 10.1525/hsns.2015.45.5.641 Retrieved at: <http://tinyurl.com/qy3hjhz>
- Llored, J.-P., Sarrade, S. (2015) Connecting the philosophy of chemistry, green chemistry, and moral philosophy. *Foundations of Chemistry*, 1-28. doi: 10.1007/s10698-015-9242-z online first
- Murtinho, V. (2015). Leonardo's Vitruvian Man Drawing: A New Interpretation Looking at Leonardo's Geometric Constructions, *Nexus Network Journal*, 17(2), 507-524. doi: 10.1007/s00004-015-0247-7
- Oh, J.-Y. (2015). Understanding Scientific Inquiries of Galileo's Formulation for the Law of Free Falling Motion. *Foundations of Science*, 1-12. doi: 10.1007/s10699-015-9426-y Online first
- Saglam, Y., Kanadli, S., Karatepe, V., Gizlenci, E. A., Goksu, P. (2015). Dialogic Discourse in the Classroom. *International Journal of Education in Mathematics, Science and Technology*, 3(4), 322-335 retrieved at: [http://ijemst.com/issues/3.4.6\\_Saglam\\_Kanadli\\_Karatepe\\_Gizlenci\\_Goksu.pdf](http://ijemst.com/issues/3.4.6_Saglam_Kanadli_Karatepe_Gizlenci_Goksu.pdf)
- Yoon, H.-G., Kim, B. S. (2016) Preservice Elementary Teachers' Beliefs about Nature of Science and Constructivist Teaching in the Content-specific Context. *EURASIA Journal of Mathematics, Science & Technology Education*, 12(13), 457-475. doi: 10.12973/eurasia.2016.1210a
- Rieppel, L. (2015). Plaster cast publishing in nineteenth-century paleontology. *History of Science*, 53(4), 459-491. doi: 10.1177/0073275315580954 Retrieved at: <http://tinyurl.com/q6gpo22>

## # Recent HPS&ST Related Books

Amoretti, Maria Cristina, Vassallo, Nicla (Eds.) (2016). *Meta-Philosophical Reflection on Feminist Philosophies of Science*. In *Boston Studies in the Philosophy and History of Science*, Vol. 317, Dordrecht: Springer

“This volume offers a meta-philosophical reflection on feminist philosophies of science. It emphasizes and discusses both the connections and differences between "traditional" philosophies of science and feminist philosophies of science. The collection systematically analyses feminist contributions to the various philosophies of specific sciences. Each chapter is devoted to a specific area of philosophy of science: general philosophy of science, philosophy of biology, philosophy of climate sciences, philosophy of cognitive sciences and neurosciences, philosophy of economics, philosophy of history and archaeology, philosophy of logic and mathematics, philosophy of medicine, philosophy of psychology, philosophy of physics, and philosophy of social sciences. Since some of these areas have so far rarely been addressed by feminist philosophers, this new collection provides new angles and stimulates the debate on pivotal issues that are part and parcel of both "traditional" philosophies of science and feminist philosophies of science. Using a range of different methodologies and styles, the essays all show great clarity in both arguments and contents.” (From the Publisher)

More information at:

[http://www.springer.com/gp/book/9783319263465?wt\\_mc=ThirdParty.SpringerLink.3.EPR653.About\\_eBook](http://www.springer.com/gp/book/9783319263465?wt_mc=ThirdParty.SpringerLink.3.EPR653.About_eBook)

Bloor, David (2015). *The Enigma of the Aerofoil: Rival Theories in Aerodynamics, 1909-1930*. Chicago, IL: University of Chicago Press

“David Bloor’s *The Enigma of the Aerofoil* sets out to explain the development of aerodynamics in Britain and Germany early in the twentieth century. Why, he asks, was it in Germany, and not in Britain, that practitioners produced a fusion of theory with aerofoil design when the basic concept upon which the Germans relied, that of circulation about an aerofoil with the flow treated otherwise as an ideal fluid, had long before been used by Rayleigh in Britain for the flight of a tennis ball? Bloor probes this ‘enigma,’ combining deft analysis of the technical arguments involved with a sure examination of the social frameworks within which his several protagonists worked. Along the way, he grapples with the character of reasoning and practice when scientific theory confronts engineering reality. Written by a founder of the strong program in the sociology of science, Bloor’s *Enigma* is among the very finest histories that raise these difficult and important questions—one that succeeds by refusing to break the intellectual from the social, and both from the exigencies of engineering practice.” (Jed Z. Buchwald, California Institute of Technology)

More information at: <http://press.uchicago.edu/ucp/books/book/chicago/E/bo12024403.html>

Calinger, Ronald S. (2015). *Leonhard Euler: Mathematical Genius in the Enlightenment*. New York, NY: Princeton University Press

"Comprehensive and thorough, this study of the life, work, and times of Leonhard Euler is written in an accessible style and strikes the right balance between his technical accomplishments and historical context. This will be a standard, foundational work on which all future scholarship on Euler, eighteenth-century mathematics and science, and indeed Enlightenment intellectual life will rest." (Kathryn M. Olesko, Georgetown University)

Review by Davide Castelvecchi at *Nature*, Vol. 528:

<http://www.nature.com/nature/journal/v528/n7581/pdf/528190a.pdf>

More information at: <http://press.princeton.edu/titles/10531.html>

Collins, Peter (2015). *The Royal Society and the Promotion of Science since 1960*. Cambridge, MA: CUP

“The Royal Society is one of the world's oldest and most prestigious scientific bodies, but what has it done in recent decades? Increasingly marginalised by postwar developments and the reforms of civil science in the 1960s, the Society was at risk of resting on its laurels. Instead, it found ways of exploiting its unique networks of scientific talent to promote science. Creating opportunities for outstanding individuals to establish and advance research careers, influencing policymaking at national and international levels, and engaging with the public outside the world of professional science, the Society gave fresh expression to the values that had shaped its long history. Through unparalleled access to the Society's modern archives and other archival sources, interviews with key individuals and extensive inside knowledge, Peter Collins shows how the Society addressed the challenges posed by the astounding growth of science and by escalating interactions between science and daily life.” (From the publisher)

More information at: <http://tinyurl.com/q9jgrlf>

Eldredge, Niles (2015). *Eternal Ephemera: Adaptation and the Origin of Species from the Nineteenth Century Through Punctuated Equilibria and Beyond*. New York, NY: Columbia University Press

“(…)In this riveting work, renowned paleontologist Niles Eldredge follows leading thinkers as they have wrestled for more than two hundred years with the eternal skein of life composed of ephemeral beings, revitalizing evolutionary science with their own, more resilient findings. Eldredge begins in France with the naturalist Jean-Baptiste Lamarck, who in 1801 first framed the overarching question about the emergence of new species. The Italian geologist Giambattista Brocchi followed, bringing in geology and paleontology to expand the question. In 1825, at the University of Edinburgh, Robert Grant and Robert Jameson introduced the astounding ideas formulated by Lamarck and Brocchi to a young medical student named Charles Darwin. Who can doubt that Darwin left for his voyage on the Beagle in 1831 filled with thoughts about these daring new explanations for the "transmutation" of species. Eldredge revisits Darwin's early insights into evolution in South America and his later synthesis of knowledge into a theory of the origin of species. He then considers the ideas of more recent evolutionary thinkers, such as George Gaylord Simpson, Ernst Mayr, and Theodosius Dobzhansky, as well as the young and brash Niles Eldredge and Steven Jay Gould, who set science afire with their concept of punctuated equilibria. Filled with insights into evolutionary biology and told with a rich affection for the scientific arena, this book celebrates the organic, vital relationship between scientific thinking and its subjects.” (From the Publisher)

More information at: <http://cup.columbia.edu/book/eternal-ephemera/9780231153164>

Ferreirós, José (2015). *Mathematical Knowledge and the Interplay of Practices*. Princeton, NJ: Princeton University Press.

“This book presents a new approach to the epistemology of mathematics by viewing mathematics as a human activity whose knowledge is intimately linked with practice. Charting an exciting new direction in the philosophy of mathematics, José Ferreirós uses the crucial idea of a continuum to provide an account of the development of mathematical



knowledge that reflects the actual experience of doing math and makes sense of the perceived objectivity of mathematical results.

Describing a historically oriented, agent-based philosophy of mathematics, Ferreirós shows how the mathematical tradition evolved from Euclidean geometry to the real numbers and set-theoretic structures. He argues for the need to take into account a whole web of mathematical and other practices that are learned and linked by agents, and whose interplay acts as a constraint. Ferreirós demonstrates how advanced mathematics, far from being a priori, is based on hypotheses, in contrast to elementary math, which has strong cognitive and practical roots and therefore enjoys certainty.

Offering a wealth of philosophical and historical insights, *Mathematical Knowledge and the Interplay of Practices* challenges us to rethink some of our most basic assumptions about mathematics, its objectivity, and its relationship to culture and science” (From the Publishers)

More information at: <http://press.princeton.edu/titles/10646.html>

Feyerabend, Paul (2015). *Physics and Philosophy: Philosophical Papers (Vol IV)*. (Stefano Gattei and Joseph Agassi, Eds.). Cambridge, MA: CUP

“This collection of the writings of Paul Feyerabend is focused on his philosophy of quantum physics, the hotbed of the key issues of his most debated ideas. Written between 1948 and 1970, these writings come from his first and most productive period. These early works are important for two main reasons. First, they document Feyerabend's deep concern with the philosophical implications of quantum physics and its interpretations. These ideas were paid less attention in the following two decades. Second, the writings provide the crucial background for Feyerabend's critiques of Karl Popper and Thomas Kuhn. Although rarely considered by scholars, Feyerabend's early work culminated in the first version of *Against Method*. These writings guided him on all the key issues of his most well-known and debated theses, such as the incommensurability thesis, the principles of proliferation and tenacity, and his particular version of relativism, and more specifically on quantum mechanics.” (From the Publisher)

More information at: <http://tinyurl.com/p3qhpu7>

Fors, Hjalmar (2015). *The Limits of Matter: Chemistry, Mining, and Enlightenment*. Chicago, IL: University of Chicago Press

“Fors has produced a clever and perceptive study of the chemists working at the seventeenth and eighteenth century Swedish Bureau of Mines, one of the most important centers of technical expertise and administration in early modern Europe. He uses this study to propose a remarkably ambitious and effective reinterpretation of the transformation of the European worldview: the discredit of notions of spirits, witches, and mutable nature, and their displacement by a mechanical and utilitarian system of material elements and technological systems. Fors's study shows how these fascinating changes were intimately linked with the reorganization of the institutions in which chemical experts plied their trade. As laboratories and government ministries allied themselves in the name of economic development and state power, so the places and the groups amongst which traditional beliefs about magical and occult powers flourished were simultaneously changed. Nor, so Fors urges, was this ever confined to a matter of local concern: rather, his study dramatizes the Europe-wide networks that linked chemical expertise, mining folklore and administrative policy in vividly characterized systems of exchange, debate, and controversy. This brilliant essay establishes itself as a major point of reference for future historical understanding of the relations between knowledge, culture, and society in the early modern world.” (Simon Schaffer, University of Cambridge)

More information at:

<http://www.press.uchicago.edu/ucp/books/book/chicago/L/bo19085469.html>

Guerrini, Anita (2015). *The Courtiers' Anatomists: Animals and Humans in Louis XIV's Paris*. Chicago, IL: University of Chicago Press

“The Courtiers' Anatomists is about dead bodies and live animals in Louis XIV's Paris--and the surprising links between them. Examining the practice of seventeenth-century anatomy, Anita Guerrini reveals how anatomy and natural history were connected through animal dissection and vivisection. Driven by an insatiable curiosity, Parisian scientists, with the support of the king, dissected hundreds of animals from the royal menageries and the streets of Paris. Guerrini is the first to tell the story of Joseph-Guichard Duverney, who performed violent, riot-inducing dissections of both animal and human bodies before the king at Versailles and in front of hundreds of spectators at the King's Garden in Paris. At the Paris Academy of Sciences, meanwhile, Claude Perrault, with the help of Duverney's dissections, edited two folios in the 1670s filled with lavish illustrations by court artists of exotic royal animals.

“Through the stories of Duverney and Perrault, as well as those of Marin Cureau de la Chambre, Jean Pecquet, and Louis Gayant, *The Courtiers' Anatomists* explores the relationships between empiricism and theory, human and animal, as well as the origins of the natural history museum and the relationship between science and other cultural activities, including art, music, and literature.” (From the Publisher)

More information at: <http://press.uchicago.edu/ucp/books/book/chicago/C/bo19986198.html>

Hardy, G. H., Seshu Aiyar, P. V., Wilson, B. M. (Eds.) (2015). *Collected Papers of Srinivasa Ramanujan*. Cambridge: Cambridge University Press

“Originally published in 1927, this book presents the collected papers of the renowned Indian mathematician Srinivasa Ramanujan (1887–1920), with editorial contributions from G. H. Hardy (1877–1947). Detailed notes are incorporated throughout and appendices are also included. This book will be of value to anyone with an interest in the works of Ramanujan and the history of mathematics.”

More information at: <http://tinyurl.com/j2vhu2x>

Larmour, Joseph (2015). *Mathematical and Physical Papers*. (In 2 Vols.). Cambridge, MA: Cambridge University Press.

“Joseph Larmour (1857–1942) was a theoretical physicist who made important discoveries in relation to the electron theory of matter, as espoused in his 1900 work *Aether and Matter*. Originally published in 1929, this is (...) a two-volume set containing Larmour's collected papers. The papers are presented in chronological order across the volumes, enabling readers to understand their theoretical development and framing them in an accessible form for 'future historical interests'. Authorial notes and appendices are also included. This book will be of value to anyone with an interest in the work of Larmour, mathematics physics and the history of science.” (From the publisher)

More information at: <http://tinyurl.com/hzedfcc>

Lightman, Bernard (Ed.) (2015). *Global Spencerism: The Communication and Appropriation of a British Evolutionist*. Leiden: Brill

“Today the name most closely associated with evolutionary theory is Charles Darwin. Given Darwin’s immense reputation it is easy to forget that Herbert Spencer, in his time, was just as famous as Darwin. It turns out that Spencer’s evolutionary thought was not what necessarily appealed to many of his readers, since they had their own sense of his identity and importance. By focusing on Spencer the evolutionist, scholars have tended to concentrate their attention on a rather narrow view of him that has come out of Anglo-American appropriations of his thought.

Spencer was one of the first international, public intellectuals whose views on psychology, religion, sociology, ethics, education, and biology captured the imagination of readers all over the world. The chapters will cover the communication and appropriation of Spencer’s ideas in Russia, the Middle East, China, Japan, Mexico, Argentina, Brazil, the United States, Italy, Scandinavia, and France.” (From the Publisher)

More information at: <http://www.brill.com/products/book/global-spencerism>

Middleton, Peter (2015). *Physics Envy: American Poetry and Science in the Cold War and After*. Chicago, IL: UCP

“At the close of the Second World War, modernist poets found themselves in an increasingly scientific world, where natural and social sciences claimed exclusive rights to knowledge of both matter and mind. Following the overthrow of the Newtonian worldview and the recent, shocking displays of the power of the atom, physics led the way, with other disciplines often turning to the methods and discoveries of physics for inspiration.

“In *Physics Envy*, Peter Middleton examines the influence of science, particularly physics, on American poetry since World War II. He focuses on such diverse poets as Charles Olson, Muriel Rukeyser, Amiri Baraka, and Rae Armantrout, among others, revealing how the methods and language of contemporary natural and social sciences—and even the discourse of the leading popular science magazine *Scientific American*—shaped their work. The relationship, at times, extended in the other direction as well: leading physicists such as Robert Oppenheimer, Werner Heisenberg, and Erwin Schrödinger were interested in whether poetry might help them explain the strangeness of the new, quantum world. *Physics Envy* is a history of science and poetry that shows how ultimately each serves to illuminate the other in its quest for the true nature of things.” (From the Publisher)

More information at: <http://press.uchicago.edu/ucp/books/book/chicago/P/bo21386488.html>

Moreno, A., Mossio, M. (2015) *Biological Autonomy: A Philosophical and Theoretical Enquiry*. Dordrecht: Springer

“This volume provides a comprehensive overview of issues in the philosophy of biology and how these relate to current concerns of theoretical biology. The authors articulate their case for the autonomous perspective, respond to criticisms of their positions, and point toward further philosophical and theoretical work. Some issues in the larger public discourse about philosophical issues in biology are not addressed, such as those of the evolution-creation debates or challenges from intelligent-design theory (see for example <http://hssf.faculty.fullerton.edu/liberal/jhofmann>). These are circumscribed because of their commitment to Kant’s distinction of organisms from machines and to a fully naturalized approach to biological phenomena. This book allows a reader interested in understanding the current status of philosophy of biology access to the key issues and contributors as well as the case for the particular approach advocated by Moreno and Massio. I could imagine that *Biological Autonomy* could be an effective resource in upper-division courses and graduate seminars on

philosophy of biology and/or theoretical biology.” (Bruce H. Weber, California State University)

Complete Review of Bruce Weber at: <http://link.springer.com/article/10.1007/s11191-015-9790-6/fulltext.html>

More information at: <http://link.springer.com/book/10.1007/978-94-017-9837-2?no-access=true>

Parak, Gisela (2015). *Photographs of Environmental Phenomena: Scientific Images in the Wake of Environmental Awareness, USA 1860s-1970s*. Bielefeld, Germany: Transcript-Verlag

“Well before today's debates on global warming and climate change, photographic images have played an important role in educating the general public about the wonders of nature and the destruction of the global environment. Most now-iconic images have historical precursors. Gisela Parak illuminates how the interrelationship of photography and science gave rise to a genre of photographs of environmental phenomena. She emphasizes the power of these images to support and instruct the scientific pursuit of knowledge, as well as their potency as a means of persuading and shaping public opinion.”

More information at: <http://tinyurl.com/hbpbaj8>

Rabins, Peter (2015). *The Why of Things: Causality in Science, Medicine, and Life*. New York, NY: Columbia University Press

“Why was there a meltdown at the Fukushima power plant? Why do some people get cancer and not others? Why is global warming happening? Why does one person get depressed in the face of life's vicissitudes while another finds resilience?”

Questions like these--questions of causality--form the basis of modern scientific inquiry, posing profound intellectual and methodological challenges for researchers in the physical, natural, biomedical, and social sciences. In this groundbreaking book, noted psychiatrist and author Peter Rabins offers a conceptual framework for analyzing daunting questions of causality. Navigating a lively intellectual voyage between the shoals of strict reductionism and relativism, Rabins maps a three-facet model of causality and applies it to a variety of questions in science, medicine, economics, and more.

Throughout this book, Rabins situates his argument within relevant scientific contexts, such as quantum mechanics, cybernetics, chaos theory, and epigenetics. A renowned communicator of complex concepts and scientific ideas, Rabins helps readers stretch their minds beyond the realm of popular literary tipping points, blinks, and freakonomic explanations of the world.” (From the Publisher)

More information at: <http://cup.columbia.edu/book/the-why-of-things/9780231164733>

Thorson, Robert M. (2015). *Walden's Shore: Henry David Thoreau and Nineteenth-Century Science*. Cambridge, MA: Harvard University Press.

“(…) Robert M. Thorson is interested in Thoreau the rock and mineral collector, interpreter of landscapes, and field scientist whose compass and measuring stick were as important to him as his plant press. At Walden's climax, Thoreau asks us to imagine a “living earth” upon which all animal and plant life is parasitic. This book examines Thoreau's understanding of the geodynamics of that living earth, and how his understanding informed the writing of Walden.

“The story unfolds against the ferment of natural science in the nineteenth century, as Natural Theology gave way to modern secular science. That era saw one of the great blunders in the history of American science—the rejection of glacial theory. Thorson demonstrates just how close Thoreau came to discovering a “theory of everything” that could have explained most of the landscape he saw from the doorway of his cabin at Walden. At pivotal moments in his career, Thoreau encountered the work of the geologist Charles Lyell and that of his protégé Charles Darwin. Thorson concludes that the inevitable path of Thoreau’s thought was descendent, not transcendental, as he worked his way downward through the complexity of life to its inorganic origin, the living rock.” (From the Publisher)

More information at: <http://www.hup.harvard.edu/catalog.php?isbn=9780674088184>

Usselman, Melvyn C. (2015). *Pure Intelligence: The Life of William Hyde Wollaston*. Chicago, IL: University of Chicago Press.

"During the first thirty years of the nineteenth century William Hyde Wollaston’s contemporaries considered him Britain’s greatest natural philosopher, yet today he is almost a forgotten figure. After two centuries of obscurity Wollaston is vividly brought to life in Usselman’s long-awaited and aptly titled biography. Based upon a thirty-year study of Wollaston’s extraordinary wide range of publications, laboratory notebooks, letters and business records, Usselman tells the story of a polymath physician who entered a secret partnership to manufacture platinum metals and organic chemicals and found himself in an embarrassing but fascinating ethical dilemma; a brilliant analytical chemist who played a crucial role in the development of crystallography and the atomic theory; a physicist whose contributions to optics and instrument-making were fundamental; and a man who was at the cultural center of British science. This is a brilliant study of a neglected genius." (William Brock, University of Leicester)

More information at: <http://press.uchicago.edu/ucp/books/book/chicago/P/bo19986267.html>

Walsh, D. M. (2015). *Organisms, Agency, and Evolution*. Cambridge, MA: Cambridge University Press

“The central insight of Darwin's Origin of Species is that evolution is an ecological phenomenon, arising from the activities of organisms in the 'struggle for life'. By contrast, the Modern Synthesis theory of evolution, which rose to prominence in the twentieth century, presents evolution as a fundamentally molecular phenomenon, occurring in populations of sub-organismal entities - genes. After nearly a century of success, the Modern Synthesis theory is now being challenged by empirical advances in the study of organismal development and inheritance. In this important study, D. M. Walsh shows that the principal defect of the Modern Synthesis resides in its rejection of Darwin's organismal perspective, and argues for 'situated Darwinism': an alternative, organism-centred conception of evolution that prioritises organisms as adaptive agents. His book will be of interest to scholars and advanced students of evolutionary biology and the philosophy of biology.” (From the Publisher)

More information at: <http://tinyurl.com/pj98c8k>

Wishnizer, Avner (2015). *Reading Clocks, Alla Turca: Time and Society in the Late Ottoman Empire*. Chicago, IL: University of Chicago Press

“The social construction of time is an astonishingly difficult topic to pursue, and Wishnitzer brilliantly mines almanacs, timetables, and schedules for what they can reveal about how the

peoples of the Ottoman Empire experienced and discussed time—but more impressively, he brings his analytical skills to bear on literary sources one might not expect, notably poetry, to broaden and deepen his account. Through a nuanced reading of these varied sources, *Reading Clocks, Alla Turca* demonstrates that there was no sudden shift from the seasonally oriented forms of reckoning time that prevailed among the Ottomans before the modern period, to the abstract, homogeneous form of time which dominates modern life today. This is an ambitious and important examination.” (Paul Sedra, Simon Fraser University)

More information at:

<http://www.press.uchicago.edu/ucp/books/book/chicago/R/bo20145351.html>

Woodard, William R. (2015). *Hermann Lotze: An Intellectual Biography*. Cambridge, MA: Cambridge University Press

“As a philosopher, psychologist, and physician, the German thinker Hermann Lotze (1817–81) defies classification. Working in the mid-nineteenth-century era of programmatic realism, he critically reviewed and rearranged theories and concepts in books on pathology, physiology, medical psychology, anthropology, history, aesthetics, metaphysics, logic, and religion. Leading anatomists and physiologists reworked his hypotheses about the central and autonomic nervous systems. Dozens of fin-de-siècle philosophical contemporaries emulated him, yet often without acknowledgment, precisely because he had made conjecture and refutation into a method. In spite of Lotze's status as a pivotal figure in nineteenth-century intellectual thought, no complete treatment of his work exists, and certainly no effort to take account of the feminist secondary literature. *Hermann Lotze: An Intellectual Biography* is the first full-length historical study of Lotze's intellectual origins, scientific community, institutional context, and worldwide reception.” (From the publisher)

More information at: <http://tinyurl.com/ptpuy9e>

Wilson, David Sloan, (2015). *Does Altruism Exist?: Culture, Genes, and the Welfare of Others*. Yale University Press Book

“Does altruism exist? Or is human nature entirely selfish? In this eloquent and accessible book, famed biologist David Sloan Wilson provides new answers to this age-old question based on the latest developments in evolutionary science.

From an evolutionary viewpoint, Wilson argues, altruism is inextricably linked to the functional organization of groups. “Groups that work” undeniably exist in nature and human society, although special conditions are required for their evolution. Humans are one of the most groupish species on earth, in some ways comparable to social insect colonies and multi-cellular organisms. The case that altruism evolves in all social species is surprisingly simple to make.

Yet the implications for human society are far from obvious. (...) The quality of everyday life depends critically on people who overtly care about the welfare of others. Yet, like any other adaptation, altruism can have pathological manifestations. Wilson concludes by showing how a social theory that goes beyond altruism by focusing on group function can help to improve the human condition. (From the Publisher)

Review by Erika Iyengar at *American Biology Teacher* Vol. 77, N. 9

<http://tinyurl.com/jleez69>

Wulf, Andrea (2015). *The Invention of Nature: The Adventures of Alexander von Humboldt, the Lost Hero of Science*. London: John Murrey

“Andrea Wulf’s marvellous book should go a long way towards putting this captivating eighteenth century German scientist, traveller and opinion-shaper back at the heart of the way we look at the world which Humboldt helped to interpret, and whose environmental problems he predicted. She has captured the excitement and intimacy of his experiences within the pages of this irresistible and consistently absorbing life of a man whose discoveries have shaped the way we see.” (by Miranda Seymour)

"The Invention of Nature is a big, magnificent, adventurous book – so vividly written and daringly researched – a geographical pilgrimage and an intellectual epic! With brilliant, surprising, and thought-provoking connections to Simón Bolívar, Charles Darwin, William Herschel, Charles Lyell, Walt Whitman, Edgar Allen Poe, Henry David Thoreau, George Perkins Marsh... The book is a major achievement." (By Richard Holmes)

Brain Pickings’ review at: <https://www.brainpickings.org/2015/12/07/the-invention-of-nature-humboldt-wulf/>

More information at: <http://www.andreawulf.com/>

## # HPS&ST Related Conferences

February 26-27, 2016, ‘The Contribution of HPS to Science Literacy and Policy’, Boston University Centre for History and Philosophy of Science, and Boston University School of Education.

Details from: Peter Garik [garik@bu.edu](mailto:garik@bu.edu)

February 26-27, 2016, Meeting of the South Carolina Society for Philosophy (Biennial Joint Meeting with the North Carolina Philosophical Society)

Details at: <http://www.southcarolinaphilosophy.org/>

March 11-12, 2016, University of Washington Graduate Student Conference: Theme: Values in Science, Seattle, WA, USA.

Details at: <http://tinyurl.com/qj5dh63>

March 17-19, 2016, 16<sup>th</sup> Annual Meeting of the Southern Association for the History of Medicine and Science (SAHMS), Las Vegas, NV, USA.

Details at: <http://www.sahms.net/sahms-2016-las-vegas.html>

March 31-2, 2016, 9th conference of the Munich-Sydney-Tilburg (MuST) conference series, Munich, Germany

Details at: <http://www.must2016.philosophie.uni-muenchen.de/index.html>

April 6-10, 2016, Third Biennial Early-Career Conference for Historians of the Physical Sciences, Annapolis, MD, USA.

Details at: <http://tinyurl.com/o7hn765>

April 7-9, 2016, British Society for Literature and Science Conference, University of Birmingham, England

Details from: Will Tattersdill, [w.j.tattersdill@bham.ac.uk](mailto:w.j.tattersdill@bham.ac.uk)

April 14-17, 2016, NARST annual conference, Baltimore, MD, USA.

Details at: <https://www.narst.org/annualconference/2016conference.cfm>

April 21-23, 2016 Nordic Network for Philosophy of Science Fourth Annual Meeting, Tartu, Estonia.

Details at: <https://nnpscience.wordpress.com/meetings/tartu-2016/>

May 18-29, 2016, Models and Simulations 7 Conference (MS7), Barcelona, Spain.

Details at: <http://www.ub.edu/ms7/>

- May 19-26, 2016, 3rd Annual Meeting of the Consortium for Socially Relevant Philosophy of/in Science and Engineering (SRPoiSE), Richardson, Texas, USA  
Details at: <http://www.utdallas.edu/c4v/cfp-srpoise-vmst-2016/>
- May 19-26, 2016, 6th Annual Values in Medicine, Science, and Technology Conference, Richardson, Texas, USA  
Details at: <http://www.utdallas.edu/c4v/cfp-srpoise-vmst-2016/>
- May 26-28, 2016, 23<sup>rd</sup> Symposium on Chemical and Science Education, Dortmund, Germany  
Details at: <http://www.chemiedidaktik.uni-bremen.de/symp2016/>
- May 28-30, 2016, Annual Conference of the Canadian Society for the History and Philosophy of Science (CSHPS), Calgary, Canada  
Details at: <http://www.yorku.ca/cshps1/meeting.html>
- May 29-31, 2016, Annual Meeting of the Canadian Society for History and Philosophy of Mathematics (CSHPM), Calgary, Canada  
Details at: <http://www.cshpm.org/meeting/>
- June 16-18, 2016, Ernst Mach Centenary Conference, University of Vienna, Austria.  
Details at: <http://sshap.org/2015/08/13/cfp-ernst-mach-centenary-conference-2016/>
- June 17-19, 2016, 6<sup>th</sup> Conference of the Society for the Philosophy of Science in Practice (SPSP), Glassboro, NJ, USA.  
Details at: <http://www.philosophy-science-practice.org/en/events/sixth-spsp-glassboro-nj-2016/>
- June 20-24, 2016, 12th International Conference of the Learning Sciences, Nanyang Technological University, Singapore  
Details at: <https://www.isls.org/icls/2016/theme.html>
- June 22-25, 2016, Eighth Joint Meeting of the BSHS, CSHPS, and HSS, Edmonton, Alberta, Canada.  
Details at: [www.uab.ca/3societies](http://www.uab.ca/3societies)
- June 22-25, 2016, History of Philosophy of Science (HOPOS) annual conference, University of Minneapolis, USA.  
Details at: <http://hopos2016.umn.edu/>
- June 22-26, 2016, Annual Meeting of the Society for the History of Technology (SHOT), Singapore  
Details at: [http://www.historyoftechnology.org/call\\_for\\_papers/index.html](http://www.historyoftechnology.org/call_for_papers/index.html)
- July 3-5, 2016, Sixth Integrated History and Philosophy of Science conference (&HPS6) Edinburgh.  
Details at: <https://philosophyofsciencenetwork.wordpress.com/hps6/>
- July 16-18, 2016, 18th UK-European Foundations of Physics Conference, London, UK.  
Details at: <http://www.lse.ac.uk/philosophy/blog/2015/10/01/foundations-2016/>
- July 18-22, 2016, History and Pedagogy of Mathematics, Montpellier, France  
Details at: <http://hpm2016.sciencesconf.org/resource/page/id/2>
- July 26-30, 2016, 43<sup>rd</sup> ICOHTEC meeting: Technology, Innovation, and Sustainability: Historical and Contemporary Narratives. Porto, Portugal  
Details at: <http://www.icohtec.org/annual-meeting-2016-cfp.html>
- August 1-4, 2016, 20th International Conference on Philosophy of Chemistry, Boca Raton, USA  
Details at: <https://sites.google.com/a/fau.edu/ispc2016/>
- August 10-13, 2016, Annual Meeting of the Cognitive Science Society, Philadelphia, MA, USA  
Details at: <http://cognitivesciencesociety.org/conference2016/index.html>
- August 22-25, 2016, 1<sup>st</sup> European IHPST Regional Conference, Flensburg, Germany



Details at:  
[http://ihpst.net/content.aspx?page\\_id=22&club\\_id=360747&module\\_id=189361](http://ihpst.net/content.aspx?page_id=22&club_id=360747&module_id=189361)

August 26-28, 2016, International Conference of East-Asian Association for Science Education, Tokyo, Japan.  
Details at: <http://ease2016tokyo.jp/>

September 22-24, 2016, The 7th International Conference of the European Society for the History of Science (ESHS), Prague  
Details at: <http://www.7eshs2016.cz>

November 5, 2016, Leibniz: Legacy and Impact, International Conference, Manchester Metropolitan University, UK  
Details from: Lloyd Strickland [L.Strickland@mmu.ac.uk](mailto:L.Strickland@mmu.ac.uk)

December, 15-18, 2016, 3rd Asian IHPST Regional Conference, Pusan National University, South Korea.  
Inquiries to: Hwe-Ae Seo, [haseo@pusan.ac.kr](mailto:haseo@pusan.ac.kr)

July 16-21, 2017, ISHPSSB biennial meeting, São Paulo, Brazil.  
Details at: [www.ishpssb.org/announcements/148-ishpssb-2017-meeting](http://www.ishpssb.org/announcements/148-ishpssb-2017-meeting)

July 23-29, 2017, 25<sup>th</sup> International Congress of History of Science, and Technology (ICHST), Rio de Janeiro, Brazil.  
Details at: <http://www.ichst2017.sbhc.org.br/site/capa>