

**HPS&ST Newsletter**  
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**# Introduction**

The HPS&ST Newsletter is sent monthly to about 11,000 emails of individuals who directly or indirectly have an interest in the contribution of history and philosophy of science to theoretical, curricular and pedagogical issues in science teaching, and/or interests in the promotion of innovative, engaging and effective teaching of the history and philosophy of science. The newsletter

is sent on to different international and national HPS lists and international and national science teaching lists. In print or electronic form, it has been published for 40+ years.

The Newsletter, along with RESOURCES, OBITUARIES, OPINION PIECES and more, are lodged at the website: [HERE](#)

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

Contributions (publications, conferences, Opinion7Piece, 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).

## # International Conference on History of Physics, Coimbra 29-31 May 2025

The *International Conference on the History of Physics* is the fifth in the series following the first four, which were held at Trinity College, Cambridge UK in 2014, Pöllau, Austria in 2016, San Sebastian, Spain in 2018 and Trinity College, Dublin, Ireland in 2022.

The conference is formally overseen by an International Advisory Committee which is recognised by the Institute of Physics (IOP) and the European Physical Society (EPS).

The aim of these conferences is to bring together physicists interested in the history of their subject and professional historians of science in the belief that proponents of the two disciplines, with their different perceptions and methodologies, can benefit from interaction and discourse.

Student attendance and participation will be encouraged in the firm belief that a study of the history of the subject can inspire future generations by informing them about the lives and work of past scientists, and also facilitate a better understanding of topics that present conceptual problems today just as they did to their discoverers.

The leading theme of the conference is **"PHYSICS OF THE EARLY DECADES OF THE TWENTIETH CENTURY"**, aligning with the United Nations General Assembly declaration that 2025 will be the International Year of Quantum Science and Technology (IYQ), celebrating the centenary of the matrix formulation of quantum mechanics developed by Werner Heisenberg, Max Born, and Pascual

Jordan and of the wave-mechanics formulation by Erwin Schrödinger.

Presentations on any subject related to the history of physics are also welcome including, but not limited to, the following topics:

- The history of institutions, academies, and scientific societies
- The roads to and from applied physics into technology
- Revisitation of classic or overlooked papers
- Pedagogical and research traditions in physics
- Historic perspectives of gender and physics
- New historiographical approaches in the history of physics
- Digital humanities and the history of physics

## Venue

The 5th International Conference on the History of Physics will take place at the Physics Department of the Faculty of Sciences and Technology of the University of Coimbra, Portugal.



The **University of Coimbra**, founded in 1290, is the oldest university in Portugal and one of the oldest in Europe. Its campus, which dates back to the 16th century, is part of a UNESCO World Heritage Site. The university earned this status for its significant role in knowledge production and the spread of Portuguese language and culture worldwide. The UNESCO-listed campus comprises 32 buildings in two areas, Alta and Sofia, showcasing various architectural styles that reflect different educational reforms. It is currently organized into three university centers.



The Physics Museum is housed in the former Colégio de Jesus, located in Marquês de Pombal square, across from the Chimico Laboratory. It occupies the rooms originally designated for the "**Gabinete de Física Experimental**," established in 1772. The museum holds a significant collection of scientific instruments from the 18th and 19th centuries, primarily those used in the University of Coimbra's Physics Cabinet. The collection includes over 3,000 objects, including 500 old books. Many instruments are displayed in their original rooms, preserving the 18th-century setting. The museum's role in the history of physics was recognized by the European Physical Society, which designated it a **European Historic Site**.

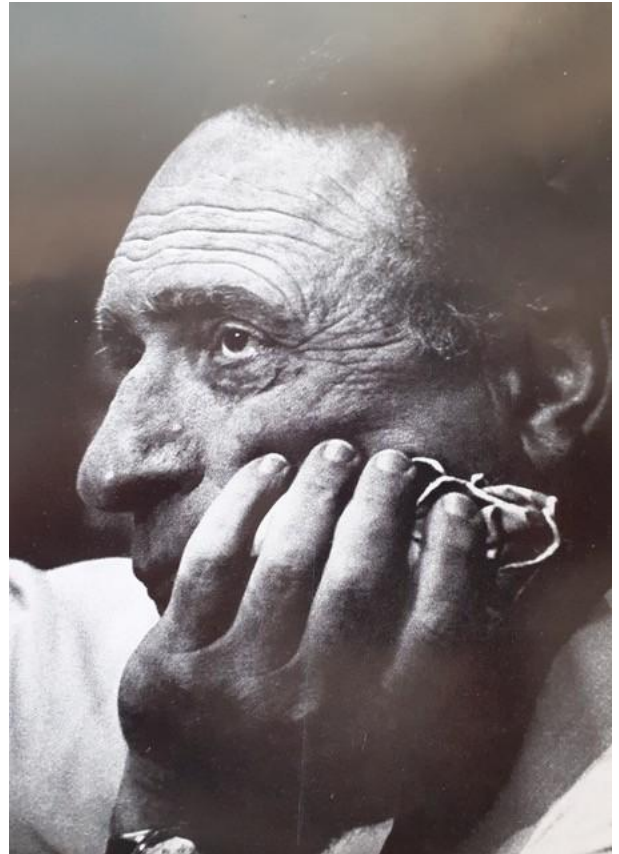
The conference programme will include scientific sessions, key-note lectures, the Shuster History of Physics Prize, as well as a conference dinner.

Details [HERE](#)

## # Journal Special Issue: Homage to Francis Halbwachs

Special Issue: "Homage to Francis Halbwachs: Fragments of the history of science education: ". [Review of Science, Mathematics and ICT Education](#).

This special issue is dedicated to the pioneering work of an emblematic figure of the francophone tradition of physics education, Francis Halbwachs.



The work of Francis Halbwachs (1914-1986) has been diverse and interesting. His research activity can be divided into three periods.

The first period includes work relating to his thesis, which he wrote under the guidance of the Nobel Prize-winning physicist Louis de Broglie, known for his theory of the duality of matter. At the same time, he also developed an authorial activity in the field of the philosophy of physics in defense, in particular, of the realistic and deterministic epistemological conception which characterizes his work on quantum physics. His profound knowledge of physics will be reflected in his views on the emerging framework of the francophone research tradition of physics education.

The second period of research activity includes mainly those works which seem to be the result of his collaboration with the International Centre for Genetic Epistemology in Geneva. To this collaboration Halbwachs contributes both his culture as a theoretical physicist and his philosophical ideas which are related to the birth of modern scientific knowledge and especially that of Physics.

On the philosophical level, he emphasizes the concept of causality in physics, and he develops a rich writing activity in the field of the history of physics, interested in the ontogeny and phylogeny of scientific knowledge. In these works, he explores and analyses episodes in the constitution of the scientific thought of various scientists (mainly in the fields of mechanics and thermodynamics) in the light of cognitive psychology.

In the third period of his research activity, a large part of his writing is devoted to the attempt to link his ideas on the design of physics teaching contents with his basic epistemological positions on the ontogeny and phylogeny of scientific knowledge.

#### CONTENTS:

JEAN-JACQUES DUPIN, 'De la physique du physicien à la physique scolaire'.

DIMITRIS KOLIOPOULOS, 'The views of Francis Halbwachs on the nature of explanation in Physics and how they affect research in Didactics of Science',

DIMITRIS KOLIOPOULOS, 'The bibliographical route of Francis Halbwachs: A personal comment'

FRANCIS HALBWACHS, 'Genetic development of the concepts of Mechanics and application to teaching problems' [Unpublished conference paper]

FRANCIS HALBWACHS, 'Some remarks on the psychological approach in Didactics' [Unpublished conference paper]

Prof. Konstantinos Ravanis, Editor of the Journal  
Prof. Emeritus, Dimitrios Koliopoulos, Editor of the Special Issue

### **# Wilhelm & Else Heraeus Foundation Seminar, 1-6 June, 2025: The American and the German Atomic Bomb Projects and Their Legacies**

This seminar will showcase new and important work on the German and the American atomic bomb projects and, by providing context and comparing the two cases, yield new insights and

understanding of both these two very important historical events and their legacies for science, technology, politics, and culture.

The fear of a German atomic bomb drove the efforts by Americans, British and émigrés to build the first American atomic bombs. The Soviet Union responded to the Manhattan Project and detonation of nuclear devices over the Japanese cities of Hiroshima and Nagasaki by creating their own atomic bomb. The American president Harry Truman reacted to the Soviet atomic bomb by ordering the development of an American hydrogen bomb, which led in turn to a Soviet hydrogen bomb and an escalating nuclear arms race. The postwar rivalry between the United States and the Soviet Union also became a political competition for the "peaceful uses" of the atom, which in turn led to nuclear proliferation.

This has all had a profound influence on the development of physics in America and Germany and other developed countries as well. Both governments have sought to steer scientists and scientific institutions towards specific types of research through investments in grants, equipment, and certain types of research centers. By both comparing the German and American atomic bomb projects and placing them in context, this seminar will shed light on these weapons and their consequences.

Details [HERE](#)

### **# Leeds Centre for History & Philosophy of Science. Visiting Speakers Programme**



["Genomics: A Quarter Century of Promise,"](#) may be of particular interest.

Details:

Gregory Radick  
Professor of History and Philosophy of Science  
University of Leeds  
Email: [G.M.Radick@leeds.ac.uk](mailto:G.M.Radick@leeds.ac.uk)

### # Thomas Beddoes (1760-1808): Letters

[Thomas Beddoes](#) was the pioneering doctor and chemical researcher who in the 1790s established the Pneumatic Institution to conduct experimental treatments with oxygen, hydrocarbonate and nitrous oxide — using apparatus provided by James Watt. He also published on iron smelting, Huttonian geology, preventive medicine, revolutionary politics, and educational reform.



He was a poet, and the friend and mentor of Coleridge, Southey, Wordsworth, Humphry Davy and Thomas Wedgwood. Married to Anna Edgeworth, he corresponded with Richard Lovell Edgeworth and Maria Edgeworth, with Thomas Clarkson, James Black, Joseph Banks and the Duchess of Devonshire.

In anticipation of a full-scale book edition of his collected letters with Cambridge University Press,

**30 April** (online online)

[Dr Stavros Ioannidis](#) (University of Athens), 'Reconsidering the Structure of Darwin's 'Long Argument''

**7 May** (in-person)

[Dr Charu Singh](#) (University of Cambridge), 'Challenging the Tridosha: Elements, humors and an Ayurvedic controversy in British India, c.1935'

Full details - including abstracts, venues and joining details for those seminars running online - can be found [HERE](#):

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### # Histories of Genetics, Eugenics & Social Darwinism: Website Materials

Anyone with teaching or research interests in the histories of genetics, eugenics and social Darwinism can now find three outstanding scholarly collections on those topics available in free digital versions at the website of the Adelphi Genetics Forum (successor to the Galton Institute, which published them):

[Essays in the History of Eugenics](#) (1998), ed. Robert A. Peel

[A Century of Mendelism](#) (2001), eds Robert A. Peel and John Timson

[Herbert Spencer: The Intellectual Legacy](#) (2004), eds Greta Jones and Robert A. Peel

The website includes a number of other resources, including videos of all the lectures at the recent annual conferences. Steve Sturdy's Adelphi Lecture last year, ["The Fortunes of Medical](#)

we are creating an online edition of unannotated transcriptions. The first tranche is available here.

### [Thomas Beddoes Letters](#)

Tim Fulford  
de Montford University  
UK

### # PhilSci Archive Top 5

The most downloaded preprints for the last six months:

[Chen, Eddy Keming \(2023\) Laws of Physics.](#)

[Rushing, Bruce and Gomez-Lavin, Javier \(2024\) Is the Scaling Hypothesis Falsifiable?](#)

[Brown, Matthew J. \(2020\) Science and Moral Imagination: A New Ideal for Values in Science. Science, Values, and the Public. University of Pittsburgh Press. ISBN 9780822946267](#)

[Ardourel, Vincent and Bangu, Sorin \(2023\) Finite-size scaling theory: Quantitative and qualitative approaches to critical phenomena. Studies in History and Philosophy of Science Part A, 100. pp. 99-106. ISSN 00393681](#)

[Andrews, Mel \(2023\) The Devil in the Data: Machine Learning & the Theory-Free Ideal](#)

[Visit the PhilSci Archive!](#)

### # Philosophy of Science Association (PSA), Articles Available

Gratis Downloadable articles:

- [The Epistemic Projection Approach to Values in Science](#) by Wendy S. Parker
- [Causal Explanation and Revealed Preferences](#) by Kate Vredenburg

- [Can Confirmation Bias Improve Group Learning?](#) by Nathan Gabriel, Cailin O'Connor
- [Mathematizing Metaphysics: The Case of the Principle of Least Action](#) by Michael Veldman
- [Academic Journals, Incentives, and the Quality of Peer Review: A Model](#) by Kevin J. S. Zollman, Julian García, Toby Handfield

### # PhilSci Archive - Top 5 Downloads + Books

PhilSci-Archive is the official preprint repository for the PSA and the best place to host your philosophy of science preprints. It offers a free, stable, and openly accessible archive for scholarly articles and monographs.

Downloadable books are available [HERE](#)

The most downloaded preprints for the last six months of articles deposited in the previous two years are:

[Cobb, David \(2022\) Empiricism in the Philosophy of Science](#)

[Wiggleton-Little, Jada and Callender, Craig \(2022\) Screening Out Neurodiversity](#)

[Chen, Eddy Keming \(2023\) Laws of Physics](#)

[Ardourel, Vincent and Bangu, Sorin \(2023\) Finite-size scaling theory: Quantitative and qualitative approaches to critical phenomena](#)

[Stern, Julio Michael and Pereira, Carlos Alberto de Braganca and Lauretto, Marcelo de Souza and Esteves, Luis Gustavo and Izbicki, Rafael and Stern, Rafael Bassi and Diniz, Marcio Alves and Borges, Wagner de Souza \(2023\) The e-value and the Full Bayesian Significance Test: Logical Properties and Philosophical Consequences](#)

## # Opinion Page: Teach Philosophy of Science \*

H. HOLDEN THORP

Holden Thorp became Editor-in-Chief of the *Science* family of journals on 28 October 2019. He came to *Science* from Washington University, where he was provost from 2013 to 2019 and professor from 2013 to 2023.



Thorp earned a bachelor of science degree from UNC, a doctorate in chemistry from the California Institute of Technology, and completed postdoctoral work at Yale University. He holds honorary degrees from Hofstra University and North Carolina Wesleyan College and is a fellow of the American Academy of Arts and Sciences, the National Academy of Inventors, and the American Association for the Advancement of Science.

Thorp is the coauthor, with Buck Goldstein, of two books on higher education: *Engines of Innovation: The Entrepreneurial University in the Twenty-First Century* and *Our Higher Calling: Rebuilding the Partnership Between America and its Colleges and Universities*, both from UNC Press.

Much is being made about the erosion of public trust in science. Surveys show a modest decline in

the United States from a very high level of trust, but that is seen for other institutions as well. What is apparent from the surveys is that a better explanation of the nature of science—that it is revised as new data surface—would have a strong positive effect on public trust. Because scientists are so aware of this feature, it is often taken for granted that the public understands this too. A step toward addressing this problem would be revising undergraduate and graduate curricula to teach not just theories and techniques but the underlying philosophy of science as well.

As Pew studies have [shown](#), trust in scientists and medical scientists in the US is higher than for all other institutions surveyed except the military. There was a modest decline over the past 4 years, but a similar decrease was seen for other professions. In absolute terms, trust in scientists is at 73%, whereas trust in most other institutions is far lower, with business leaders at 35% and elected officials at 24%. Despite this relatively high level of trust, Lupia *et al.* found ways that it could be enhanced. Most prominently, the study showed that 92% of respondents felt it important that scientists show they are “open to changing their minds based on new evidence,” which is of course what they must do.

Many scientists would be surprised to find that this idea needs to be reinforced. Science is, after all, a work in progress that changes as new findings cause revision and refinement of held interpretations. The history of science is a powerful narrative of this culture of self-correction, and it is the essence of science to attempt to make discoveries that change the way scientists think. But whenever science becomes important in the public eye, as with climate change and the pandemic, the continuous revision can become a target for those who wish to undermine scientific knowledge.

French sociologist Pierre Bourdieu coined the term [“scholastic fallacy”](#) to describe the tendency of academics to assume that everyone thinks about problems in the way that scientists do. As Bourdieu points out, most people do not have the time and effort to spend thinking about these issues in the same way as those for whom this is a full-time job.

Academics often fail to recognize this and are mystified when the public doesn't understand that interpretations are continually revised in light of new data, as has happened across history. Such revisions are the most reliable way for a scientist to get published in high-profile journals and gain scientific recognition, such as when [footprints are found](#) that change our idea about when humans were present in the US or when a [diabetes drug is found to have many other uses](#).

The scientific community has generally done a poor job of explaining to the public that science is what is known so far. There are many reasons that make this difficult. The way scientific findings are reported in the media, particularly outlets that do not specialize in science journalism, is often highly simplified without the caveats that would give a more realistic picture while making the stories seem less compelling to some readers.

Another obstacle is that, because of the scholastic fallacy, scientists tend to take for granted that their findings could be updated and forget to explain this to the public. And when scientists talk to each other, they tend to be passionate about their ideas and disagreements. When those conversations are processed by the public, they can easily be misinterpreted.

Resetting the public's understanding of how science works will be a big job, but a good place to start is with students who get science degrees. Unfortunately, most programs are full of didactic classes about scientific principles, with few if any requirements on the history and philosophy of science.

Because many undergraduate science majors pursue careers outside of science, including medicine, a shift in curricula would ultimately produce a public that is more literate in the way that science works. This means making hard decisions about how to fit a broader, deeper perspective into curricula that are already jammed tight with the necessary basics. However, it's urgent for scientists to make compromises in the way they teach for the greater good.

## **Comment**

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ILINCA CIUBOTARIU

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ARTURO CASADEVALL

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Dr. H. Holden Thorp makes a compelling case for integrating philosophy of science into undergraduate and graduate science education curricula, emphasizing the principles that shape scientific inquiry in lieu of too subject matter- and technique-focused training (1).

We applaud Thorp's call as we have been making this idea a reality in graduate science education by reviving the "Ph in PhD" in our R3 (Rigor, Reproducibility, and Responsibility) program at the Johns Hopkins Bloomberg School of Public Health, since 2017 (2, 3). Together with a growing, global network of scientist-educators across institutions and disciplines who adopt our approach and shared materials (4-6) for their own students, we and others recognize the need to shape broadly and critically thinking individuals, rather than narrowly trained specialists (2, 3, 7, 8).

Generalist perspectives on scientific problems can foster capacities for transdisciplinary collaborations and enable young researchers to develop ideas on how to tackle the global challenges that humankind is facing today (2, 3, 7-12). Our students learn to apply the '3R' norms of good science, rigor, reproducibility, and responsibility, to their research practice, thereby becoming versed in epistemology, applied logic, ethical decision making, and quantitative reasoning (2, 13).



Moreover, in agreement with Thorp's point that efforts to rebuild the dwindling public trust in the scientific enterprise need to include effective communication with the public, we made training in value-based, community-centered communication skills another focus point in our 'R3' program (14).

In agreement with the National Academies' long-term advocacy for the integration of the humanities into science education (15), we encourage our fellow scientist-educators across the disciplines to join us and our many colleagues' efforts to develop and share educational materials that are based on the philosophical underpinnings of science.

The following (non-comprehensive) list represents initiatives and resource collections that aim to provide open access materials for classroom or informal teaching and mentoring, based on science's philosophical foundations, for graduate level science education and beyond. The listing order emphasizes breadth of scope and transdisciplinary applicability. We apologize for any unintended omissions.

- The Online Ethics Center (OEC), launched by the National Academies of Science, Engineering, and Medicine, now hosted by the University of Virginia and sponsored by the National Science Foundation (16, 17) is a resource repository of undergraduate and graduate level teaching materials, strategies, and application exemplars for the broad spectrum of research integrity education topics in science and engineering.
- The Innovation in Graduate Education (IGE) Hub, sponsored by the Council of Graduate Schools and funded through the National Science Foundation, fosters a network of grantees, graduate institutions, and scientific societies to support innovative ideas in graduate STEM education. The IGE-Hub's open access resource collections (18) are not limited to grantees but are open to anyone interested in joining a broader group conversation about innovation in STEM graduate education.
- The R3 Center for Innovation in Science Education (R3ISE) (19) at the Johns Hopkins Bloomberg School of Public Health grants free access to its curricular resources on cross-disciplinary training and mentoring in practice-applied philosophy of science and responsible communication. Materials and implementation best practice guidelines for graduate and post-graduate levels are available openly through R3ISE websites and JHU data repositories.
- The Community 4 Rigor (20, 21), funded through the NINDS Office of Research Quality (22) is a multi-institutional collaboration between scientist-educators from the neuroscience and related disciplines with the goal of creating educational materials for learners on the undergraduate through post-graduate levels, to support teaching and learning the principles and practice of scientific rigor, illustrated through neuroscience applications.
- The non-profit Center for Open Science (23) provides practice-based training tools for research practitioners to advocate for reforming the norms and reward system in science, ultimately to elevate rigor, transparency, sharing, and reproducibility.
- Global Reproducibility Networks (24) are national consortia of researchers aiming to promote rigorous research practices by establishing appropriate training activities on the continuing education level and evaluating research improvement efforts.
- The 'Many Faces of Reproducibility' Project of the University of Minnesota Center for Philosophy of Science (25) develops innovative approaches at the intersection of philosophy and science for training researchers and engaging the public regarding the trustworthiness of scientific claims.
- The Reproducibility4Everyone (R4E) network (26) is a non-profit, grassroots organization run primarily by early career research practitioners and mentors who teach open access workshops on all aspects of reproducibility enhancement, particularly for the laboratory-based disciplines.

- ReproducibiliTea (27) is a global, Open Science journal club initiative organized and led by student volunteers across numerous universities that helps junior researchers-in-training discuss diverse issues, papers and ideas about improving science, reproducibility and the Open Science movement.

We appeal to the scientific community to adopt those shared materials broadly and collaborate with educational researchers to engage in interventions research involving learner populations from as early as K12 and high school students, up to post-graduate practitioners. Widespread, evidence-based education on the conduct of science based on a solid epistemic foundation and ethics has the potential to make a difference in the quality of research practice, and ultimately, help win back the public's trust in science.

## References

1. Thorp HH, Teach philosophy of science. *Science* 384, 141 (2024).
2. Bosch G, Casadevall A. Graduate biomedical science education needs a new philosophy. *mBio* 8, e01539-17 (2017).
3. Bosch G. Train PhD students to be thinkers not just specialists. *Nature* 554, 277 (2018).
4. Johns Hopkins Bloomberg School of Public Health, Molecular Microbiology & Immunology, The R3 Center for Innovation in Science Education: R<sup>3</sup>ISE Network. (JHU, 2024). <https://publichealth.jhu.edu/the-r3-center-for-innovation-in-science-education/r3ise-network>
5. Bosch G, Allison D, Casadevall A. RCR Exemplar Interview: Gundula Bosch. (Online Ethics Center, 2021). <https://onlineethics.org/cases/promising-practices-and-innovative-programs-responsible-conduct-research/rcr-exemplar-0>
6. JHU-R3ISE Github repository (2023). <https://github.com/JHU-R3ISE>
7. Bode H, Mosteller F, Tukey J, Winsor C. The Education of a Scientific Generalist. *Science* 109, 553-558 (1949).
8. Casadevall A, Fang FC. Specialized science. *Infect Immun* 82,1355-60 (2014).
9. Grüne-Yanoff T. Teaching philosophy of science to scientists: why, what and how. *Eur J Philos Sci* 4, 115–134 (2014).
10. Casadevall A, Ellis LM, Davies EW, McFall-Ngai M, Fang FC. A framework for improving the quality of research in the biological sciences. *mBio* 7, e01256–01216 (2016).
11. St Clair R, Hutto T, MacBeth C, Newstetter W, McCarty NA, Melkers J. The “new normal”: adapting doctoral trainee career preparation for broad career paths in science. *PLoS ONE* 12, e0177035 (2017).
12. Verderame MF, Freedman VH, Kozlowski LM, McCormack WT. Competency-based assessment for the training of PhD students and early-career scientists. *eLife* 7, e34801 (2018).
13. Ciubotariu II, Bosch G. Teaching students to Reason, not merely to solve problem sets: The role of philosophy and visual data communication in accessible data science education. *PLoS Comput Biol* 19, e1011160 (2023).
14. Ciubotariu II, Bosch G. Improving research integrity: a framework for responsible science communication. *BMC Res Notes* 15, 177 (2022).
15. National Academies of Sciences, Engineering, and Medicine. *The Integration of the Humanities and Arts with Sciences, Engineering, and Medicine in Higher Education: Branches from the Same Tree*. (Washington, DC: The National Academies Press, 2018). <https://doi.org/10.17226/24988>
16. Online Ethics Center (OEC). <https://onlineethics.org/resources> . 2024.
17. National Academies of Sciences, Engineering, and Medicine. *Promising Practices and Innovative Programs in the Responsible Conduct of Research: Proceedings of a Workshop*. (Washington, DC: The National Academies Press, 2023). <https://doi.org/10.17226/27085>
18. Council of Graduate Schools, IGE Hub. Explore Resources. <https://igehub.org/resources/resource-library/> . 2024.
19. Johns Hopkins Bloomberg School of Public Health, Molecular Microbiology & Immunology, The R3 Center for Innovation in Science Education. (JHU, 2024). <https://publichealth.jhu.edu/the-r3-center-for-innovation-in-science-education>
20. Community for Rigor (c4r, 2022). <https://c4r.io/>
21. Crawford DC, Hoye ML, Silberberg SD. From Methods to Monographs: Fostering a Culture of Research Quality. *ENeuro* 10, 0247-23 (2023).

22. National Institute of Neurological Disorders and Stroke. (NINDS Office of Research Quality, 2024). <https://www.ninds.nih.gov/current-research/trans-agency-activities/ninds-office-research-quality>

23. Center for Open Science (COS, 2023). <https://www.cos.io>

24. Global Reproducibility Networks (UKRN, 2023). <https://www.ukrn.org/global-networks/>

25. The Many Faces of Reproducibility (College of Liberal Arts at the University of Minnesota, 2024). <https://reproducibility.umn.edu>

26. Reproducibility for Everyone (R4E, 2023). <https://www.repro4everyone.org/resources>

27. ReproducibiliTea (2024). <https://reproduciblitea.org>

All contributing authors are affiliated with the R3 Center for Innovation in Science Education at the Johns Hopkins Bloomberg School of Public Health, which is mentioned in the article.

\* This Editorial and Comment originally appeared in *Science* April 2024, vol.384 no. 6692. DOI: [10.1126/science.adp7153](https://doi.org/10.1126/science.adp7153)

### Invitation to Submit Opinion Piece

In order to make better educational use of the wide geographical and disciplinary reach of this *HPS&ST Note*, invitations are extended for readers to contribute opinion or position pieces or suggestions about any aspect of the past, present or future of HPS&ST studies.

Contributions can be sent direct to editor. Ideally, they might be pieces that are already on the web, in which case a few paragraphs introduction, with link to web site can be sent, or else the pieces will be put on the web with a link given in the Note.

They will be archived, and downloadable, in the OPINION folder at the HPS&ST web site [HERE](#).

### # Varia

- John L. Rudolph (2024) 'Scientific literacy: Its real origin story and functional role in American education', *JRST* 61(3), 519-532. [HERE](#)

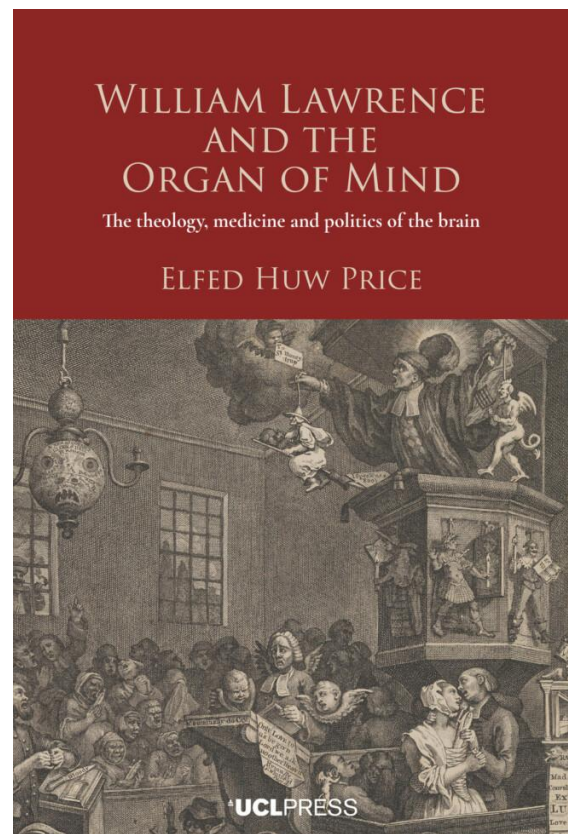
- *Educational Sciences Journal*. Submissions sought for thematic issue on Science Literacy. Contact guest editor William F. McComas by 18 April. Details [HERE](#)
- Eight HPS&ST books downloadable gratis [HERE](#)
- *Science & Education* Open Access articles (170) [HERE](#)
- *Philosophy of Science* journal, most cited articles [HERE](#)

# **Featured Book: Elfed Huw Price, *William Lawrence and the Organ of Mind: The theology, medicine and politics of the brain***

UCL Press is delighted to announce the publication of a new open access book:

*William Lawrence and the Organ of Mind: The theology, medicine and politics of the brain*

[Elfed Huw Price](#) (Author)



*William Lawrence and the Organ of Mind* explores the historical origins and

ideological valence of the conceptualisation of thought and mind as functions of the brain in early nineteenth-century Britain.

Taking as its starting point the controversy provoked by Lawrence's *Lectures on Physiology, Zoology, and the Natural History of Man*, the book draws on archival and published texts, as well as images, to reveal overlooked parallels and connections with the concurrent rise of phrenology and the longstanding Christian mortalist tradition.

It shows how the sentient brain served as a radical icon, marking a break with ancient Galenic medical models and Athanasian religious dogma, and charts how – in part through Lawrence's contributions – it was united with a biological vision that identified human exceptionalism more directly with the structure and function of our brains.

Elfed Huw Price's work indicates that, although Lawrence was silenced, his *Lectures* lived on, a contributor to the rising tide of Victorian naturalism, and part of a wider transformation of beliefs and values that swept aside the ancient politico-religious structures of the Confessional State, leaving the cerebral organ standing alongside the soul as the source of human reason and a distinguishing feature of humanity.

Free download: [HERE](#)

AUTHORS OR PUBLISHERS of suitable HPS&ST books who would like an appropriate Preface, Introduction or First Chapter of their book featured in the newsletter, and placed in the [RESOURCE](#) folder of the HPSST website, should contact newsletter editor [Michael R. Matthews](#)

## # Centenary of Quantum Mechanics Journal Special Issue, Call for Papers

Special Issue: "100 Years of Quantum Mechanics: Philosophical Perspectives". *Epistemology & Philosophy of Science*"

UNESCO recognizes 2025 as the [centenary year](#) of Quantum Mechanics.

*Epistemology & Philosophy of Science* is a leading peer-reviewed quarterly journal founded by the Institute of Philosophy of the Russian Academy of Sciences. The journal is committed to publishing high-quality research at the intersection of epistemology, philosophy of science, and scientific methodology. The journal provides a platform for international dialogue and exchange of ideas in both English and Russian. See [HERE](#)

### About the Special Issue:

The Special Issue is dedicated to the *centenary of quantum mechanics*. The aim of this issue is to explore the philosophical implications and ongoing impact of quantum mechanics on our understanding of reality and the nature of scientific knowledge. We seek contributions that examine both historical developments, contemporary philosophical perspectives in quantum mechanics and its impact on science and culture.

- Historical and philosophical analysis of quantum mechanics development
- Contemporary interpretations of quantum mechanics
- Measurement problem and observer effects
- The nature of quantum experience and reality
- Quantum probability and causality
- Epistemological foundations of quantum theory
- Methodological changes brought by quantum mechanics
- The significance of quantum mechanics for science and philosophy
- Quantum language and its philosophical implications
- Quantum mechanics' influence on metaphysics
- Prospects of the quantum worldview
- Interdisciplinary implications of quantum theory
- Cultural reception of quantum ideas

Confirmed Contributors: Lev Vaidman (Tel Aviv University), Jonas Arenhart (Universidade Federal de Santa Catarina), Valia Allori (University of Bergamo), and Sebastian Fortin (Universidad de Buenos Aires)

### Submission Requirements:

- Original paper has not been published previously, nor is it currently under consideration for publication elsewhere.

- The preferred length: up to 7,000 words
- Languages: English or Russian
- Format: Please follow the journal's general guidelines: <https://journal.iphras.ru/forcontributor>

**The deadline for submissions:** August 1, 2025.  
Publication Date: December 2025

**How to Submit:** Please submit your manuscript to [vbazhanov@gmail.com](mailto:vbazhanov@gmail.com)  
OR [v.terekhovich@gmail.com](mailto:v.terekhovich@gmail.com)

When submitting, please indicate "100 Years of QM Special Issue" in your cover letter.

For further details or queries, please contact the Editors:

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([vbazhanov@gmail.com](mailto:vbazhanov@gmail.com))

**Dr Vladislav Terekhovich**  
([v.terekhovich@gmail.com](mailto:v.terekhovich@gmail.com)).

## # HoST – Journal of History of Science and Technology. Thematic dossier to be published in 2026

*HoST - Journal of History of Science and Technology*, recently indexed by Scopus, is an open access, on-line peer-reviewed international journal devoted to the History of Science and Technology, published in English by a group of Portuguese research institutions and De Gruyter Brill/Sciendo. HoST encourages submissions of original historical research exploring the cultural, social and political dimensions of science, technology, and medicine (STM), both from a local and a global perspective.

Past thematic issues have dealt with topics as diverse as circulation, science communication, natural history, or the relation between science, technology and politics. Future issues might deal with both established and emerging areas of scholarship. The editors of HoST are looking for proposals for a thematic dossier to be published in 2026 (HoST volume 20, issue 2-December).

Each thematic dossier should be prepared by the guest editor(s) and include four research papers along with an introduction.

## Submission guidelines

Proposals should include the following items:

1. An abstract describing the topic for the thematic dossier and its significance (500 words);
  2. A list of the contributors along with the titles and abstracts (300 words) of the four research papers;
  3. Brief CVs (300 words) of the guest editor(s) and authors;
- The guest editor(s) and the contributors must be prepared to meet HoST's publication schedule:
- Abstract and titles submission: **31 March 2025**
  - Submission of complete research papers: **30 February 2026**
  - Publication: **December 2026** (Issue 20.2)

Proposals will be subject to approval by the Editorial Board and authors will be informed of the outcome by the end of **April 2025**.

Submissions should be sent as an e-mail attachment (preferably in one single .doc, .docx, .rtf or .odt file), to the chief-editor: [chiefeditor@johost.eu](mailto:chiefeditor@johost.eu)

## # Recent HPS&ST Research Articles

- Busch, K.C. and Lombardi, D. (2025), Effective Strategies for Learning and Teaching in Times of Science Denial and Disinformation. *J Res Sci Teach*, 1-8.  
<https://doi.org/10.1002/tea.70003>
- Chan, HY. (2025). Rethinking the Dual Nature of Science: A Synthetic Framework for Cognitive-Epistemic and Social-Institutional: Analysis Through Wittgenstein and Bourdieu *Sci & Educ*, 1-31.  
<https://doi.org/10.1007/s11191-025-00634-3>
- Fiedler, K., Kubsch, M., Neumann, K. and Nordine, J. (2025), Supporting Learning About Energy With Fields—Evidence From a Mixed-Methods Study. *J Res Sci Teach*, 1-20.  
<https://doi.org/10.1002/tea.70006>
- Gyeltshen, S., Wangchuk, S. (2025). Using the Predict–Observe–Explain (POE) Strategy in Enhancing Student’s Conceptual Understanding the Energy Conservation Law. *Sci & Educ*, 1-15.  
<https://doi.org/10.1007/s11191-025-00625-4>

- Izquierdo-Acebes, E., García-Carmona, A. (2025). Discussing Science Values and Norms from a Learning Situation Historically Contextualised in Mendel's Laws and Guided by Scientific Practices. *Sci & Educ*, 1-31. <https://doi.org/10.1007/s11191-025-00627-2>
- Jeppsson, F., Kersting, M., Haglund, J. et al. (2025). Dual Lenses on Science Classroom Interaction: A Multimodal and Embodied Analysis of Learning Newton's Laws in a Primary Physics Classroom. *Sci & Educ*, 1-25. <https://doi.org/10.1007/s11191-025-00630-7>
- Júnior, C.S. L., Massi, L. (2025). The rivers in our tears: chemistry, literature and philosophy in the short story "Best Is Water" by Primo Levi. *Found Chem*, 1-22. <https://doi.org/10.1007/s10698-025-09537-1>
- Karp, A. The Integrated Approach and Gifted Students: A Historical Perspective. *Int J of Sci and Math Educ* (2025). <https://doi.org/10.1007/s10763-025-10562-x>
- Lange, M. (2025) Laws of nature, metaphysics, and science education: a reply to Scerri. *Found Chem*, 1-10. <https://doi.org/10.1007/s10698-025-09541-5>
- Leowardy, M., Lee, Y. J., & Ong, Y. S. (2025). A decade of scientific and engineering practices: a scoping review. *Studies in Science Education*, 1–45. <https://doi.org/10.1080/03057267.2025.2481356>
- Ma, N., Guo, J. H., & Sun, Y. F. (2025). Evaluating scientific argumentation ability: a framework based on scientific argumentation maps. *International Journal of Science Education*, 1–20. <https://doi.org/10.1080/09500693.2025.2462796>
- Mawasi, A., Nagy, P., Finn, E. et al. (2025). My Grades Are not as Good as a Scientist: Understanding Middle School Students' Perceptions of Science and Scientists Through Science Possible Selves and Interests. *Sci & Educ*, 1-21. <https://doi.org/10.1007/s11191-025-00631-6>
- Mikhalevich, I. (2025). Intervention and experiment. *Euro Jnl Phil Sci*, 1-25. <https://doi.org/10.1007/s13194-025-00647-3>
- Pérgola, M., Pérez, G. (2025). Epistemological obstacles in teaching and learning cellular respiration. *Found Chem*, 1-20. <https://doi.org/10.1007/s10698-025-09538-0>
- Ribeiro, L.C. (2025). Is astrology universal? Early modern globalization and the disruption of traditional knowledge. *The British Journal for the History of Science*, 1–21. <https://doi.org/10.1017/S0007087425000196>
- Saberi, M., Nouri, N., & F. McComas, W. (2025). A proposed typology of NOS empirical research: trends and implications. *Studies in Science Education*, 1–39. <https://doi.org/10.1080/03057267.2025.2478355>
- Wray, K.A., McDonald, S. (2025). Teacher Talk Supporting Student Progressive Discourse in Science. *Sci & Educ*, 1-28 <https://doi.org/10.1007/s11191-025-00633-4>

### # Recent HPS&ST Related Books

Dippel, Anne & Warnke, Martin (2025). *The Depths of Illusion: Knowing Reality Through Computer Simulation*. Columbia, NY: Columbia University Press. ISBN: 9783837674804

“Are computer simulations theory, experiment, or something in between? Anne Dippel and Martin Warnke explore the epistemological status of computer simulations. By examining the erosion of concept-based truth in the digital age in combination with pathways of knowledge in physics, they offer a media ethnography of the famous quantum physics double-slit experiment and its simulation.

“Recognizing simulations as central to shaping reality and multiplying illusions, the authors propose “operational realism” as epistemic composure in the digital era. The work raises ethical questions about algorithmic world design, offering humor, revelations, and insights into new ontologies of knowledge.” (from the Publishers)

More information [HERE](#)

Hobson, Art (2024). *Fields and Their Quanta: Making Sense of Quantum Foundations*. Berlin: Springer. ISBN: 978-3-031-72612-5

“Because of continuing debates about foundational issues as well as the recent consensus about non-locality, it is time to resolve the long-standing quantum enigmas. These include wave-particle duality, the double-slit experiment, quantum randomness, entanglement, superpositions, and measurement. This book presents that resolution, based on the insights that (1) quantum field theory tells us that reality comprises a set of universal quantized fields that fill the universe and (2) standard quantum mechanics is the non-relativistic limit of quantum field theory. An immediate consequence is that there are no particles and that quanta such as photons and electrons are highly unified ("coherent"), spatially extended bundles of field energy. Every quantum object is always a wave in a field. It is never a particle. As Steven Weinberg puts it, "The basic ingredients of nature are fields; particles are derivative phenomena."

“This immediately resolves, for one example, the puzzle of the double-slit experiment in which quanta such as photons and electrons individually interfere like waves as they pass through the slits yet they impact the screen like tiny particles. The resolution: each photon or electron is actually a wave that extends coherently across both slits and across the entire interference pattern, and collapses to a far smaller, atom-sized wave (not a particle) upon entangling non-locally with the screen. “Thus quantum physicists can finally get their act together. It's about time: After more than 120 years, quantum physics still harbors embarrassing puzzles and physicists remain unable to reach a consensus about what the theory means. Large questions like "What is quantum physics about?" and "What is the meaning of the quantum state?" elicit diverse replies, all different yet all offered with supreme confidence. Every science has healthy differences of opinion, but quantum physics is beyond the pale.

“As *Fields and their Quanta* shows, we can dispense with the diverse interpretations such as consciousness-based views, the hypothesis that other universes are involved in wave function collapse, and the Copenhagen view that there is no quantum world. We can probably also dispense with the suggested reformulations such as the guiding wave hypothesis and various collapse mechanisms, although experimental tests of these are worth doing. Most of these are inspired by the measurement problem, but recent clarification concerning entanglement and non-locality shows that the measurement process is not paradoxical, and that standard quantum physics predicts collapse to a single outcome.

“Quantum physics can thus return to being a normal, objective, scientific endeavor with no special interpretation outside of standard (since Copernicus) scientific realism: Nature exists on its own with no need for observers, and we learn about nature by applying logical reasoning to natural phenomena as revealed by observation and experiment” (From the Publishers)

More information [HERE](#)

Leibowitz, U. D., Coko, Nevo, K. I. (Eds.) (2025). *Philosophical Theorizing and its Limits: Anti-Theory in Ethics and Philosophy of Science*. Dordrecht: Springer. ISBN: 978-3-031-82497-5

“This book brings together scholars from ethics and philosophy of science in order to identify ways in which insights gleaned from one subfield can shed light on the other. The book focuses on two radical Anti-Theory movements that emerged in the 1970's and 1980's, one in philosophy of science and the other in ethics. Both movements challenged attempts to supply general, systematized philosophical theories within their domains and thus invited the reconsideration of what philosophical theorizing can and should offer. Each of these movements was domain-specific – that is, each criticized the aspirations to philosophical theories within its own domain and advanced

arguments aimed at philosophers within their own specific subfield.

“The innovative systematic comparative examination of these movements by scholars from each domain sheds new light on some familiar debates, offers new and exciting paths of research to pursue in each domain, provides insight into the place of science and ethics in contemporary life and culture, and enables a fresh view on the longstanding and alluring philosophical aspiration for a fully general, absolute theory of reality and an ultimate objective foundational theory of knowledge.”  
(From the Publisher)

More information [HERE](#)

Mantzavinos, C. (2024). *The Constitution of Science*. Cambridge, UK: Cambridge University Press. ISBN: 9781009509176

“How can science be protected, by whom and at what level? If science is valued positively as the incubator of the most successful solutions to representational problems of reality as well as the basis of the most effective interventions in the natural and social world, then its constitutional foundations must be protected.

“This book develops a specific normative outlook on science by introducing the idea of a 'Constitution of Science'. Scientific activities are special kinds of epistemic problem-solving activities unfolding in an institutional context. The scientific enterprise is a social process unfolding within an intricate institutional framework that structures the daily activities of scientists and shapes their outcomes. Those institutions of science which are of the highest generality make up the 'Constitution of Science' and are of fundamental importance for channelling the scientific process effectively.”  
(From the Publishers)

More information [HERE](#)

Robertson, Katie, & Wilson, Alastair (eds) (2025). *Levels of Explanation*. Oxford, UK: Oxford University Press. ISBN: 9780191953941 [Open Access]

“The different sciences furnish us with a wide variety of explanations: some work at macroscopic scales, some work at microscopic scales, and some operate across different levels. How do these different explanatory levels relate to one another, and what is an explanatory level in the first place? Over the last fifty years, more and more philosophers—both reductionists and anti-reductionists—have no longer subscribed to the idea that the best explanation resides at the fundamental physical level. New challenges arise from the success of scientific explanations employing multi-level models which mix levels of explanation, from distinctive differences between levels structures in biology, cognitive science and social science, from the apparently radical reimagining of the explanatory role of spacetime in our current best theories of fundamental physics, and from the enduring mystery of how higher-level explanations are possible in the first place.

“These questions naturally connect to classic philosophical ways of thinking about the relations between levels: reduction, emergence and fundamentality. This volume presents a snapshot of cutting-edge research on explanatory levels, from their conceptual foundations to the details of how they are used in scientific practice.” (From the Publishers)

More information [HERE](#)

Russ, Daniela & Turnbull, Thomas (2025). *Energy's History: Toward a Global Canon*. Redwood City, CA: Stanford University Press. ISBN: 9781503640863

“Energy history is an approach to understanding the past that takes changes in the human exploitation of Earth's energies as its object of inquiry. This interdisciplinary field documents and analyzes how humans have thought about, harnessed, stored, and exploited stocks and flows of energy. In recent decades, in response to evidence of the effect of fossil fuel use in our climatic system and coinciding with an energy turn across the humanities, a new urgency and purpose has been ascribed to such work.



“*Energy’s History* challenges abstract and universalizing conceptions of energy’s history-making capacities. Each of the twelve essays in this collection presents, analyzes, and contextualizes a primary source. The contributors focus on ideas, events, and statements that recorded and critiqued the distinct historical paths of energy, thereby broadening the scope of where and what constitutes energy history.

“As energy’s world-making has enmeshed ever more of the planet into a dangerous compact with fossil fuels, energy histories must be revised within this new energy-historical reality. This volume both presents persuasive visions of energy-driven development beyond the Western capitalist model and provides an expansive and critical account of the ways in which energy histories have shaped the past and impact the present.” (From the Publishers)

More information [HERE](#)

Shook John R., & Giordano, James (2025). *Bioethics and Brains: A Disciplined and Principled Neuroethics*. Cambridge, MA: The MIT Press. ISBN: 9780262549998

“Neuroethics, a field just over two decades old, addresses both ethical issues generated in and by brain sciences and the neuroscientific studies of moral and ethical thought and action. These foci are reciprocally interactive and prompt questions of how science and ethics can and should harmonize. In *Bioethics and Brains*, John R. Shook and James Giordano ask: How can the brain sciences inform ethics? And how might ethics guide the brain sciences and their real-world applications?

“The authors’ structure for a disciplined neuroethics reconciles science and ethics by requiring ethical principles consistent with moral neuroscience and moral psychology. Their cosmopolitan perspective looks beyond Western theories toward a new metaethics for neuroethics and illustrates its approach in chapters that address the issues and approaches to questions and problems generated by the proliferation of neurotechnology in global contexts. Shook and Giordano posit that

neuroethics can merge science and ethics toward establishing global consensus on guiding brain research, neurotechnological innovation, and grounding neurorights.” (From the Publishers)

More information [HERE](#)

Treves, Aldo & Tucci, Pasquale (Eds.) (2025). *Enrico Fermi, Atomic Physics Lectures*. Dordrecht : Springer. ISBN : 978-3-031-68689-4

“In autumn of 1949, Enrico Fermi returned to Italy after an eleven-year absence to deliver nine lectures, six in Rome and three in Milan. Apart from subsequent limited publication, this material has been little seen by the larger scientific community. This volume represents the first time that these nine lectures have been published in English. The nine lectures collected in this book represent a precious document of Fermi’s view on topics with which he had engaged in the previous decades. They were addressed to the young Italian physicists and to a more general audience only then beginning to recover from the physical and moral disruption of the war.

“Published in collaboration with the Italian Physical Society (SIF), the book includes a presentation of the president of SIF, an introduction written by the editors, and two substantial essays: one on Fermi’s life, and a second on Fermi’s skill in talking about Physics in a clear and sparkling manner.

“The volume appears as a contribution to the 70th anniversary of Fermi’s death, and should appeal not only to students of physics, but to both those with an interest in the history of science in general and those who wish for a clearer picture of the life and mind of this pioneering physicist.” (From the Publishers)

More information [HERE](#)

von Storch, Hans et al. (2025). *Climate Science Concepts Born in Hamburg*. Dordrecht: Springer. ISBN: 978-3-031-81107-4

“Since the foundation of the Max Planck Institute in 1975 with the now-Nobel laureate Klaus Hasselmann as founding director, the climate science in Hamburg has seen a remarkable boost. Various ideas were brought forward, implemented and tested. Many of them ignited interest in the global scientific community, thus adding significant momentum to the development of modern climate science.

“The participants of the remarkable development since 1975 have come together to identify these concepts “born in Hamburg”. In an introductory chapter, the historical development, including other significant developments of climate science in the late 19th and early 20th century are addressed.

“The main part consists of chapters addressing the development of key innovative concepts. These are chosen to describe ideas which have been suggested by scientists while working in Hamburg and have been taken up by the international community in applications and advancements (such as the stochastic framing of dynamics and analysis, adding carbon cycles to climate models, multiple equilibria in climate models, anomaly coupling, downscaling, and constructed proxies). These ideas may not in all cases have been strictly new, or “firsts”, but they were the Hamburg publications which made the difference.

“The book is mostly a book on scientific concepts and ideas, less so a general history of climate science in Hamburg.” (From the Publishers)

More information [HERE](#)

Authors of HPS&ST-related papers and books are invited to bring them to attention of the Newsletter’s assistant editor Paulo Maurício ([paulo.asterix@gmail.com](mailto:paulo.asterix@gmail.com)) for inclusion in these sections.

## # Golden Oldie: HPS&ST Research from 30+ Years Ago

Good HPS&ST research is clearly written, philosophically informed, well-argued, and has enduring value. Clarity encourages critique and evaluation so that flaws can be identified and corrected. This is a condition for the advance of knowledge.

Much education research is timely. This is useful. But an unfortunate consequence can be that what is timely today might not be timely tomorrow. Circumstances change. The research might leave no trace. Conversely, some research can leave a big trace but be philosophically flawed and so do educational and, ultimately, cultural damage.

Good HPS&ST research has a long shelf-life. In defence of this claim, the [HPS&ST Newsletter](#) will identify 30+ years-old articles that had, and still have, philosophical, historical and educational value. These Golden Oldies are available, month-by-month [HERE](#)

*Seventh* in the series:

Ebison, Maurice G.: 1993, ‘Newtonian in Mind but Aristotelian in Heart’, *Science & Education* 2(4), 345-362.

**ABSTRACT.** This article discusses some core features of Aristotelian physics, and looks at their transformation by first Galileo, and then Newton. It shows how the Aristotelian view was rooted in commonsense, and indicates why this is the reason that such understandings prove so resistant to physics instruction. Some suggestions are made for guiding effective pedagogy.

Moreover, mechanics is to physics what the skeleton is to the human figure — at first glance it may appear stiff, cold, and somewhat ghastly, but even after a brief study of its functions one experiences with mounting excitement the discovery of an astonishingly beautiful design, of a structure that is ingeniously complex, yet so simple as to be almost inevitable. (Gerald Holton, *Introduction to Concepts and Theories in Science*)

Mechanics is one of the branches of physics in which the number of principles is at once very few and very rich in useful consequences. On the other hand, there are few sciences which have required so much thought — the conquest of a few axioms has taken more than 2000 years. (Rene Dugas, *A History of Mechanics*)

Although it is unsafe to read logical necessity into particular historical developments, the special position occupied by mechanics amongst the other branches of physics and natural science must be emphasised, for it was this special position that made it the starting point of modern science. (S. Sambursky, *The Physical World of the Greeks*)

There is, in nature, perhaps nothing older than motion, concerning which the books written by philosophers are neither few nor small; nevertheless I have discovered by experiment some properties of it which are worth knowing and which have not hitherto been either observed or demonstrated. (Galileo Galilei, *Dialogues Concerning Two New Sciences*)

Of the intellectual hurdles which the human mind has confronted and has overcome in the last fifteen hundred years, the one which seems to me to have been the most amazing in character and the most stupendous in the scope of its consequences is the one relating to the problem of motion. (Herbert Butterfield, *The Origins of Modern Science: 1300–1800*)

In the Beginning was Mechanics. (Max von Laue, *History of Physics*)

I offer this work as the mathematical principles of philosophy, for the whole burden of philosophy seems to consist in this — from the phenomena of motions to investigate the forces of nature, and then from these forces to demonstrate the other phenomena. (Isaac Newton, Preface to the *Principia*)

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## # PhD Awarded in HPS&ST

We welcome publishing details of all PhDs awarded in the field of HPS&ST. Send details (name, title, abstract, supervisor, web link) to editor: [m.matthews@unsw.edu.au](mailto:m.matthews@unsw.edu.au)

## # 2<sup>nd</sup> European Regional History Philosophy and Science Teaching Conference (IHPST) 27-29th June 2025, Athens, Greece



Conference theme: *Scientific Rationalism and Human Emancipation in Science Teaching: Perspectives from History, Philosophy and Sociology of Science*

### Plenary speakers

- Kostas Gavroglu (National and Kapodistrian University of Athens)
- Efthymios Nicolaidis (National Hellenic Research Foundation)

Contact email: [ihpst2025athens@gmail.com](mailto:ihpst2025athens@gmail.com)

For details: <https://ihpst2025.primedu.uoa.gr/>

## # Coming HPS&ST Related Conferences

May 20-21, 2025, Celebrating Ian Hacking, The University of Texas at Dallas

Details: [HERE](#)

June 11-14, 2025, Sixteenth Biennial History of Astronomy Workshop, -14, 2025, University of Notre Dame.

Details: [HERE](#)

June 26-27, 2025, 'Women's Scientific Literatures: The Poetry and Poetics of Early Modern Natural Philosophy' Anglia Ruskin University, Cambridge

Details: [HERE](#)  
 June 27-29, 2<sup>nd</sup> European Regional IHPST Conference. Athens  
 Details: [HERE](#)  
 June 29-July 5, 2025 International Congress of Science and Technology, Dunedin, New Zealand  
 Details: [HERE](#)  
 July 1-5, 2025, Australian Science Education Research Association (ASERA) annual conference, Deakin University, Melbourne  
 Details: [HERE](#)  
 July 20-25, 2025 ISHPSSB Conference, University of Porto.  
 Details: [HERE](#)  
 August 25-29, 2025, European Science Education Research Association, biennial conference, Copenhagen  
 Details: [HERE](#)  
 October 9-11, 2025, Society for History of Technology, annual conference, Luxembourg  
 Details: [HERE](#)  
 June 22-25, 2026, 8<sup>th</sup> ICASE World Conference on Science & Technology Education, University College, Cork, Ireland  
 Details: [HERE](#)

## # HPS&ST Related Organisations and Websites

[IUHPST](#) – International Union of History, Philosophy, Science, and Technology  
[DLMPST](#) – Division of Logic, Mathematics, Philosophy, Science, and Technology  
[DHST](#) – Division of History, Science, and Technology  
[IHPST](#) – International History, Philosophy, and Science Teaching Group  
[NARST](#) - National Association for Research in Science Teaching  
[ESERA](#) - European Science Education Research Association  
[ASERA](#) - Australasian Science Education Research Association  
[ICASE](#) - International Council of Associations for Science Education  
[UNESCO](#) – Education

[HSS](#) – History of Science Society  
[ESHS](#) – European Society for the History of Science  
[AHA](#) – American History Association  
[FHPP APS](#) - Forum on History and Philosophy of Physics of the American Physical Society  
[HAD AAS](#) - Historical Astronomy Division of the American Astronomical Society.  
[ACS HIST](#) – American Chemical Society Division of the History of Chemistry  
[GWMT](#) - Gesellschaft für Geschichte der Wissenschaften, der Medizin und der Technik  
[ISHEASTME](#) – International Society for the History of East Asian History of Science Technology and Medicine  
[EASE](#) - East-Asian Association for Science Education  
[BSHS](#) – British Society for History of Science  
[EPSA](#) - European Philosophy of Science Association  
[AAHPSSS](#) - The Australasian Association for the History, Philosophy, and Social Studies of Science  
[HOPOS](#) – International Society for the History of Philosophy of Science  
[PSA](#)– Philosophy of Science Association  
[BAHPS](#) - Baltic Association for the History and Philosophy of Science  
[BSPS](#) – The British Society for the Philosophy of Science  
[SPSP](#)- The Society for Philosophy of Science in Practice  
[ISHPSB](#) - The International Society for the History, Philosophy, and Social Studies of Biology  
[PES](#)– The Philosophy of Education Society (USA)  
[SHOT](#) - Society for the History of Technology

The above list is updated and kept on the HPS&ST website at: [HERE](#)

HPS&ST related organizations wishing their web page to be added to the list should contact assistant editor Paulo Maurício:  
[paulo.asterix@gmail.com](mailto:paulo.asterix@gmail.com)

## # HPS&ST NEWSLETTER PERSONNEL

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The newsletter has been produced and distributed for 30+ years with very little turnover of personnel. But new enthusiasm, connections and ideas are needed. If you have one or other of these qualities and would like to contribute to the newsletter, please make contact with the editor, sending a brief biog statement, your 'home' research community, and ideas on what you might be able to contribute.