HPS&ST NEWSLETTER

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The HPS&ST NEWSLETTER is emailed monthly to about 9,500 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 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 to the NEWSLETTER (publications, conferences, opinion pieces, &.) are welcome and should be sent direct to the editor: Michael R. Matthews, UNSW (m.matthews@unsw.edu.au).

The NEWSLETTER, along with RESOURCES, OBITUARIES, OPINION PIECES and more, are available at the website: http://www.hpsst.com/

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ESERA 2021 Conference, HPS&ST Presentations

The 14th European Science Education Research Association (ESERA) conference (zoom) was hosted by University of Minho, Braga, Portugal, 30 August – 3 September 2021. There were 922 participants from 50 countries. The 'Top Ten' countries being: Germany, Spain, USA, Sweden, United Kingdom, Brazil, Greece, Israel, Norway, and Portugal.

There were 60 HPS&ST-related presentations. Titles, authors and institutions are available here. Among these sessions was a symposium on 'Truth, Post-Truth and Trust'.

ESERA was initiated in Leeds, UK in 1995. As of 2021, it has about 1,200 active members from 52 countries. Of these, 797 are regular members and 403 are doctoral students. Presidents, who serve 4-year terms, have been:

1. Dimitris Psillos (Greece)
2. Robin Millar (UK)
3. Doris Jorde (Norway)
4. Justin Dillon (UK)
5. Manuela Welzer-Breuer (Germany)
6. Costas Constantinou (Cyprus)
7. Sibel Erduran (UK)

Science & Education Open Access Articles

Science & Education journal currently has 73 HPS&ST articles available gratis as Open Access. These can be seen and individually downloaded here.

One article available here is Damian Fernandez-Beanato's 'Feng Shui and the Demarcation Project'. This is a contribution to a coming (December 2021) 8-article thematic issue of the journal on 'Feng Shui: Philosophical, Cultural and Educational Perspectives'.

The thematic issue addresses the subject matter of the book: *Feng Shui: Teaching About Science and Pseudoscience* (Springer 2019).

Material related to Feng Shui and the thematic issue are available here.

Springer Book Series *Science: Philosophy, History and Education*

This series publishes authoritative books that address how history and philosophy can inform science education. Thoughtful consideration of the synergistic relationships among HPS and science education can improve science teaching and learning, science education policy and outreach, and the teaching and learning of HPS. Science education efforts to improve teaching and learning about the nature of science (NOS) should obviously be informed by HPS scholarship, but HPS also offers much more for improving science teaching. For instance, HPS plays an important role in teaching and learning for authentic conceptual understanding; making clear how such understanding requires all students to at times abandon everyday reasoning when learning particular science ideas.

Science education scholarship, in turn, can assist efforts among HPS scholars to promote public engagement with science and HPS. Recent emphasis on engineering and technology in science education calls for historians and philosophers in those disciplines to contribute their expertise in promoting a robust STEM education and avoiding undesired and unanticipated problems.

Questions regarding author ideas for book proposals should be directed to the Series Editor, Michael Clough (mclough@tamu.edu). Book proposals are to submitted to the Publishing Editor: Claudia Acuna (Claudia.Acuna@springer.com). For more information, please visit https://www.springer.com/series/13387

Strange Blood Open Access Book

This new book, *Strange Blood*, deals with a little-known but in its time wide-spread and much debated medical intervention: lamb blood transfusion. It took place across Europe and the US in the mid and late 19th century, and in places as far apart as Cincinnati, Berlin, Naples and St. Petersburg. It was used as a last resort to combat tuberculosis, mental illness and other serious conditions, but with contested results.

This is an Open Access book, free to download for everyone, via the link here.

The book may seem to deal with an esoteric subject but it connects to a number of wider, and contemporary, issues in medicine, social, and animal life. It presents a vivid story of medical ambition, human suffering and scientific controversy, in war and in peace.

To listen to an interview about the book, see here.

Boel Berner
Professor emerita
Department of Thematic Studies - Technology and Social Change
Linköping University
Sweden
home page: https://liu.se/en/employee/boebe37

China, First National Innovative-College-Teaching Contest

From July 27 to 30, 2021, The First National College Teacher Innovation Contest was held at Fudan University in Shanghai. A total of 50,386 teachers from 1,071 regular undergraduate

Innovative Teaching Prize Winners

institutions across the country participated in the competition, and 199 teaching teams (individuals) of them were finally shortlisted for the national competition. The contest was divided into online review and on-site reporting, and the content involved video recording of classroom teaching, reports on innovative achievements in curriculum teaching and innovative teaching design. And this contest has awarded 30 first prizes, 69 second prizes and 99 third prizes to the contestants. Judging from the works participating in the competition, the proportion in the field of science, engineering, agronomy and medicine accounted for 62.1%, demonstrating the concern for science, technology and engineering education.

The National College Teacher Innovation Contest was guided by the concept of *student-centred learning*. It was aimed at promoting teaching innovation and enhancing teaching innovation ability. From the innovation of situation introduction, curriculum content reconstruction, teaching methods and teaching evaluation, we can learn about what is the connotation of teaching innovation, and how to carry out inquiries and discussions on teaching innovation.

In the specific teaching process with the theme of science and technology education, we should pay more attention to the situation of social science issues and real problems, then guide students to acquire knowledge, learn methods and improve their ability and thinking in the process of solving real problems. At the level of specific content, the curriculum content is reconstructed in the light of the cutting-edge development of science and technology, the historical context and life problems solution. In terms of teaching method application, combined with the characteristics of science, engineering and other disciplines, adopted the project-based learning, scientific inquiry teaching, history and philosophy of science into teaching, modelling teaching and so on. Information technology is used to enrich teaching resources, innovate teaching environment, and carry out process-oriented, personalised and real-time teaching evaluation based on technology.

For example, in the teaching of *structural chem-*

istry, the development of chemical bond theory is specifically summarised. This introduced J.J. Berzelius's electrochemical dualism in 1811, the discovery of electron by J.J. Thomson *et al.* in 1897, and the theory of ionic bond by G.N. Lewis in 1916. From 1925 to 1926, W. Heisenberg and others made contributions to quantum mechanics. In 1927, W. Heitler and F. London proposed and formed the theory of valence bond. Guide students to understand the core connotation of the nature of science in the context of the history of science, such as how science develops, how scientists study science, and how the development of scientific theory needs evidence.

Yubo Do, President of CAHE
(China Association of Higher Education)

The first National College Teacher Innovation Contest tries to explore how to create teaching situations and teaching contents, reform teaching methods and evaluation in teaching around a specific theme and curriculum content. This teaching contest not only highlights the attention to the content of science, technology and engineering, but also explores how to apply innovative methods such as history and philosophy of science (HPS), Social Science Issues (SSI) and scientific modelling in university science and technology teaching. The fundamental purpose is to promote students' understanding of nature of science (NOS), enhance students' scientific thinking ability, improve students' scientific literacy, and lead students to form correct values.

China Association of Higher Education hosted of the contest, with guidance from Higher Education Department of the Ministry of Education, and support from universities and companies:

Fudan University, Beijing Institute of Technology, Nanjing University, Zhejiang University, University of Electronic Science and Technology of China, Xi'an Jiaotong University, and the Chinese Association for Suzhi Education.

PhD Awarded

Dr Anna Koumara
Email: anniekmr@gmail.com
Institution: Department of Early Childhood Education – University of Ioannina – Greece
Supervisor: Prof. Katerina Plakitsi

Title: *Teaching nature of science in Greece: evaluation of the condition and study of effective ways to include it into teaching in the secondary education*

Abstract:

The dissertation is about the integration of nature of scientific knowledge (NOSK) into teaching in the Greek Secondary Education. It starts with the theoretical background, about the definition of nature of science, and its characteristics. It continues with the presentation of the Cultural-Historical Activity Theory, according to Engeström, which is used as a theoretical framework in the design.

A literature review on NOSK teaching follows, on the effectiveness of NOSK teaching and its suggested teaching approaches. It continues with a research on the Greek educational system, which reveals that

the curriculum and the school textbooks do not contain NOSK aspects, most teachers do not know them as an organised body of knowledge, even if they empirically refer to some of them, and they never assess students on them. Finally, most students have naïve views on most NOSK aspects. Those lead to the decisions to organise a PD-program for in-service science teachers. The PD-program took place in Thessaloniki and 49 teachers participated, from April 2018 to May 2019, in six 3-hour meetings. The three NOSK teaching approaches (History of Science, Scientific Inquiry, and Socio-scientific issues) found in the literature were included in the PD-program, in this order.

Through the evaluation of the program, it was learnt: 1) considering cognitive results: a) participant teachers learned NOSK aspects, b) most of them are able to design a lesson plan that integrates NOSK aspects, and c) to integrate them into teaching. 2) Considering the structure of the PD-program: teachers regard a) the knowledge of the three approaches to be necessary, b) they agree with the order of their presentation, c) they mostly use the Scientific Inquiry, but they do not reject any of the three.

The dissertation ends with the discussion of the results and their interpretation based on the theoretical framework and the literature review.

Web link available here.

Dr Christine Janczur
Institute: Postgraduate Program of Science Biology - Laboratory of History of Biology and Education (LaHBE) - Dept. of Genetics and Evolutionary Biology, University of São Paulo, Brazil
Supervisor: Professor Dr. Maria Elice de Brzezinski Prestes.

Title: *Original sources of the History of Science in Biology Education: commented translation of the Preface and Parts 2 and 3 of the book* Introduction à L'étude de la Médecine Expérimentale (1865) *by Claude Bernard.*

Abstract:

This thesis is a historical, theoretical, and practical investigation of the translation of primary sources in the history of science. The research subject is the book *Introduction à l'Étude de la Médecine Expérimentale*, by the 19th-century French medical researcher, Claude Bernard (1813-1878), published in 1865. The chosen work is considered a landmark reference for the development of the experimental method in Human Physiology in the 19th-century. The general goal is to develop epistemic-methodological parameters specific to the translation of primary sources in the history of science, based on the articulation between the foundations of two areas of knowledge: the history of science and translation studies.

This thesis is structured in four parts. The First Part focuses on concepts related to translation and the role of the translator, the history of translation practices and theories, and contemporary approaches to the study of translation. In the second part, the path to the construction of a methodology specific to the translation of primary sources in the history of science is presented. For this, after analysing the practices of these translations and the discussions that appeared in the recent literature, aspects of the desired diachronic contextual translation for primary sources are identified. A detailed contrastive analysis of the translation carried out here compared with a prior translation to Portuguese offered illuminating examples of the effects on the final product. Based on this, epistemic and methodological aspects for the translation of primary sources in the history of science were identified. The third part contains the results of the research on Claude Bernard and his work, developed according to the methodology of the history of science.

After a contextualised analysis of his life and work, the two main aspects of the legacy left by the book are presented: the concept of the internal environ-

ment and experimental medicine and the approach on the glycogenic function of the liver. In part four, the commented bilingual translation is presented, which notes reflect the epistemic-methodological parameters resulting from this research. The translation included the Preface, the Chronology, and parts 2 and 3 of the book, complementing and developing a translation previously performed in my master's dissertation (Part 1 of Bernard's book).

The parameters developed can serve as a reference or a starting point for the theory and practice of translations from primary sources in the history of science. It also indicates the specificity of this type of technical translation, pointing to the potential for delimiting a particular type of translation. The translation presented here aims at an audience of students, teachers, and researchers from several fields of knowledge, from biomedical disciplines, passing through meta-scientific disciplines such as history, philosophy, and sociology of science to disciplines from areas of linguistics, history, and scientific education. The resulting translation also offers the potential to approach the contextual science teaching and learning process based on the use of primary sources.

Varia

Periodic Table lecture, Eric Scerri, Chemical Education Conference, Padua University

The 45 minute lecture (in English) begins after 4 minute introduction in Italian. Scerri maintains that chemical education currently puts the 'cart before the horse' by teaching atomic structure and even elementary quantum mechanics *before* teaching chemistry and the periodic table. In this lecture he proposes putting the 'horse' of chemistry and the periodic table before the cart of atomic structure and quantum mechanics.

Vale, Peter Fensham (1927-2021)

Peter Fensham, Australia's best known science educator, passed away 23 August 2021, aged 93 years. The Monash University obituary provides an account of his life, career, research and international influence.

Mario Bunge Obituaries

The Journal of General Philosophy of Science has published an obituary for Mario Bunge written by the German philosopher Martin Mahner: 'Conjoining Philosophy of Science and Scientific Philosophy' Vol.52, 2021, pp.3-23. It is available here. An earlier obituary for Bunge written by Michael Matthews is available here.

STEM Disciplines in Science Education Standards Documents in USA, Korea and Taiwan

The *Science & Education* 2020 article by Wonyong Park, Jen-Yi Wu and Sibel Erduran is available under Open Access.

A USA University Covid Mask-wearing Exchange

The following exchange about compulsory mask wearing between a US member of the HPS&ST community and a student at [a State University] is, surely, instructive at many levels. Not least of which is the care, time, attention, and patience invested by the professor in making an historically and scientifically informed response. It is the very model of an educative engagement between teacher and student.

Dear Professor X,

My name is David [not real name], I'm a student at [University] and a leader of [a conservative libertarian activist group] here. We've been working on a petition to end the mask mandate in classrooms, and are hoping to get some staff and faculty signatures.

If you agree that the mask mandate is unnecessary at this point, please sign the petition at [the group's website].

Thanks, – David

The professor's response:

David,

Have you ever heard of a disease called Polio? There was a little boy in my neighborhood who had it when we were in grade school (six decades ago). His name was David Philby. He occasionally hobbled out of his house wearing his stiff leather boots, clunky metal leg braces, and full arm crutches. He would stand in silence at the sidelines watching us play baseball or football. He was a victim of polio. He died from it when he was about ten years old. In those days, everyone knew someone who had contracted polio, but for most people today it is a vague and distant memory.

We also had a tuberculosis sanitorium in my home town, but by the time I was in grade school tuberculosis had been brought under control, and the sanitorium had been converted into an orphanage. Have you ever known anyone who had tuberculosis?

What about measles? Mumps? Rubella? Chickenpox? Scarlet Fever? Small Pox? Hepatitis? Diphtheria? Meningitis? Pertussis? Have you ever had any of these diseases? Probably not. These diseases were common just a generation or two ago. What happened to change that? Well, let me explain. Medical science created vaccines for most of them, antibiotics and other effective treatments for the rest of them. In 1918 a particularly virulent form of Influenza (nicknamed the 'Spanish Flu') swept across the globe in a pandemic that killed over 25 million people. Today, we are able to vaccinate for flu, also.

We are currently dealing with a new pandemic. Covid and its metastasizing variants has already killed millions of people worldwide, and over 650,000 people in our own country. Yet, thanks to a strangely deranged political environment this pandemic has become the beneficiary of an anti-science mentality that began by declaring the disease itself a 'hoax,' and has continued to generate an irrational resistance to vaccines and other public health measures known to mitigate the spread and the severity of this disease. Yes, most people can recover from it, especially if they have been vaccinated.

But for those who meet with its worst effects, the end game is unimaginably gruesome. Your kidneys and other organs are damaged; the delicate tissue in your lungs is compromised and begins to leak; your lungs fill up and you literally drown in your own fluids. Those 'ventilators' they use don't just ventilate your lungs, they also involve a tube that gets shoved down into your lungs so they can suck out the fluid. For those who get to that point, it is a terrible way to die.

We can mitigate the spread of this awful disease. Even those of us who are healthy have an opportunity to help slow the spread of it for the benefit of our fellow citizens. Masks do not prevent the spread of this disease altogether, of course, but they are highly effective. Of course, the polit-

ical rhetoric denies that masks do any good at all. Really? Then why do surgeons and other medical professionals in the operating room wear masks when they open you up? Because they contain the spread of bacteria and viruses. 100%? Maybe not. But they do help.

Instead of wasting your time distributing a counter-productive petition to interfere with this one tiny mitigation effort that all of us could be accepting graciously as a matter of personal responsibility, I would suggest you and your friends get behind a massive public drive to ensure that everyone gets vaccinated. The reason polio, mumps, whooping cough, smallpox, chicken pox, diphtheria, and other once common childhood diseases are almost unheard of today is because our society had the wisdom and the fortitude to require vaccinations of all children, including you, so that no one would have to lose a child to these diseases ever again.

Your petition to resist the wearing of masks is on the wrong side of this public health emergency. We should be doing all we can to slow the spread of this disease, not to perpetuate it. Part of the problem here is the fact that young Americans have a razor-sharp conviction around the topic of their own freedom and liberty, but a diminished understanding of the associated duties and responsibilities, and an appalling lack of historical knowledge concerning the classical and the Enlightenment traditions of liberal education, democracy, liberty, and their associated commitments to scientific culture, empirical evidence, reason, and ethical duty. Freedom is a dissemination of responsibility, not a dispensation from it.

If you choose to continue circulating this pernicious petition, let me suggest that you at least become consistent in your thinking, and include a line in the petition by which those who sign it agree to forgo medical treatment in the event they contract Covid, and a second line in which they confirm their own legal liability if anyone contracts Covid from them as a result of their refusal to wear a mask. These two modifications to the petition would create a far more consistent and responsible public statement, holding each person responsible for the consequences of their choices.

And, no, I will not sign your petition. I hate wearing masks, but I will continue to follow CDC guidelines. I am vaccinated, so I will not get deathly ill from Covid, but I can still spread it to others if I come into contact with it, so I wear the mask for the sake of other people, most of whom are strangers to me. Our public health guidelines requiring masks are created by people who actually know what they are talking about, rather than merely talking about what they know we want to hear. If we refuse to wear the masks, then the disease will spread through our campus environments, and we will once again find ourselves taking classes via distance technology. If we were all vaccinated, we would have this disease under control, just like those diseases I listed at the beginning of this email. But 'true patriots' are refusing that responsible course of action as well.

With freedom comes responsibility, whether we like it or not. If we are unwilling to accept responsibility, then it will not be too long before our freedoms actually do erode, not from nefarious players, but from natural causes.

I pray you will continue your education… until it takes.

Respectfully,

Professor X, Ph.D.

Opinion Piece I: Pseudophilosophy encourages confused, self-indulgent thinking | Victor Moberger, Stockholm University

Victor Moberger received his PhD in philosophy from Uppsala University in 2018. He is currently employed as a researcher at Stockholm University in Sweden. His university profile is available here.

There are many kinds of pseudosciences: astrology, homeopathy, flat-Earthism, anti-vaxx. These 'fields' traffic in bizarre claims with scientific pretensions. On a surface level, these claims seem to be scientific and usually appear to comment on the same kind of things that science does. However, upon closer inspection, pseudoscience is revealed to be bullshit: it is indifferent to the truth. Analogous to pseudoscience, can there be such a thing as pseudophilosophy, in which one makes claims with philosophical pretensions which on closer inspection turn out to be bullshit? I think there is.

Let's begin with the concept of pseudophilosophy. If there is something deserving of that name, then it would be deficient with respect to philosophical issues in the same way that pseudoscience is deficient with respect to scientific issues. So, in order to get a grip on pseudophilosophy, we should first look more closely at the way in which pseudoscience is deficient, and then see whether we can find something analogous in the philosophical domain.

What makes pseudoscientific beliefs deficient is that they're formed in an *epistemically unconscientious* way. That's to say, these beliefs are made from culpably confused and uninformed reasoning. For example, the belief that the Earth is flat can be sustained only by self-willed disregard of the massive amounts of evidence to the contrary, accumulated over several centuries by several different sciences.

However, such unconscientiousness doesn't presuppose insincerity or charlatanry. A charlatan is someone who has a hidden, usually profit-seeking, agenda and who is fundamentally indifferent to whether their beliefs are true. Often bullshit is produced without such insincerity, however, since one can care about the truth of one's beliefs without taking care with respect to it.

A problem is that most of us are lacking in epistemic conscientiousness, at least sometimes and to some extent. In order for something to count as pseudoscience, some minimal degree of unconscientiousness is therefore required. A good rule of thumb for being conscientious is to keep an eye out for classical fallacies such as *ad hominem*, straw man, false dilemma and cherry-picking. Such fallacies occur in all kinds of contexts, but in pseudoscience they occur more systematically.

Epistemic unconscientiousness is an essential but not exhaustive component of pseudoscience. To count as pseudoscientific, a belief must also be

about some scientific issue, and this is precisely where pseudoscience and pseudophilosophy differ. Just like pseudoscience, pseudophilosophy is defined by a lack of epistemic conscientiousness, but its subject matter is philosophical rather than scientific.

Roughly speaking, the difference between scientific and philosophical issues is that the latter aren't in any straightforward way resolvable via empirical investigation. Whether there is a God, for example, or whether there are objective moral truths, are questions that have to be answered largely via a priori reflection, if at all. These questions are thus different from questions such as whether the Earth is flat or spherical, or whether anthrax is caused by bacteria, which do have empirically accessible answers.

There are two kinds of pseudophilosophy, one mostly harmless and the other insidious. The first variety is usually found in popular scientific contexts. This is where writers, typically with a background in the natural sciences, walk self-confidently into philosophical territory without realising it, and without conscientious attention to relevant philosophical distinctions and arguments. Often implicit empiricist assumptions in epistemology, metaphysics and the philosophy of language are relied upon as if they were self-evident, and without awareness of the threat that those very assumptions pose to the author's own reasoning. We can call this phenomenon scientistic pseudophilosophy.

An illustrative example is Sam Harris's book *The Moral Landscape* (2010), in which straw men are lined up due to Harris's failure to grasp the content of many of the philosophical claims and arguments that he criticises, such as Hume's law (or the is/ought problem) and G.E. Moore's open-question argument (ie, that no moral property is identical to a natural property).

Similarly, in *A Universe from Nothing* (2012), Lawrence Krauss engages with philosophical arguments for theism without understanding them properly. Most saliently, he ends up criticising a caricature version of the so-called cosmological argument about the existence of God.

The insidious kind of pseudophilosophy, which I will focus on here, is an academic enterprise, pursued primarily within the humanities and social sciences. I don't mean to suggest that the disciplines in question are *inherently* pseudophilosophical, only that, for some reason, a whole lot of pseudophilosophy goes on within them (although this will vary greatly between different universities and departments). Often philosophical issues are raised concerning knowledge, truth, objectivity, rationality and scientific methodology, and, again, without conscientious attention to relevant philosophical distinctions and arguments.

A characteristic trait is a deferential attitude toward some supposedly great continental European thinker or thinkers, such as G.W.F. Hegel, Karl Marx, Sigmund Freud, Carl Jung, Martin Heidegger or Jean-Paul Sartre (who might or might not have themselves been guilty of pseudophilosophy). Usually, the prose is infused with arcane terminology and learned jargon, creating an aura of scholarly profundity. We can call this phenomenon obscurantist pseudophilosophy.

While pseudoscience is particularly prone to causal fallacies and cherry-picking of data, the most common fallacy in obscurantist pseudophilosophy is equivocation. This fallacy exploits ambiguities in certain key terms, where plausible but trivial claims lend apparent credibility to inter-

esting but controversial ones. When challenged, the obscurantist will typically retreat to the safe house provided by the trivial interpretation of his claims, only to reoccupy the controversial ground once the critic has left the scene.

Let me illustrate how this works, focusing on Michel Foucault, one of the central figures of French postmodernism. A central theme in Foucault's writings is a critique of the notion of objective truth. Although there are controversies about interpretation, at least on the face of it Foucault maintains that truth is socially constructed and subject to ideological influence, and therefore not objective. However, his arguments for this claim focus entirely on the way in which what is assumed or believed to be true is influenced by what he refers to as 'power'. It is, of course, a plausible claim that our assumptions or beliefs are susceptible to ideological influence, especially in emotionally charged areas such as politics, but also in supposedly rational areas such as science.

But Foucault doesn't explain how this rather mundane observation is supposed to imply or support the philosophically controversial claim that what is true, or which facts obtain (concerning the shape of the Earth, for example), is susceptible to ideological influence. Instead, by using the word 'truth' in an impressionistic fashion, the distinction between belief and truth is smudged over, allowing Foucault to make seemingly profound statements such as:

> [T]ruth isn't outside power, or lacking in power: contrary to a myth whose history and functions would repay further study, truth isn't the reward of free spirits, the child of protracted solitude, nor the privilege of those who have succeeded in liberating themselves. Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint.

I leave it as an exercise to the reader to disambiguate this statement and see what remains.

This kind of fallacious critique of the notion of objective truth is a particularly pernicious aspect of obscurantist pseudophilosophy in general. Often, it's due to simple misunderstandings (such as confusing truth with belief or knowledge), but sometimes it's due rather to wilful obscurity (as in the case of Foucault).

Perhaps due to its aura of academic legitimacy and profundity, obscurantist pseudophilosophy is often used to give credence to dogmatic and bellicose political agendas, both on the Left and on the Right. Beyond that, it encourages confused and self-indulgent thinking in university students, and consumes vast resources that could be put to better use.

While pseudoscience can perhaps be counteracted by science education, the cure for pseudophilosophy is not science education but philosophical education. More specifically, it is a matter of developing the kind of basic critical thinking skills that are taught to undergraduates in philosophy. This doesn't need to be anything fancy. Students should be taught things like learning to distinguish in a disciplined way between central philosophical concepts such as belief, truth, rationality and knowledge. They should be aware of the way ambiguities can be exploited by equivocating arguments, and become adept at how to spot other fallacies such as ad hominem and straw man. With these fundamental tools in hand, there would be a good deal less pseudophilosophy going around.

Reproduced with thanks from *Aeon* magazine, 9 February 2021.

Opinion Piece II: Language Crimes: A Lesson in How Not to Write, Courtesy of the Professoriate, Dennis Dutton

Denis Dutton (1944-2010) gained his PhD in philosophy at University of California, Santa Barbara, and was Professor of Philosophy, University of Canterbury, New Zealand. He founded, and for 23 years edited, the journal *Philosophy and Literature*. In 1998 he commenced the web-based newsletter *Arts & Letters Daily*.

Pick up an academic book, and there's no reason to expect the writing to be graceful or elegant. Many factors attract people to the scholarly life, but an appealing prose style was never a requirement for the job.

Having spent the past 23 years editing a scholarly journal, *Philosophy and Literature*, I have come to know many lucid and lively academic writers. But for every superb stylist there are a hundred whose writing is no better than adequate — or just plain awful.

While everyone moans (rightly) about the decline in student literacy, not enough attention has been given to deplorable writing among the professoriate. Things came to a head, for me, a few years ago when I opened a new book aptly called *The End of Education: Toward Posthumanism*. It began:

> This book was instigated by the Harvard Core Curriculum Report in 1978 and was intended to respond to what I took to be an ominous educational reform initiative that, without naming it, would delegitimate the decisive, if spontaneous, disclosure of the complicity of liberal American institutions of higher learning with the state's brutal conduct of the war in Vietnam and the consequent call for opening the university to meet the demands by hitherto marginalized constituencies of American society for enfranchisement.

This was written by a professor of English. He's supposed to teach students how to write.

Fed up, I resolved to find out just how low the state of academic writing had sunk. I could use the Internet to solicit the most egregious examples of awkward, jargon-clogged academic prose from all over the English-speaking world. And so, the annual **Bad Writing Contest** was born.

The rules were simple: Entries should be a sentence or two from an actual published scholarly book or journal article. No translations into English allowed, and the entries had to be non-ironic: We could hardly admit parodies in a field where unintentional self-parody was so rampant.

Each year for four years now the contest has attracted around 70 entries. My co-editors at *Philosophy and Literature* and I are the judges, and the winner is announced in the journal.

No one denies the need for a specialised vocabulary in biochemistry or physics or in technical areas of the humanities like linguistics. But among literature professors who do what they now call "theory" — mostly inept philosophy applied to literature and culture — jargon has become the emperor's clothing of choice.

Thus, in *A Defense of Poetry*, English Prof. Paul Fry writes:

> It is the moment of non-construction, disclosing the absentation of actuality from the concept in part through its invitation to emphasize, in reading, the helplessness — rather than the will to power — of its fall into conceptuality.

If readers are baffled by a phrase like "disclosing the absentation of actuality," they will imagine it's due to their own ignorance. Much of what passes for theory in English departments depends on this kind of natural humility on the part of readers. The writing is intended to look as though Mr. Fry is a physicist struggling to make clear the Copenhagen interpretation of Quantum Mechanics. Of course, he's just an English professor showing off.

The vatic tone and phony technicality can also serve to elevate a trivial subject. Many English departments these days find it hard to fill classes where students are assigned Milton or Melville, and they are transforming themselves into departments of so-called cultural studies, where the students are offered the analysis of movies, television programs, and popular music. Thus, in a laughably convoluted book on the Nancy Kerrigan/Tonya Harding affair, we read in a typical sentence that "this melodrama parsed the transgressive hybridity of un-narratived representative bodies back into recognizable heterovisual modes."

The pretentiousness of the worst academic writing betrays it as a kind of intellectual kitsch, analogous to bad art that declares itself "profound" or "moving" not by displaying its own intrinsic value but by borrowing these values from elsewhere. Just as a cigar box is elevated by a Rembrandt painting, or a living room is dignified by sets of finely bound but unread books, so these kitsch theorists mimic the effects of rigour and profundity without actually doing serious intellectual work. Their jargon-laden prose always suggests but never delivers genuine insight. Here is this year's winning sentence, by Berkeley Prof. Judith Butler, from an article in the journal *Diacritics*:

> The move from a structuralist account in which capital is understood to structure social relations in relatively homologous ways to a view of hegemony in which power relations are subject to repetition, convergence, and rearticulation brought the question of temporality into the thinking of structure, and marked a shift from a form of Althusserian theory that takes structural totalities as theoretical objects to one in which the insights into the contingent possibility of structure inaugurate a renewed conception of hegemony as bound up with the contingent sites and strategies of the rearticulation of power.

To ask what this means is to miss the point. This sentence beats readers into submission and instructs them that they are in the presence of a great and deep mind. Actual communication has nothing to do with it.

As a lifelong student of Kant, I know that philosophy is not always well-written. But when Kant or Aristotle or Wittgenstein are most obscure, it's because they are honestly grappling with the most complex and difficult problems the human mind can encounter. How different from the desperate incantations of the Bad Writing Contest winners, who hope to persuade their readers not by argument but by obscurity that they too are the great minds of the age.

Reproduced from *The Wall Street Journal*, February 5, 1999

Invitation to Submit Opinion Piece

In order to make better educational use of the wide geographical and disciplinary reach of this HPS&ST NEWSLETTER, 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 Michael Matthews or Nathan Oseroff-Spicer.

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 NEWSLETTER.

They will be archived in the OPINION folder at the HPS&ST web site: http://www.hpsst.com/.

Bad Writing in Education?

Both opinion pieces distinguish simple, ordinary, everyday poor writing from bad writing. While all bad writing is poor writing, not all poor writing is bad; sometimes it can be just lazy, careless or untutored.

The opinion pieces deal with Bad Writing in the fields of Philosophy and English Studies. The question can be raised whether Bad Writing is a disciplinary problem in Education. This, for the very reasons that Moberger and Dutton advance above, deserves attention. Could Education sustain a comparable Bad Writing Contest?

Stephen Shapin touches on this blight in history of science writing:

> But the problem to which it is worth drawing attention is the particular species of bad writing that is, so to speak, institutionally intentional. Initiates learn to write badly as a badge of professionalism; they resist using the vernacular because it doesn't sound smart enough; they infer from obscurity to profundity. Some things are indeed hard to say in ordinary English, but not nearly so many as academics pretend. ('Hyper-professionalism and the crisis of readership in the history of science', *Isis*, 2005, 96(2), 238–243).

The HPS&ST NEWSLETTER is an appropriate vehicle to mull over the question. If readers have examples of what they regard as Bad Writing in Education, or HPS, please do send the instances, with full bibliographic details to the Editor.

If such examples are sent, and are judged to meet the rigorous standards for Bad Writing, they would be published *sans* authorship. The issue can be, with benefit, aired without identification of author. That a piece of bad writing has been published in an established journal, or book series, suffices to show that the discipline has a problem; that the author has a particular writing problem is unfortunate but is a separate matter that is not of immediate concern to newsletter readers. If any reader would care to take on responsibility for overseeing the Bad Writing exercise, that would be appreciated. Please contact the Editor.

PhD Theses in HPS&ST Domain

The HPS&ST NEWSLETTER is the ideal medium for publicising and making known submitted and awarded doctoral theses in the HPS&ST domain.

The following details should be submitted to the editor at m.matthews@unsw.edu.au:

- Candidate's name and email
- Institution
- Supervisor
- Thesis title

- Abstract of 100-300 words

- Web link when theses are required to be submitted for open search on web.

Latin American HPS&ST Events

22ª Reunión de Educación en Física (22nd Meeting of Physics Education)

The Meeting of Physics Education, promoted by the Association of Teachers of Physics of Argentina (APFA) since 1978, will be organised from Santiago del Estero with a modality that will allow remote participation. The meeting will be held virtually from September 27th to October 1st. Information may be found in http://apfa.org.ar/ref22/

XIII Encontro Nacional de Pesquisa em Educação em Ciências (XXI National Meeting of Research on Science Education)

The meeting is organised by the Brazilian Association of Research on Science Education. Its theme will be "The centrality of research on science education in times of non-science movements: interaction, communication and legitimation" and it will be held virtually from September 27th to October 1st. There will be a special thematic session for works on History, Philosophy and Sociology of Science. Information may be found in https://www.enpec2021.com.br/sobre.php

Escola Paranaense de História e Filosofia da Ciência e da Tecnologia (Paraná School of History and Philosophy of Science and Technology)

In its sixth edition, the Paraná School of History and Philosophy of Science has the purpose of providing its audience with an initiation into the analytical and conceptual universe of critical understanding of scientific and technological practices. It will be held from November 23 to 26. Information may be found here.

Cycle of seminars to celebrate the 30th anniversary of Group of History, Theory and Science Teaching

The GHTC (Group of History, Theory and Science Teaching) is a Brazilian research group formed by

researchers in the history of science and its interfaces with science education. It was founded in 1991 in Brazil by Professor Roberto de Andrade Martins and is completing 30 years of activities.

To celebrate this anniversary, we organised a cycle of seminars inviting colleagues who are part of our history. The seminars will take place from October 4th to 29th, 2021. For the program, please visit here. It will be a great joy to have you at this party!

The International Society for the Philosophy of Chemistry (ISPC) Symposium

The symposium was held in Buenos Aires (Argentina) in July 2021, when scholars working on philosophy of chemistry shared their research results and discuss the current topics of the discipline. Information about the symposium, including the link to the streaming in youtube may be found here.

2021 Simpósio Nacional de Ensino de Física (2021 National Symposium of Physics Teaching)

In July 2021 the National Symposium of Physics Teaching in Brazil was held. The event was dedicated to different themes in Physics teaching, also encompassing History and Philosophy in Physics Teaching. Information about the event and the link to speeches (including the speech of the Nobel Laureate Carl Weiman) may be found here.

Recent HPS&ST Research Articles

Centaurus (Vol. 63, Issue 3, August 2021)

Spotlight Section: Silvanus P. Thompson: Quaker polymath and public scientist-engineer

Historiographical Section: History of Science in Central and Eastern Europe

Edited by: Stathis Arapostathis, Graeme Gooday, Mitchell G. Ash

Journal for General Philosophy of Science (Vol. 52, Issue 1, March 2021)

Special Section: Thinking Crossroads: From Scientific Pluralism to Pluralist History of Science

Editors: Matteo Vagelli, Laurent Loison, Ivan Moya-Diez

Alghamdi, A.K.H., Alotaibi, W. (2021). Bringing Science Fiction Story Writing to Saudi Science Education: Writing-to-Learn Exploratory Case Study. *Sci & Educ*, 1-17. doi:10.1007/s11191-021-00254-7

Alvarado, R. (2021). Computer Simulations as Scientific Instruments. *Found Sci*, 1-21. doi:10.1007/s10699-021-09812-2 online first

Antiochou, K. (2021). Science communication: challenges and dilemmas in the age of COVID-19. *HPLS*, 1-4. doi:10.1007/s40656-021-00444-0 online first

Antink-Meyer, A., Arias, A.M. (2021). Teachers' Incorporation of Epistemic Practices in K-8 Engineering and Their Views About the Nature of Engineering Knowledge. *Sci & Educ*, 1-26. doi:10.1007/s11191-021-00265-4 online first

Bhakthavatsalam, S., Sun, W. A Virtue Epistemological Approach to the Demarcation Problem: Implications for Teaching About Feng Shui in Science Education. *Sci & Educ*, 1-32. doi:10.1007/s11191-021-00256-5 online first

Bichara, D.B., Dagher, Z.R. & Fang, H. (2021). What do COVID-19 Tweets Reveal about Public Engagement with Nature of Science?. *Sci & Educ*, 1-31. doi:10.1007/s11191-021-00233-y online first

Birch, J. (2021). Science and policy in extremis: the UK's initial response to COVID-19. *Euro Jnl Phil Sci*, 1-27. doi:10.1007/s13194-021-00407-z online first

Bursten, J.R.S., Strandmark, M. (2021). Better learning through history: using archival resources to teach healthcare ethics to science students. *Euro Jnl Phil Sci*, 1-14. doi:10.1007/s13194-021-00406-0 online first

Chion, A. R., Adúriz-Bravo, A. (2021). In Sickness and in Health: Narratives on Epidemics as Tools for Science Teaching in Secondary Schools. *Sci & Educ*, 1-23. doi:10.1007/s11191-021-00258-3 online first

Chowdhury, T., Holbrook, J., Reis, P. et al. (2021). Bangladeshi Science Teachers' Perceived Importance and Perceived Current Practices in Promoting Science Education Through a Context-Based, Socio-scientific Framework. *Sci & Educ*, 1-37. doi:10.1007/s11191-021-00236-9 online first

Davidson, S.G., Jaber, L.Z. & Southerland, S.A. (2021). Cultivating Science Teachers' Understandings of Science as a Discipline. *Sci & Educ*, 1-27. doi:10.1007/s11191-021-00276-1 online first

Deser, S. (2021). The ADM version of GR at Sixty: a brief account for historians. *EPJ H*, 46(1). doi:10.1140/epjh/s13129-021-00019-4

Fernandez-Beanato, D. (2021). Feng Shui and the Demarcation Project. *Sci & Educ*, 1-19. doi:10.1007/s11191-021-00240-z online first

French, S., Murphy, A. (2021). The Value of Surprise in Science. *Erkenntnis*, 1-20. doi:10.1007/s10670-021-00410-z online first

Gamini, A.M. (2021). A Critique of Darwin's The Descent of Man by a Muslim Scholar in 1912: Mu□ammad-Ri□ā I□fahānī's Examination of the Anatomical and Embryological Similarities Between Human and Other Animals. *J Hist Biol*, 1-27. doi:10.1007/s10739-021-09641-w online first

Gantet, C. (2021). The dissemination of mesmerism in Germany (1784–1815): Some patterns of the circulation of knowledge. *Centaurus*, 1–17. doi:10.1111/1600-0498.12396 online first

Ginnobili, S., González Galli, L. & Ariza, Y. (2021). Do What Darwin Did: How to Deal with Teleological Misconceptions in the Classroom. *Sci & Educ*, 1-21. doi:10.1007/s11191-020-00186-8 online first

Gori, P. (2021). Ernst Mach's Contribution to the Philosophy of Science in Light of Mary B. Hesse's Post-Empiricism. *HOPOS: The Journal of the International Society for the History of Philosophy of Science*. doi:10.1086/715876 [Just accepted]

Gu, C., Feng, Y. (2021). Influence of Public Engagement with Science on Scientific Information Literacy During the COVID-19 Pandemic: Empirical Evidence from College Students in China. *Sci & Educ*, 1-15.

doi:10.1007/s11191-021-00261-8 online first

Han-Tosunoglu, C., Ozer, F. (2021). Exploring Pre-service Biology Teachers' Informal Reasoning and Decision-Making About COVID-19. *Sci & Educ*, 1-31. doi:10.1007/s11191-021-00272-5 online first

Hopwood, N., Müller-Wille, S., Browne, J. et al. (2021). Cycles and circulation: a theme in the history of biology and medicine. HPLS, 1-39. doi:10.1007/s40656-021-00425-3 online first

Humar, M. (2021). Metaphors as models: Towards a typology of metaphor in ancient science. HPLS, 1-26. doi:10.1007/s40656-021-00450-2 online first

Iranzo, V., Pérez-González, S. (2021). Epidemiological models and COVID-19-19: a comparative view. HPLS, 1-24. doi:10.1007/s40656-021-00457-9 online first

Ippoliti, E. (2021). Why Finance Needs Philosophy (and Vice Versa): Some Epistemic and Methodological Issues. *Found Sci*, 1-18. doi:10.1007/s10699-021-09804-2 online first

Kaalund, N., & Woitkowitz, J. (2021). 'Ancient lore with modern appliances': Networks, expertise, and the making of the Open Polar Sea, 1851–1853. *The British Journal for the History of Science*, 1-23. doi:10.1017/S0007087421000522 online first

Kiang, K.M., Szeto, W.M. (2021). Teaching Traditional Chinese Science as a Part of a NOS Curriculum in Hong Kong. *Sci & Educ*, 1-20. doi:10.1007/s11191-021-00248-5 online first

Leone, M., Robotti, N. Guglielmo Marconi, Augusto Righi and the invention of wireless telegraphy. EPJ H, 46(1). doi:10.1140/epjh/s13129-021-00021-w

López, A.I.M., Marco, P. T. (2021). Misconceptions, Knowledge, and Attitudes Towards the Phenomenon of Radioactivity. *Sci & Educ*, 1-22. doi:10.1007/s11191-021-00251-w online first

Maxwell, N. (2021). Improve Popper and Procure a Perfect Simulacrum of Verification Indistinguishable from the Real Thing. *J Gen Philos Sci*, 1-23. doi:10.1007/s10838-021-09570-6 online first

Mazzocchi, F. (2021). Drawing lessons from the COVID-19 pandemic: science and epistemic humility should go together. *HPLS*, 1-5. doi:10.1007/s40656-021-00449-9 online first

Meli, K., Koliopoulos, D. & Lavidas, K. (2021). A Model-Based Constructivist Approach for Bridging Qualitative and Quantitative Aspects in Teaching and Learning the First Law of Thermodynamics. *Sci & Educ*, 1-35. doi:10.1007/s11191-021-00262-7 online first

Minor, A, (2021). Atoms in the campus: Van de Graaff accelerators and the making of two major Latin American universities in 1950s Brazil and Mexico. Annals of Science. doi:10.1080/00033790.2021.1949493 online first

Ortiz-Revilla, J., Greca, I.M. & Arriassecq, I. (2021). A Theoretical Framework for Integrated STEM Education. *Sci & Educ*, 1-22. doi:10.1007/s11191-021-00242-x online first

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Pereira, A., Solbes, J. The Dynamics of Perspective in Quantum Physics: An Analysis in the Context of Teacher Education. *Sci & Educ*, 1-24. doi:10.1007/s11191-021-00252-9 online first

Rubinson, P. (2021). Mistress of the Sciences, Asylum of Liberty: Joseph Priestley, Human Rights, and Science in the Early U.S. Republic. *Isis*, 112(3), 484-506. doi:10.1086/715732

Seddon, P.B. (2021). Nature Chose Abduction: Support from Brain Research for Lipton's Theory of Inference to the Best Explanation. *Found Sci*, 1-17. doi:10.1007/s10699-021-09811-3 online first

Song, J., Chun, J. & Na, J. (2021). Why People Trust Something Other than Science. *Sci & Educ*, 1-33. doi:10.1007/s11191-021-00243-w online first

Soysal, Y. (2021). Middle School Science Teachers' Discursive Purposes and Talk Moves in Supporting Students' Experiments. *Sci & Educ*, 1-47. doi:10.1007/s11191-021-00266-3 online first

Zhang, M., Liu, B. (2021). The Theoretical Foundations of Feng Shui and Science Education in China: The Debate on the Benchmark for Scientific Literacy of Chinese Citizens. *Sci & Educ*, 1-18. doi:10.1007/s11191-021-00241-y online first

Recent HPS&ST Related Books

Boscarino, Giuseppe (2021). *Epistemology of Hope: The Creed of the Free Spirit*. Varazze (SV): PM edizioni. ISBN: 978-8-831-22274-7

"The book was born in a sad and troubled historical moment of our time, of covid 19, where common forms of feeling, perceiving and experiencing the natural thing mediate with higher forms of interpreting it scientifically, as well as of relating ourselves to it from an economic and political point of view. All this calls into question still other more complex forms of interpreting it and relating to it, such as religions, philosophies, morals. And with them, hoping, believing and thinking. The comparison is with the ways of believing, thinking and hoping within what we call traditions of thought. These have conceived their relationships differently. Our belief in the light of what also comes to us from what we have called the protoscience of Lucretius and which led us to give the title of our book, is that the potentiality, which can be believed to be the foundation of hope, is not an ontological category of reality, which instead is what it is both in its apparent being, the phenomenon, changeable over time, as in its being, unchanging over time, the essence, but rather an epistemological category, of the episteme, that is, of the scientific theory, either in its elementary forms, which we analyse, or in the most advanced and developed ones of the traditions of thought, within which it lives, in particular, according to our own belief, in the Italic one." (From the Author)

More information available here. (Italian Edition) and available here (English Edition).

Briggs, Andrew, & Reiss, Michael J. (2021). *Human Flourishing: Scientific insight and spiritual*

wisdom in uncertain times. Oxford, UK: Oxford University Press. ISBN: 978-0-198-85026-7

> "For thousands of years, humans have asked 'Why we are here?' and 'What makes for a good life?' At different times, different answers have held sway. Nowadays, there are more answers proposed than ever. Much of humanity still finds the ultimate answers to such questions in religion. But in countries across the globe, secular views are widely held. In any event, whether religious or secular, individuals, communities and governments still have to make decisions about what people get from life.
>
> "This book therefore examines what is meant by human flourishing and see what it has to offer for those seeking after truth, meaning and purpose. This is a book written for anyone who wants a future for themselves, their children, and their fellow humans - a future that enables flourishing, pays due consideration to issues of truth and helps us find meaning and purpose in our lives.
>
> "At a time when most of us are bombarded with messages about what we should or should not do to live healthily, attain a work-life balance and find meaning, a careful consideration of the contributions of both scientific insight and spiritual wisdom provides a new angle. This is therefore a book that not only helps readers clarify their views and see things afresh but also help them improve their own well-being in an age of AI and other new technologies." (From the Publisher)

More information available here.

Cavicchi, Elizabeth & Heering, Peter (Eds.) (2021). *Historical Scientific Instruments in Contemporary Education* (Scientific Instruments and Collections, Volume: 9). Leiden: Brill.
ISBN: 978-9-004-49967-6

> "These essays draw on recent and versatile work by museum staff, science educators, and teachers, showing what can be done with historical scientific instruments or replicas. Varied audiences - with members just like you - can be made aware of exciting aspects of history, observation, problem-solving, restoration, and scientific understanding, by the projects outlined here by professional practitioners. These interdisciplinary case studies, ranging from the cinematic to the hands-on, show how inspiration concerning science and the past can give intellectual pleasure as well as authentic learning to new participants, who might include people like you: students, teachers, curators, and the interested and engaged public.
>
> "Contributors are Dominique Bernard, Paolo Brenni, Roland Carchon, Elizabeth Cavicchi, Stéphane Fischer, Peter Heering, J.W. Huisman, Françoise Khantine-Langlois, Alistair M. Kwan, Janet Laidla, Pierre Lauginie, Panagiotis Lazos, Pietro Milici, Flora Paparou, Frédérique Plantevin, Julie Priser, Alfonso San-Miguel, Danny Segers, Constantine (Kostas) Skordoulis, Trienke M. van der Spek, Constantina Stefanidou, and Giorgio Strano." (From the Publisher)

More information available here.

Darrigol, Olivier (2021). *Atoms, Mechanics, and Probability: Ludwig Boltzmann's Statistico-Mechanical Writings - An Exegesis*. Oxford, UK: Oxford University Press.
ISBN: 978-0-192-84471-2 [New in Paperback]

> "One of the pillars of modern science, statistical mechanics, owes much to one man, the Austrian physicist Ludwig Boltzmann (1844-1906). As a result of his unusual working and writing styles, his enormous contribution remains little read and poorly understood. The purpose of this book is to make the Boltzmann corpus more accessible to physicists, philosophers, and historians, and so give it new life. The means are introductory biographical

and historical materials, detailed and lucid summaries of every relevant publication, and a final chapter of critical synthesis.

"Special attention is given to Boltzmann's theoretical tool-box and to his patient construction of lofty formal systems even before their full conceptual import could be known. This constructive tendency largely accounts for his lengthy style, for the abundance of new constructions, for the relative vagueness of their object—and for the puzzlement of commentators. This book will help the reader cross the stylistic barrier and see how ingeniously Boltzmann combined atoms, mechanics, and probability to invent new bridges between the micro- and macro-worlds." (From the Publisher)

More information available here.

Downs, Jim (2021). *Maladies of Empire: How Colonialism, Slavery, and War Transformed Medicine*. Cambridge, MA: Harvard University Press.
ISBN: 978-0-674-97172-1

"Most stories of medical progress come with ready-made heroes. John Snow traced the origins of London's 1854 cholera outbreak to a water pump, leading to the birth of epidemiology. Florence Nightingale's contributions to the care of soldiers in the Crimean War revolutionised medical hygiene, transforming hospitals from crucibles of infection to sanctuaries of recuperation. Yet histories of individual innovators ignore many key sources of medical knowledge, especially when it comes to the science of infectious disease.

"Reexamining the foundations of modern medicine, Jim Downs shows that the study of infectious disease depended crucially on the unrecognised contributions of nonconsenting subjects—conscripted soldiers, enslaved people, and subjects of empire. Plantations, slave ships, and battlefields were the laboratories in which physicians came to understand the spread of disease. Military doctors learned about the importance of air quality by monitoring Africans confined to the bottom of slave ships. Statisticians charted cholera outbreaks by surveilling Muslims in British-dominated territories returning from their annual pilgrimage. The field hospitals of the Crimean War and the U.S. Civil War were carefully observed experiments in disease transmission.

"The scientific knowledge derived from discarding and exploiting human life is now the basis of our ability to protect humanity from epidemics. Boldly argued and eye-opening, *Maladies of Empire* gives a full account of the true price of medical progress." (From the Publisher)

More information available here.

Giladi, Paul (Ed.) (2021). *Responses to Naturalism: Critical Perspectives from Idealism and Pragmatism*. Abingdon, UK: Routledge.
ISBN: 978-1-032-17765-6

"This volume offers critical responses to philosophical naturalism from the perspectives of four different yet fundamentally interconnected philosophical traditions: Kantian idealism, Hegelian idealism, British idealism, and American pragmatism. In bringing these rich perspectives into conversation with each other, the book illuminates the distinctive set of metaphilosophical assumptions underpinning each tradition's conception of the relationship between the human and natural sciences.

The individual essays investigate the affinities and the divergences between Kant, Hegel, Collingwood, and the American pragmatists in their responses to philosophical naturalism. The ultimate aim of *Responses to Naturalism* is to help us understand how human beings can be committed to the idea of scientific progress without renouncing their humanistic explanations of the world. It will appeal to

scholars interested in the role idealist and pragmatist perspectives play in contemporary debates about naturalism." (From the Publisher)

More information available here.

Gochberg, Reed (2021). *Useful Objects: Museums, Science, and Literature in Nineteenth-Century America*. Oxford, UK: Oxford University Press. ISBN: 978-0-197-55348-0

"*Useful Objects* examines the history of American museums during the nineteenth century through the eyes of visitors, writers, and collectors. Museums of this period included a wide range of objects, from botanical and zoological specimens to antiquarian artefacts and technological models. Intended to promote "useful knowledge," these collections generated broader discussions about how objects were selected, preserved, and classified. In guidebooks and periodicals, visitors described their experiences within museum galleries and marvelled at the objects they encountered. In fiction, essays, and poems, writers embraced the imaginative possibilities represented by collections and proposed alternative systems of arrangement. These conversations interrogated many aspects of American culture, raising deep questions about how objects are interpreted—and who gets to decide their value.

"Combining literary criticism, the history of science, and museum studies, *Useful Objects* examines the dynamic and often fraught debates that emerged during a crucial period in the history of museums by drawing on a wide range of archival materials and accounts in fiction, guidebooks, and periodicals. As museums gradually transformed from encyclopaedic cabinets to more specialised public institutions, many writers, including J. Hector St. John de Crèvecoeur, Jane Johnston Schoolcraft, William Wells Brown, Walt Whitman, and Henry David Thoreau, questioned who would have access to collections and the authority to interpret them. Throughout this period, they considered loss and preservation, raised concerns about the place of new ideas, and resisted increasingly fixed categories. Their reflections shaped broader debates about the scope and purpose of museums in American culture that continue to resonate today." (From the Publishers)

More information available here.

Haigh, Thomas, & Ceruzzi, Paul E. (2021). *A New History of Modern Computing*. Cambridge, MA: The MIT Press. ISBN: 978-0-262-54290-6

"Over the past fifty years, the computer has been transformed from a hulking scientific supertool and data processing workhorse, remote from the experiences of ordinary people, to a diverse family of devices that billions rely on to play games, shop, stream music and movies, communicate, and count their steps. In *A New History of Modern Computing*, Thomas Haigh and Paul Ceruzzi trace these changes. A comprehensive reimagining of Ceruzzi's *A History of Modern Computing*, this new volume uses each chapter to recount one such transformation, describing how a particular community of users and producers remade the computer into something new.

"Haigh and Ceruzzi ground their accounts of these computing revolutions in the longer and deeper history of computing technology. They begin with the story of the 1945 ENIAC computer, which introduced the vocabulary of "programs" and "programming," and proceed through email, pocket calculators, personal computers, the World Wide Web, videogames, smart phones, and our current world of computers everywhere—in phones, cars, appliances, watches, and more. Finally, they consider the Tesla Model S as an object that simultaneously embodies many strands of computing." (From the Publisher)

More information available here.

Hon, Giora, &. Goldstein, Bernard R. (2021). *Reflections on the Practice of Physics: James Clerk Maxwell's Methodological Odyssey in Electromagnetism*. Abingdon, UK: Routledge.
ISBN: 978-1-032-17406-8

> "This monograph examines James Clerk Maxwell's contributions to electromagnetism to gain insight into the practice of science by focusing on scientific methodology as applied by scientists. First and foremost, this study is concerned with practices that are reflected in scientific texts and the ways scientists frame their research. The book is therefore about means and not ends." (From the Publisher)

More information available here.

Lazos, Panagiotis (2021). *Επιστημονικά όργανα και πειραματική διδασκαλία των φυσικώνεπιστημών στην Θεολογική Σχολή της Χάλκης* (*Scientific Instruments and teaching of natural sciences in the Theological School of Halki*). Athens: Theological School of Halki & Ecumenical Federation of Constantinopolitans.
ISBN: 978-6-188-39857-3. Paperback.

> "The Holy Theological School of Halki Island has a rich history founded in 1844 and operating until 1971 when its operation was banned. One of the most unknown aspects is the existence of a physics laboratory and the teaching of the corresponding course, something that is not common in a theological school. The surviving equipment of the laboratory is of special scientific, historical, educational and aesthetic value. Most of the instruments and devices, acquired at the end of the 19th century, come from important French instrument makers like Molteni, while there is also some remarkable equipment purchased from the US company CENCO in the 1950s.
>
> "In the first part of the book the evolution of the teaching of physics and chemistry at the School is presented. The second part of the book is dedicated to the description, use and history of each part of the rich equipment of the laboratory, while the history of the manufacturers or inventors related to this equipment is given in the last chapters. "It is hoped that this 160-page monograph will highlight the barely studied long operation of the School and, more generally, the education of the Greek community in Istanbul."

The book is written in Greek and it is available through the New Cycle of Constantinopolitans (neokonpoliton@yagoo.gr).

McLeish, Tom (2021). *The Poetry and Music of Science: Comparing Creativity in Science and Art*. Oxford, UK: Oxford University Press. ISBN: 978-0-192-84537-5 [New in Paperback]

> "What human qualities are needed to make scientific discoveries, and which to make great art? Many would point to 'imagination' and 'creativity' in the second case but not the first. This book challenges the assumption that doing science is in any sense less creative than art, music or fictional writing and poetry, and treads a historical and contemporary path through common territories of the creative process. The methodological process called the 'scientific method' tells us how to test ideas when we have had them, but not how to arrive at hypotheses in the first place. Hearing the stories that scientists and artists tell about their projects reveals commonalities: the desire for a goal, the experience of frustration and failure, the incubation of the problem, moments of sudden insight, and the experience of the beautiful or sublime.
>
> "Selected themes weave the practice of science and

art together: visual thinking and metaphor, the transcendence of music and mathematics, the contemporary rise of the English novel and experimental science, and the role of aesthetics and desire in the creative process. Artists and scientists make salient comparisons: Defoe and Boyle; Emmerson and Humboldt, Monet and Einstein, Schumann and Hadamard. The book draws on medieval philosophy at many points as the product of the last age that spent time in inner contemplation of the mystery of how something is mentally brought out from nothing. Taking the phenomenon of the rainbow as an example, the principles of creativity within constraint point to the scientific imagination as a parallel of poetry." (From the Publisher)

More information available here.

Modern, John Lardas (2021). *Neuromatic Or, A Particular History of Religion and the Brain*. Chicago. IL: University of Chicago Press. ISBN: 978-0-226-79962-9

"In *Neuromatic*, religious studies scholar John Lardas Modern offers a sprawling examination of the history of the cognitive revolution and current attempts to locate all that is human in the brain, including spirituality itself. *Neuromatic* is a wildly original take on the entangled histories of science and religion that lie behind our brain-laden present: from eighteenth-century revivals to the origins of neurology and mystic visions of mental piety in the nineteenth century; from cyberneticians, Scientologists, and parapsychologists in the twentieth century to contemporary claims to have discovered the neural correlates of religion.

"What Modern reveals via this grand tour is that our ostensibly secular turn to the brain is bound up at every turn with the religion it discounts, ignores, or actively dismisses. In foregrounding the myths, ritual schemes, and cosmic concerns that have accompanied idealisations of neural networks and inquiries into their structure, *Neuromatic* takes the reader on a dazzling and disturbing ride through the history of our strange subservience to the brain." (From the Publisher)

More information available here.

Nasim, Omar W. (2021). *The Astronomer's Chair: A Visual and Cultural History*. Cambridge, MA: The MIT Press. ISBN: 978-0-262-04553-7

"The astronomer's chair is a leitmotif in the history of astronomy, appearing in hundreds of drawings, prints, and photographs from a variety of sources. Nineteenth-century stargazers in particular seemed eager to display their observing chairs—task-specific, often mechanically adjustable observatory furniture designed for use in conjunction with telescopes. But what message did they mean to send with these images? In *The Astronomer's Chair,* Omar W. Nasim considers these specialised chairs as both image and object, offering an original framework for linking visual and material cultures. Observing chairs, Nasim ingeniously argues, showcased and embodied forms of scientific labor, personae, and bodily practice that appealed to bourgeois sensibilities.

"Viewing image and object as connected parts of moral, epistemic, and visual economies of empire, Nasim shows that nineteenth-century science was represented in terms of comfort and energy, and that "manly" postures of Western astronomers at work in specialised chairs were contrasted pointedly with images of "effete" and cross-legged "Oriental" astronomers. Extending his historical analysis into the twentieth century, Nasim reexamines what he argues to be a famous descendant of the astronomer's chair: Freud's psychoanalytic couch, which directed observations not outward toward the stars but inward toward the stratified universe of the psyche. But whether in conjunction with

the mind or the heavens, the observing chair was a point of entry designed for specialists that also portrayed widely held assumptions about who merited epistemic access to these realms in the first place." (From the Publisher)

More information available here.

Outram, Dorinda (2021). *Science, Enlightenment and Revolution: Selected Papers, 1976-2019*. Abingdon: Routledge. ISBN: 978-0-367-48119-3

"*Science, Enlightenment and Revolution* brings together thirteen papers by renowned historian Dorinda Outram. Published between 1976 and 2019 and scattered in a variety of journals and collected volumes, these articles are published together here for the first time.

"During her distinguished career, Outram has made significant contributions to the history of science, to the history and historiography of the Enlightenment, to gender history, to the history of geographical exploration, and to the historical uses of language. This volume also includes other writings by Outram, comprising an unpublished introduction in the form of an intellectual autobiography. Placing this together with her collected academic papers offers readers an overview of her development as an historian and a writer.

"This book is important reading for scholars and students of early modern Europe, as well as those interested in the Enlightenment, the French Revolution and gender studies." (From the Publisher)

More information available here.

Perovic, Slobodan (2021). *From Data to Quanta: Niels Bohr's Vision of Physics*. Chicago, IL: The University of Chicago Press.
ISBN: 978-0-226-79833-2

"Niels Bohr was a central figure in quantum physics, well known for his work on atomic structure and his contributions to the Copenhagen interpretation of quantum mechanics. In this book, philosopher of science Slobodan Perović explores the way Bohr practiced and understood physics, and analyses its implications for our understanding of modern science. Perović develops a novel approach to Bohr's understanding of physics and his method of inquiry, presenting an exploratory symbiosis of historical and philosophical analysis that uncovers the key aspects of Bohr's philosophical vision of physics within a given historical context.⊠⊠"To better understand the methods that produced Bohr's breakthrough results in quantum phenomena, Perović clarifies the nature of Bohr's engagement with the experimental side of physics and lays out the basic distinctions and concepts that characterise his approach. Rich and insightful, Perović's take on the early history of quantum mechanics and its methodological ramifications sheds vital new light on one of the key figures of modern physics." (From the Publisher)

More information available here.

Ratti, Emanuele, & Stapleford, Thomas A. (Eds.) (2021). *Science, Technology, and Virtues Contemporary Perspectives*. Oxford, UK: Oxford university Press. ISBN: 978-0-190-08171-3

"Virtues have become a valuable and relevant resource for understanding modern science and technology. Scientific practice requires not only following prescribed rules but also cultivating judgment, building mental habits, and developing proper emotional responses. The rich philosophical traditions around virtue can provide key insights into scientific research, including understanding how daily practice shapes scientists themselves and how ethical dilemmas created by modern scientific research and technology should be navigated.

"*Science, Technology, and Virtues* gathers both new and eminent scholars to show how concepts of virtue can help us better understand, construct, and use the products of modern science and technology. Contributors draw from examples across philosophy, history, sociology, political science, and engineering to explore how virtue theory can help orient science and technology towards the pursuit of the good life. Split into four major sections, this volume covers virtues in science, technology, epistemology, and research ethics, with individual chapters discussing applications of virtues to scientific practice, the influence of virtue ethics on socially responsible research, and the concept of "failing well" within the scientific community. Rather than offer easy solutions, the essays in this volume instead illustrate how virtue concepts can provide a productive and illuminating perspective on two phenomena at the core of modern life.

"Fresh and thought-provoking, *Science, Technology, and Virtues* presents a pluralistic set of scholarship to show how virtue concepts can enrich our understanding of scientific research, guide the design and use of new technologies, and shape how we envision future scientists, engineers, consumers, and citizens." (From the Publishers)

More information available here.

Rice, Collin (2021). *Leveraging Distortions: Explanation, Idealization, and Universality in Science*. Cambridge, MA: The MIT Press.
ISBN: 978-0-262-54261-6

"A fundamental rule of logic is that in order for an argument to provide good reasons for its conclusion, the premises of the argument must be true. In this book, Collin Rice shows how the practice of science repeatedly, pervasively, and deliberately violates this principle. Rice argues that scientists strategically use distortions that misrepresent relevant features of natural phenomena in order to explain and understand—and that they use these distortions deliberately and justifiably in order to discover truths that would be otherwise inaccessible.

"Countering the standard emphasis on causation, accurate representation, and decomposition of science into its accurate and inaccurate parts, Rice shows that science's epistemic achievements can still be factive despite their being produced through the use of holistically distorted scientific representations. Indeed, he argues, this distortion is one of the most widely employed and fruitful tools used in scientific theorising. Marshalling a range of case studies, Rice contends that many explanations in science are noncausal, and he presents an alternate view of explanation that captures the variety of noncausal explanations found across the sciences. He proposes an alternative holistic distortion view of idealised models, connecting it to physicists' concept of a universality class; shows how universality classes can overcome some of the challenges of multiscale modelling; and offers accounts of explanation, idealisation, modelling, and understanding." (From the Publisher)

"This wonderful book provides an innovative and deep examination of the positive contributions that idealizations and other deliberate distortions make to our scientific explanations and knowledge. Rice's conclusions draw on an impressive range of case studies, drawn not only from physics but also biology and economics. The positive account of scientific progress in terms of greater and greater understanding of target phenomena is compelling and should command the attention of realists and anti-realists for some time." – Christopher Pincock, Department of Philosophy, The Ohio State University

"Collin Rice has deepened our understanding of the central role idealisation plays in contemporary scientific inquiry. A must-read for practicing scientists and philosophers of science alike." – Michael Weisberg, Professor and Chair of Philosophy, University of Pennsylvania

More information available here.

Schindler, Thomas E. (2021). *A Hidden Legacy: The Life and Work of Esther Zimmer Lederberg*. Oxford, UK: Oxford University Press.
ISBN: 978-0-197-53167-9

> "In the mid-20th century, microbiologist Esther Zimmer Lederberg and her then-husband, Joshua Lederberg, made a series of remarkable discoveries that contributed to the biochemical understanding of the gene. Together, they laid the foundation for molecular biology and the field of bacterial genetics. In 1958, he alone was awarded the Nobel Prize for their work. Esther's ingenuity was largely ignored and undervalued by the Nobel committee and has continued to be obscured by historians of science.
>
> "In this book, Thomas E. Schindler shares many of Esther's hidden scientific contributions and her role in the discoveries that launched her then-husband's celebrated career. *A Hidden Legacy* delves into how, as a couple, the Lederbergs established a new field of bacterial genetics in the decade leading up to the discovery of the DNA double helix. Their impressive series of achievements includes the discovery of: λ bacteriophage and the first plasmid, known as the F-factor; how viruses carry bacterial genes between bacteria; and fundamental properties of bacterial sex. Schindler explains how Esther's research revealed unique features of bacterial sex that are now essential to our understanding of molecular biology and evolution.
>
> "A magnificent story of a remarkable scientist, *A Hidden Legacy* takes readers through the process that scrambled the tree of life and offers insight into the role Esther played in uncovering these secretes of bacterial and viral genes."

More information available here.

Schliesser, Eric (2021). *Newton's Metaphysics: Essays*. Oxford, UK: Oxford University Press.
ISBN: 978-0-197-56769-2

> "In this collection of new and previously published essays, noted philosopher Eric Schliesser offers new interpretations of the significance of Isaac Newton's metaphysics on his physics and the subsequent development of philosophy more broadly. Schliesser address Newton's account of space, time, gravity, motion, inertia, and laws-all evergreens in the literature; he also breaks new ground in focusing on Newton's philosophy of time, Newton's views on emanation, and Newton's modal metaphysics.
>
> "In particular, Schliesser explores the rich resonances between Newton's and Spinoza's metaphysics. Schliesser presents a new argument of the ways in which Newton and his circle respond to the treatment and accusations of Spinozism, illuminating both the details of Newton's metaphysics and the content of Spinoza's. Schliesser provides a fine-grained analysis of some of the key metaphysical concepts in Newton's physics, including controversial interpretations of Newton's ideas on space, time, inertia, and necessity. Schliesser restates his provocative interpretation of Newton's views on action at a distance as he was developing the *Principia*.
>
> "*Newton's Metaphysics* contains a substantive introduction, two chapters co-authored with Zvi Biener and with Mary Domski, new chapters on Newton's modal metaphysics and his theology, and two postscripts in which Schliesser responds to some of his most important critics, including Katherine Brading, Andrew Janiak, Hylarie Kochiras, Steffen Ducheyne, and Adwait Parker. The collection presents new and varied analyses on familiar focuses of Newton's work, adding important perspectives to the recent revival of interest in Spinoza's metaphysics." (From the Publisher)

More information available here.

Weyl, Hermann (2021). *Philosophy of Mathematics and Natural Science* (Introduction by Frank Wilczek). Princeton, NJ: Princeton University Press ISBN: 978-1-400-83333-7 [ebook]

"When mathematician Hermann Weyl decided to write a book on philosophy, he faced what he referred to as "conflicts of conscience" — the objective nature of science, he felt, did not mesh easily with the incredulous, uncertain nature of philosophy. Yet the two disciplines were already intertwined. In *Philosophy of Mathematics and Natural Science*, Weyl examines how advances in philosophy were led by scientific discoveries — the more humankind understood about the physical world, the more curious we became. The book is divided into two parts, one on mathematics and the other on the physical sciences. Drawing on work by Descartes, Galileo, Hume, Kant, Leibniz, and Newton, Weyl provides readers with a guide to understanding science through the lens of philosophy. This is a book that no one but Weyl could have written — and, indeed, no one has written anything quite like it since." (From the Publisher)

"The translation has long been out of print, so this recent publication, with a very fine introduction by Frank Wilczek, is to be highly valued…Weyl's *Philosophy of Mathematics and Natural Science* should be on every mathematician's or physicist's bookshelf. …What a pleasure, what a privilege, to read and contemplate Hermann Weyl's monumental achievements." – Jeremy Butterfield, Physics Today

"[W]e remain ever grateful that Hermann Weyl, compromising his conscience to the extent that he did, left behind this unrivalled treasure of insights into the murkiest epistemological depths of mathematics and theoretical physics." – Thomas Ryckman, Metascience

More information available here.

Zuber, Mike A. (2021). *Spiritual Alchemy: From Jacob Boehme to Mary Anne Atwood*. Oxford, UK: Oxford University Press.
ISBN: 978-0-190-07304-6

"Most professional historians see the relationship between pre-modern and modern alchemy as one of discontinuity and contrast. Mike A. Zuber challenges this dominant understanding and explores aspects of alchemy that have been neglected by recent work in the history of science. The predominant focus on the scientific aspect of alchemy, such as laboratory experiment, practical techniques, and material ingredients, argues Zuber, marginalises the things that render alchemy so fascinating: its rich and vivid imagery, reliance on the medium of manuscript, and complicated relationship with religion.

"*Spiritual Alchemy* traces the early-modern antecedents of modern alchemy through generations of followers of Jacob Boehme, the cobbler and theosopher of Görlitz. As Boehme's disciples down the generations — including the Silesian nobleman Abraham von Franckenberg and the London-based German immigrant Dionysius Andreas Freher, among others — studied his writings, they drew on his spiritual alchemy, adapted it, and communicated it to their contemporaries. Spiritual alchemy combines traditional elements of alchemical literature with Christian mysticism. Defying the boundaries between science and religion, this combination was transmitted from Görlitz ultimately to England. In 1850, it inspired a young woman, later known as Mary Anne Atwood, to write her Suggestive Inquiry into the Hermetic Mystery, usually seen as the first modern interpretation of alchemy. Drawing extensively on manuscript or otherwise obscure sources, Zuber documents continuity between pre-modern and modern forms of alchemy while exploring this hybrid phenomenon." (From the Publisher)

More information available here.

Authors of HPS&ST-related papers and books are invited to bring them to attention of Paulo Maurício or Nathan Oseroff-Spicer for inclusion in these sections.

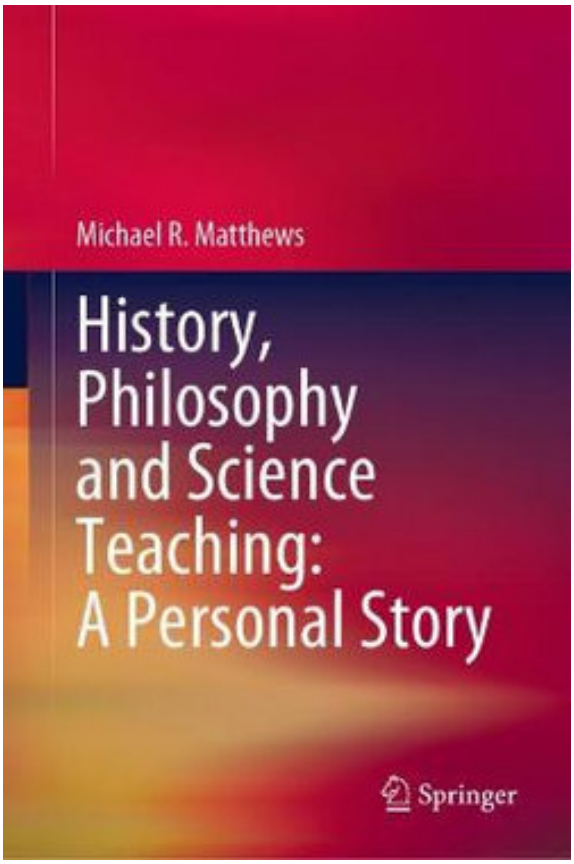
Michael R. Matthews: *History, Philosophy and Science Teaching: A Personal Story*, Springer, 2021

This book of ten chapters, 298 + xxv pages and 800 references is an historical narrative of the author's academic appointments, his significant research and publication endeavours, important editorial and institutional engagements, and appraisals of many important debates and contributors in science education.

The author is Honorary Associate Professor in the School of Education at the University of New South Wales. He has degrees in Geology, Psychology, Philosophy, History and Philosophy of Science, and Philosophy of Education.

He has taught in high school, teachers' college and university; was Foundation Professor of Science Education at the University of Auckland; was Foundation President of the International History, Philosophy and Science Teaching Group; was Foundation President of the Inter-Divisional Teaching Commission of the DHST and DLMPS; and is a Fellow of the Royal Society (New South Wales).

The ten chapters begin with his Australian-Irish family life, his Catholic school education, his rich undergraduate education, then further degrees at Sydney University whilst school teaching, then range over a number of the central theoretical, curricular and pedagogical issues in science education to which he has contributed. The final chapter is a proposal for HPS-informed science teacher education.



The book gives accounts of philosophers who greatly influenced his own thinking and who also were personal friends – Wallis Suchting, Abner Shimony, Robert Cohen, Marx Wartofsky, Israel Scheffler, Michael Martin and Mario Bunge.

The book, throughout, advocates the importance of clear writing and avoidance of faddism in both philosophy and in education. It documents, disturbingly, many examples of the latter.

Positive reviews by Michael Reiss (Science Education, University College London), Eric Scerri (Chemistry Department, University of California Los Angeles) and Roland Schulz (Education, Simon Fraser University) are available here.

Book details, chapter titles and previews, and purchasing information can be seen here.

The book is available in print copy and eBook. From June 20 to July 18 there is a 20% discount available by using the following Springer token when purchasing from the Springer site: **xRMtG7SJe4B2Ddd**. This token is part of the above web address.

The book is available to individuals as a MyCopy for EUR/USD25. This is simply a paperback version of the print hardcover book. Obtaining a MyCopy requires first that an individual's institution has purchased the eBook. It does not apply when the hardcover alone has been purchased, though the eBook alone suffices to make the MyCopy available. This often happens automatically as the eBook will be part of a Springer package bought by institutions. If not, the institution needs to independently purchase the eBook. Librarians can advise through which channels the MyCopy is then purchased. This is a most suitable arrangement for instructors wishing to use the book as a course text.

Springer are facilitating reviews of the book in relevant HPS, Philosophy, Education and Science Education journals and newsletters. Review editors should send reviewer's name and email, along with journal/newsletter name and website to:

Nick Melchior Nick.Melchior@springer.com

Reviewers are initially provided with the eBook, and upon publication of the review, are mailed the print version.

Coming HPS&ST Related Conferences

November 11-14, 2021, Philosophy of Science Association biennial conference, Baltimore
Details: here.

March 27-30, 2022, NARST Annual Conference, Vancouver, BC
Details: here.

July 3rd-7th, 2022, IHPST 16th International Conference, University of Calgary, Canada
Details from Glenn Dolphin:
glenn.dolphin@ucalgary.ca.

July 18-22, 2022, 'Objects of Understanding: Historical Perspectives on Material Artefacts in Science Education', Europa-Universität Flensburg, Germany
Details: Roland Wittje, roland.wittje@gmail.com and here.

July 24-29, 2023, 17th DLMPST Congress, University of Buenos Aires Information: Pablo Lorenzano, pablo@unq.edu.ar.

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

ISHEASTME – International Society for the History of East Asian History of Science Technology and Medicine

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

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)

The above list is updated and kept on the HPS&ST website HERE.

HPS&ST-related organisations wishing their web page to be added to the list should contact assistant editor Paulo Maurício (paulo.asterix@gmail.com)

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