

HPS&ST Note

January 2018

Introduction

This HPS&ST monthly note is sent direct to about 7,450 individuals who directly or indirectly have expressed 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 and more engaging and effective teaching of the history and philosophy of science. The note 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 20+ years.

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

Contributions to the note (publications, conferences, opinion pieces, etc.) are welcome and should be sent direct to the editor:

Michael R. Matthews, UNSW, m.matthews@unsw.edu.au.

The Note, along with RESOURCES, OBITUARIES, OPINION PIECES and more, are lodged at the website:

<http://www.hpsst.com/>

Memorial Service: Robert Sonn  Cohen, April 14, Boston University

The family, friends and colleagues of Robert Sonn  Cohen (February 18, 1923-June 19, 2017) invite readers of the HPS&ST Note to a memorial celebration of his life and work.

April 14, 2018, 2pm-4pm, Boston University, George Sherman Union, Terrace Lounge, 775 Commonwealth Avenue, Boston, MA 02215

If you plan to attend, please RSVP to:

RobertSCohenMemorial@gmail.com

but please feel free to come even if you have not done so.

An Obituary for Robert S. Cohen, detailing some of this immense scholarly and tangible contributions to the international HPS community can be read [here](#).

European Society for the History of Science Biennial Conference and British Society for the History of Science Annual Meeting, University College, London, 14-17 September 2018

The organising committee of ESHS 2018 invite proposals for individual papers to be presented at the conference. The organisers will aim to arrange submissions into coherent strands.

In selecting papers for the conference, the organisers will give preference to those that address, in some way, the conference theme of ‘Unity and Disunity’. This can be interpreted very broadly, to address, amongst other topics, unity and disunity within and across diverse sciences, nations, periods, and historiographies; unity and disunity as ideals and realities; and unity and disunity as characterizing relations between the sciences and politics, technology, economics, and the arts.

Submissions, including an abstract no longer than 300 words in either English or French, should be made, via the conference website <http://eshs2018.uk>, by 23.59 GMT on 28 February 2018.

3rd International Conference on the History of Physics under the auspices of the European Physical Society and 4th Early-Career Conference for Historians in the Physical Sciences of the American Institute of Physics, 17-21 October 2018, Donostia-San Sebastian, Spain

2018 marks the 50th anniversary of the creation of the European Physical Society (EPS). In this context, and following the success of two previous meetings in Cambridge (United Kingdom) and Pöllau (Austria), we are happy to announce the Third International Conference on the History of Physics, under the auspices of the EPS, which will take place in Donostia/San Sebastian (Spain) in October 17-21, 2018.

The main goal of the conference is to provide a forum where historians of physics and physicists meet to reflect on the importance of the history of science for the development of contemporary physics, not only in its conceptual evolution but also at the institutional, organizational and educational levels; as well as to promote the contribution of practicing physicists to the highly professionalised discipline of the history of physics. On this occasion, this exchange will be enhanced by the joint celebration of the conference of early-career historians of physics, a bi-annual event sponsored by the History Center of the American Institute of Physics.

The organizing committee welcomes abstracts of no more than 500 words for 20 minutes' oral presentations and/or posters on any subject related to the history of physics including geophysics, space physics, biophysics, physical chemistry etc.

Please send abstracts through <https://easychair.org/conferences/?conf=hopdss2018> by March 15th, 2018, including the following information:

Title, abstract, author, institutional affiliation, oral and/or poster format and early-career stage (if applicable).*

Further information: <http://www.ehu.eus/ehusfera/hopdss2018/>

4th Latin American Conference of the International History, Philosophy and Science Teaching Group (IHPST-LA), September 3 to 5, 2018, Federal University of ABC, UFABC, Santo André, Brazil

After 8 years from the 1st Latin American Conference, in Maresias (SP), and 3 years from the 13th Biennial Conference of the IHPST, in Rio de Janeiro (RJ), Brazil will host again a group meeting. In three days of intense discussion, we seek to promote a wide debate among historians, educators, teachers and others on the relation between history, philosophy, sociology and science teaching.

There will be three kinds of submission of proposal: oral communication, poster and thematic symposia. Proposals may be submitted in Portuguese, Spanish or English.

Submission of proposals (all categories): from February 19 to March 30 Early registration deadline: June 3

If you have any doubts and suggestions, send an e-mail to ihpstla2018@gmail.com

Complete version of CFP: <http://www.brenoam.com/ihpstla-2018-en>.

HPS & ST Conference at Zhejiang Normal University China

From Sunday October 29 to Wednesday November 1, 2017, lectures and workshops on HPS&ST were hosted by The School of Education at ZJNU in Jinhua. Approximately 350 science teachers and head-teachers attended, most from Zhejiang Province, but many from other provinces. Provincial curriculum authorities also participated.

The purpose of the conference was to promote the new Integrated Science Curriculum in Zhejiang Province, and to show the importance of bringing Nature of Science (NOS) components into science teacher education.



Professor Xiao Huang (huangxiao@zjnu.cn) at ZJNU was the conference chair and convener.

With support from professors:

Yueliang Zhou (dean of the ZJNU Teacher Education College). Yaocun Wang (teaching & research section) Enshan Liu (college of life of science, Beijing Normal University)

And the large group of her own graduate students.

The ZJNU Education Department was gifted the 3-volume, *Springer HPS&ST Handbook*.

The four days of conference talks and workshops were based on different chapters in the recently published Chinese translation of M.R. Matthews, *Science Teaching: The Contribution of History and Philosophy of Science*, Foreign Language, Teaching and Research Press, Beijing (2017). The book is available [here](#).



The translation was also the occasion for a plenary lecture to 1,000+ science teachers at the Chinese New Education Institute (NEI) conference held at the Haimen Technical College.

There are many large and internationally renowned HPS departments in Chinese universities. The above conferences, and the book translation, are a sign of the encouraging interaction between HPS and the Chinese science education community.

Opinion Page

Does Life Have Meaning? Or is it Self-Deception at Best and Terrifyingly Absurd at Worst?

Michael Ruse, Philosophy Department, Florida State University

A version of this essay will be appearing in the *Proceedings of the New York Academy of Sciences*.

A few words of explanation. In 1981, I was an expert witness for the ACLU in a case it brought, successfully, in Arkansas against a new law that – in the science classes of publicly funded schools in the state – mandated the “balanced treatment” of Darwinian evolutionary theory and so-called “Creation Science.” After it was all over, I continued to worry about why exactly it is that Darwinism causes such angst in the breasts of evangelical Christians.

I knew that, for all of the talk about taking the bible absolutely literally, this could not be the whole story. No one takes literally the claims in Revelation about the Whore of Babylon. She is always the Pope or the Catholic Church generally, or someone further east like Saladin or Osama Bin Laden. There has never been any doubt in my mind that the Whore of Babylon refers to my late headmaster.



I took note of what these critics themselves said, namely that their big objection is that Darwinian theory is itself a religion, a religion that rivals Christianity. For many years, I pooh-poohed this idea. There is – as I still very much believe – a fully functioning genuine science of evolutionary biology, with Darwin’s natural

selection as the core causal force. It was, after all, to defend this idea that I was called down to Arkansas. But, gradually, I came to see the truth in the charge. Alongside the genuine science, there is a body of claims that truly functions as a religion. I make no claims about a hierarchy, even though there are days when Richard Dawkins, as people charged Thomas Henry Huxley many years ago, does somewhat resemble a high priest, even Pope. If you prefer, speak of a secular religious perspective. Either way, there is truly something more than pure science that challenges Christianity.

I have continued to explore this insight in a number of books. In *The Evolution-Creation Struggle* (2005), I analyzed matters in apocalyptic terms, arguing that Creationists tend to premillennial thinking and Darwinians to postmillennial thinking. In *Darwinism as Religion: What Literature Tells Us about Evolution* (2017), I explore these insights through the writings of poets and novelists. My next book, *The Problem of War: Darwinism, Christianity, and Their Battle to Understand Human Conflict* (2018), uses war as a case study to explore the thinking of Christians and Darwinians on so important and fraught a topic. Through the Christian adhesion to Providence and original sin and through the Darwinian adhesion to progress and the virtues of struggle, I show that the differences are properly described as religious.

Now, in a proposed book, I want to pull back a little and ask some bigger questions. Agree that the Darwinian Revolution was a watershed in Christian-Science dealings. Agree that Darwinism was in important respects turned into a religious rival to Christianity. What next? Is the Darwinian, accepting fully Darwin's theory including its application to our own species, committed then to a religious perspective? Having given up one religion, Christianity, is one now committed to accepting another religion, Darwinism? Or, is there a third way, one that takes Darwinian theory as a true foundation but that does not thereby embrace a religious perspective?

In another recent book, *On Purpose* (2017), I began to explore what (somewhat pretentiously) I call "Darwinian Existentialism." Modifying my proposal for the press, I have put together the following short essay, expressing my thinking at present.

The reader is warned that, in writing books, I rarely end with the picture I had when I started. Thank goodness! So, when my book appears, do not accuse me of *mauvais fois* – I am taking existentialism seriously! – if what you read here and what you read there are not identical. I shall be very disappointed if they are. What is the point of research if you end with exactly what you believed when you started?

Is there any meaning to life or is it all a cosmic joke? In the end, is Heinrich Himmler of no greater or less worth than Sophie Scholl, of the White Rose group that opposed the Nazis and whose life ended on the guillotine? Is life, as the existentialists christen it, “absurd”? Is nihilism the answer – the only answer?

Making sense of it all

These are not idle questions because one possible answer is terrifying. The great American Pragmatist, William James (1902), knew the score. “Old age has the last word: the purely naturalistic look at life, however enthusiastically it may begin, is sure to end in sadness.” He continues.

This sadness lies at the heart of every merely positivistic, agnostic, or naturalistic scheme of philosophy. Let sanguine healthy-mindedness do its best with its strange power of living in the moment and ignoring and forgetting, still the evil background is really there to be thought of, and the skull will grin in at the banquet. In the practical life of the individual, we know how his whole gloom or glee about any present fact depends on the remoter schemes and hopes with which it stands related. Its significance and framing give it the chief part of its value. Let it be known to lead nowhere, and however agreeable it may be in its immediacy, its glow and gilding vanish. The old man, sick with an insidious internal disease, may laugh and quaff his wine at first as well as ever, but he knows his fate now, for the doctors have revealed it; and the knowledge knocks the satisfaction out of all these functions. They are partners of death and the worm is their brother, and they turn to a mere flatness.

It's all very well to say that we came from an eternity of non-existence, which wasn't all that bad, and we are returning to an eternity of non-existence, which presumably will continue to be not all that bad. It's terrifying just the same.

What's the answer, if there is an answer? Recently, the gloomy position has been promoted (if one might use so positive a description of one so pessimistic) by the South African philosopher David Benatar (2017). He concludes his nihilistic, mournful discussion, *The Human Predicament*, with: "If we take a cold, hard look at the human condition, we see an unpleasant picture." More than that. Even if we got our wish and achieved or were given immortality, it would become so tedious that we would be out of our minds before the first ten million years were over. All that we can hope for is a limited-length life on Planet Earth protected from reality by self-deception. "A life on Planet Earth protected from reality by self-deception"? Does this mean religion? William James (1902) rather suggests that it does and that religion does the trick.

And here religion comes to our rescue and takes our fate into her hands. There is a state of mind, known to religious men, but to no others, in which the will to assert ourselves and hold our own has been displaced by a willingness to close our mouths and be as nothing in the floods and waterspouts of God. In this state of mind, what we most dreaded has become the habitation of our safety, and the hour of our moral death has turned into our spiritual birthday. The time for tension in our soul is over, and that of happy relaxation, of calm deep breathing, of an eternal present, with no discordant future to be anxious about, has arrived. Fear is not held in abeyance as it is by mere morality, it is positively expunged and washed away.

The virtues and vices of self-deception

Two questions come at once to mind. Is it self-deception to believe in religion – any religion? Even if it is, is this necessarily a bad thing? There are those, I would include myself, who say that it is self-deception to believe in religion (Ruse 2015). The more moderate of us, again I include myself, would say that some religions are

more self-deceiving than others. I am inclined to think that being a Jehovah's Witness or being a Mormon is more self-deceiving than being a Buddhist or an Episcopalian. This might be self-deception of its own, since I grew up on that sceptred isle and the Church of England was an ever-present, friendly part of culture. Beautiful old churches and Handel's Messiah.

I appreciate however that there are people, whose intelligence and integrity I accept and admire, who think differently from me on these matters. I recently co-authored a book, *Science, Evolution, and Religion: A Debate about Atheism and Theism*, with Michael Peterson, a practicing Methodist. I regularly co-teach with a colleague in our Department of Religion, John Kelsay. He is the world-expert author of *Arguing the Just War in Islam*. John is an ordained Presbyterian minister and I regard him and Mike as two of the finest and most learned people I know. So, let me simply say here that this is a question I am going to leave hanging. Some reject religion and some accept it. You know where I stand and you know that others disagree.

What if you think that religion is self-deception? Notice that there is a lot more than "self" involved here because, if you do believe in religion, it is undoubtedly because others have encouraged you to do so. William James's philosophical counter, the nineteenth-century mathematician and philosopher William Kingdom Clifford (1877), argued that such deception is always incorrect. "It is wrong always, everywhere, and for anyone to believe anything on insufficient evidence." Like Kant's Categorical Imperative, which apparently tells you never to tell a lie, one can think of obvious counter examples. Suppose a small child dying of cancer says: "Mummy, am I going to Jesus?" I am not about to tell them otherwise – nor should you.

More generally, James (1896) has a point when he responds that, often in life, things are not clear-cut and in such circumstances of empirical agnosticism, it is legitimate to believe. For James, this is the opening to say that, if you cannot see any definitive counter examples to the God question, then, if you want to, go for it. To be honest, I am quite sympathetic to this kind of thinking. If your religion is such that it is going to make life difficult for others – banning abortion, denying gays the right to marriage, disparaging blacks and Mexicans – then I am not keen on it. This said,

when I am with my friends Mike and John, if theological issues come up we might talk about them, but I do not spend my life trying to convert them to atheism. Nor do they spend their lives trying to convert me to Christianity.

Don't get born!

Now the question becomes: "If you don't believe or if you can't believe, then what? Are you plunged into the maelstrom of fear that James talked of?" This seems to be the position of David Benatar. His best remedy is not to get into the fix in the first place. Don't get born! Benatar does not advocate mass suicide like the Jews in Clifford's Tower in York in 1190, but he certainly seems in favor of mass sterilization. We may all be bad mistakes but let us see that there are no more such mistakes. It would just be selfishness to demand in our dotage that more young humans be produced to change our diapers and empty our potties.

Are things quite this grim? I have five kids. Am I immoral? Am I five times over immoral? What if my five kids, unlike me, are all happy Christians and enjoy their lives? Since I don't believe in God or in His absolute values, it is not as if I am going against the proper ordering of things by being pleased that my self-deceived kids are happy, even if I am not. The big question however is whether I myself am necessarily plunged into the gloom and doom that James and Benatar seem to think is my lot. Am I really going to go through life – certainly the end of life – feeling that it is all worthless and frightening and better never to have been in the first place?

I am a Darwinian evolutionist and there is no doubt that this way of thinking has played a big role in getting us to where we are (Ruse 2012). It's not just that we humans are the products of a lawbound process of development, that – what with the struggle for existence and natural selection – was all so unpleasant along the way. It is, rather, that it was all so blind and uncaring. Thomas Hardy's poem "Hap," written in the decade after the appearance of the *Origin of Species* in 1859, expresses this sense of angst and absurdity.

If but some vengeful god would call to me
From up the sky, and laugh: "Thou suffering thing,
Know that thy sorrow is my ecstasy,
That thy love's loss is my hate's profiting!"
Then would I bear it, clench myself, and die,
Steeled by the sense of ire unmerited;
Half-eased in that a Powerfuller than I
Had willed and meted me the tears I shed.
But not so. How arrives it joy lies slain,
And why unblooms the best hope ever sown?
—Crass Casualty obstructs the sun and rain,
And dicing Time for gladness casts a moan. ...
These purblind Doomsters had as readily strown
Blisses about my pilgrimage as pain

Richard Dawkins (1995) revels in this kind of stuff.

In a universe of blind physical forces and genetic replication, some people are going to get hurt, other people are going to get lucky, and you won't find any rhyme or reason in it, nor any justice. The universe we observe has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil and no good, nothing but blind, pitiless indifference. As that unhappy poet A. E. Houseman put it:

For Nature, heartless, witless Nature Will neither know nor care.

DNA neither knows nor cares. DNA just is. And we dance to its music.

False hopes

Where do we go from here? One course of action is to make a virtue out of necessity. We could argue that, far from being entirely negative or without purpose, natural selection creates purpose! It promotes a progressivist process here on earth, we are not only part of this process but we are the winners – we came top – and we now have a commandment laid on us to further things, taking the process even higher. Nature itself gives meaning to existence, most especially to our existence. Hence, we can properly endorse some kind of “humanism,” where the world itself shows us that our species is the center of all that is of value.

The leading evolutionary biologist, Harvard ant specialist and sociobiologist Edward O. Wilson, is of this opinion. In his Pulitzer Prize winning *On Human Nature*, he talks happily of “evolutionary epics,” of humans achieving “pinnacles,” and forecasts only a good future, so long as philosophy is taken out of the hands of philosophers and “biologized.” More recently, at the age of 86, he has written: “Laid before us are new options scarcely dreamed of in earlier ages.” He adds: “If the heuristic and analytic power of science can be joined with the introspective creativity of the humanities, human existence will rise to an infinitely more productive and interesting meaning” (Wilson 2014).

Why or how would we get this kind of progress out of the selection process? The popular view is of some kind of “arms race,” where organisms compete against each other and improvement occurs – prey gets faster and so predator gets faster. Eventually intelligence is going to win out. Darwin thought something along these lines.

If we look at the differentiation and specialisation of the several organs of each being when adult (and this will include the advancement of the brain for intellectual purposes) as the best standard of highness of organisation, natural selection clearly leads towards highness; for all physiologists admit that the specialisation of organs, inasmuch as they perform in this state their functions better, is an advantage to each being; and hence the accumulation

of variations tending towards specialisation is within the scope of natural selection. (Darwin 1861)

Today, Richard Dawkins (1986) has put this in terms of modern military advances, ending with electronics. Humans have won because they have the biggest on-board computers.

There are other proffered strategies for getting progress out of the Darwinian evolutionary process. One popular suggestion, from the paleontologist Simon Conway Morris (2003), is that there exist ecological niches into which organisms find their ways, and the niches are ordered with a cultural niche, that into which we have climbed, at the top. “If brains can get big independently and provide a neural machine capable of handling a highly complex environment, then perhaps there are other parallels, other convergences that drive some groups towards complexity.” Continuing: “We may be unique, but paradoxically those properties that define our uniqueness can still be inherent in the evolutionary process. In other words, if we humans had not evolved then something more-or-less identical would have emerged sooner or later.”

Complementing this, another suggestion – as the authors acknowledge redolent of ideas to be found in Darwin’s fellow, English evolutionist, Herbert Spencer – finds progress to be a fact of nature. In the eyes of biologist Daniel McShea and philosopher Robert Brandon, “biology’s first law” – the “zero-force evolutionary law” or ZFEL – can do it all: “In any evolutionary system in which there is variation and heredity, there is a tendency for diversity and complexity to increase, one that is always present but that may be opposed or augmented by natural selection, other forces, or constraints acting on diversity or complexity” (McShea and Brandon 2010).

I cannot say that any of these options excite me. As the paleontologist Jack Sepkoski Jr pointed out colorfully, they couldn’t be valid because in the Darwinian world there simply is no absolute biological progress. “I see intelligence as just one of a variety of adaptations among tetrapods for survival. Running fast in a herd while being as dumb as shit, I think, is a very good adaptation for survival” (Ruse 1996).

Arms races don't necessarily lead to complexity and computers. Sometimes "keep it simple, stupid" is what works. Even if niches exist independently, an assumption many would question, there is no reason why we should find the culture niche or why indeed that should be superior. As for ZFEL? Well that is strictly for those who believe in the tooth fairy.

Darwinian existentialism

I am just not convinced that, out of Darwinism, you are going to get humanism, a kind of ersatz-religion equivalent, yielding meaning. Another approach is demanded, one that is, in respects, significantly chillier, and yet in other respects is not just more honest but ennobling and comforting. In some ways, it is close to existentialism. Jean-Paul Sartre (1948) makes the point about the alienation from God:

Existentialism is not so much an atheism in the sense that it would exhaust itself attempting to demonstrate the nonexistence of God; rather, it affirms that even if God were to exist, it would make no difference—that is our point of view. It is not that we believe that God exists, but we think that the real problem is not one of his existence; what man needs is to rediscover himself and to comprehend that nothing can save him from himself, not even valid proof of the existence of God.

Then Sartre follows by trying to explain what this means for humankind:

My atheist existentialism ...declares that God does not exist, yet there is still a being in whom existence precedes essence, a being which exists before being defined by any concept, and this being is man or, as Heidegger puts it, human reality.

That means that man first exists, encounters himself and emerges in the world, to be defined afterwards. Thus, there is no human nature, since there is no

God to conceive it. It is man who conceives himself, who propels himself towards existence. Man becomes nothing other than what is actually done, not what he will want to be.

No student of modern science is going to accept all of this. Even a half-baked knowledge of human biology shows that it just plain silly to say that there is no human nature. Humans are bipedal and rational and warthogs are not. It is true that human nature is variable – although, apparently, genetically we are nothing like as variable as many species – but to distinguish humans from warthogs is not bad science or motivated by racism or sexism or any other ism. The claim is true. To take a more specific example, for all of John Locke's horrendous stories about the ways in which people have treated their children, it is part of human nature to be loving towards children and especially so to one's own children. Of course, culture is involved. Perhaps culture can override biology and some people really do geld their children to fatten them up before eating them. Nevertheless, biology is the foundation. It is genetic that we humans can speak and warthogs cannot. Then, we speak different languages because of culture.

Qualifications notwithstanding, this approach nevertheless says that Sartre is right. We start from where we are. It is just a matter of where we are. The Darwinian says no one is a blank slate – and one very much doubts that Sartre, the quintessential Frenchman, truly thought that, either. We start from where we are and have to create meaning in this unfeeling Darwinian world. There is no help from an external good God nor is there help from an external, progressive, value-increasing world process. Given this prospect, here too we can and must work through the items that give Christians and humanists meaning – family, friends, society, and more.

Making the positive case

Life has meaning. It starts with the love of family and friends. Then if you are lucky or have made the right choices, the worth of one's work. For me, there has been the huge privilege of having been a college prof for over fifty years. Working with

young people and engaging in scholarship, finding new ideas and connections and offering new perspectives. Following this there is obviously pride in (and sometimes sorrow about) about one's country. You don't have to be an intellectual to feel that. The great excitement that comes from traveling the world and meeting folk from other cultures and societies. We all find meaning in the transcendent goodness and bravery of some of our fellow humans. Not just the Sophie Scholl type of person but of our everyday fellows who spend that extra hour with worried students or who stand up against a bullying administrator. The people you are proud to call your friends.

Above all, one finds meaning in art, literature, and music. I wish so much that I could join Renoir's young Parisians on a Sunday river excursion. I laugh (somewhat uneasily) at the misfortunes of Malvolio. I listen yet again to Joan Sutherland singing "Casta Diva." At such times, I say: "God, I don't care if you exist or not. I don't care about eternity. We did or produced things of great meaning. We won!" I regard Darwinian existentialism as truly liberating, enabling one to live a life of great worth, for and of itself. There is nothing else, but nothing else is needed. In the terms of the philosophers, at a cosmic level, life may be absurd. At the human level, it can be deeply self-fulfilling. If *Così fan tutte* is not self-validating, then I do not know what is. God has nothing to do with it, and hope of eternity even less. I don't need the deity or the thought of heaven to see what moral pigmies the rest of us are compared to Sophie Scholl and other saintly people.

Self-deception again raises its ugly head

To the nihilist who argues that this is all self-deception, my response is that I give to logical positivists who argue that moral claims are meaningless or their successors who say that moral claims are all false. If rape isn't wrong and aiding the sick isn't right, then I don't know what is. I am with David Hume on free will and on being selfish – of course there is free will and of course not every action is selfish. The question is where do we go from there. Mozart is meaningful and Sophie Scholl is meaningful, just as watching nonstop porn or spending your days in a haze of

drugs is not meaningful. That is what we mean by meaning. Talk of self-deception is as silly as saying every action is selfish.

Responds the nihilist, you get meaning only by making it so thin that it has little or no value. Your meanings are ephemeral. They have no cosmic significance. Mozart now and then poof! Surely though the response here is to turn on its head all of the nihilist's arguments about the tedium of immortality and so forth. I am not sure what cosmic meaning outside the human context really means. I joke that my idea of heaven is a new Mozart opera every night and fish chips in every intermission; but, truly, that is a joke. Five hours of Meistersinger is enough for any normal human being. More than enough. The thought of five hundred hours is daunting, and not even the music could compensate for five thousand hours of Wagner's idea of humor.

The point is that we are human beings and meaning only makes sense in the context of human beings and what they are. Darwinian evolution may have pointed to the absurd. It also points to what is self-fulfilling. A life well lived is not a life that goes on forever, but precisely a life of bounded time, that grows, is shaped, and winds down with a sense of completion and wholeness. It is the life of a being produced by evolution and shaped by natural selection.

This is not humanism in the sense endorsed by some, notably the Columbia University philosopher Philip Kitcher (2014), which seems a moral notion, but more ontological. Beating God at His job is by humans and for humans. If you go on objecting that it is still not objective, but subjective, then I agree. It is subjective, but it is not relative; and it is not non-existent, and it is not worthless. It is what you get and for us humans it is more than enough. It is a privilege to be alive. It is also a hell of a lot of fun. More than spending your days worrying that you will get to the Pearly Gates to find your score on the HAT (Heaven Admission Test) was just not high enough.

Time for Action

We came from an eternity of oblivion. We return to an eternity of oblivion. Absurd perhaps. Demanding great humility, certainly. About ourselves and our powers of understanding. Why should modified apes be able to peer into the mysteries of meaning? To quote the population geneticist J. B. S. Haldane (1927).

I have no doubt that in reality the future will be vastly more surprising than anything I can imagine. Now my own suspicion is that the Universe is not only queerer than we suppose, but queerer than we can suppose.

How exciting. Not the truth, as is offered and guaranteed by other approaches. Rather, the eternal search for truth. About which Madame de Stael wrote: “the search for the truth is the noblest occupation of man; its publication is a duty.” Sounds good to me, so let’s get on with it.

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Invitation to Submit Opinion Piece

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

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

They will be archived in the OPINION folder at the HPS&ST web site:

<http://www.hpsst.com/>.

Previous HPS&ST Note Opinion Pieces at <http://www.hpsst.com/>

Mario Bunge, Philosophy Department, McGill University, [In Defence of Scientism](#) (December 2017)

Susan Haack, Philosophy and Law Departments, University of Miami, [The Future of Philosophy, the Seduction of Scientism](#) (November 2017)

Nicholas Maxwell, University College London, [What's Wrong with HPS and What Needs be Done to Put it Right?](#) (June 2017).

Heinz W. Drodste, [An Interview with Mario Bunge](#).

Nicholas Maxwell, University College London, [The Crisis of Our Times and What to do About It](#).

Eric Scerri, UCLA, [Bringing Science Down to Earth](#), (March 2017).

Robert Nola, University of Auckland, [Fake News in the Post-Truth World](#), (February 2017).

Michael D. Higgins, President of Ireland, [The Need to Teach Philosophy in Schools](#) (December 2016).

Philip A. Sullivan, University of Toronto, [What is wrong with Mathematics Teaching in Ontario?](#) (July 2016).

Gregory Radick, Leeds University, [How Mendel's legacy holds back the teaching of science](#) (June 2016).

Matthew Stanley, New York University, [Why Should Physicists Study History?](#)

Recent HPS&ST Research Articles

Arabatzis, T. (2017). What's in It for the Historian of Science? Reflections on the Value of Philosophy of Science for History of Science. *International Studies in the Philosophy of Science*, 31(1), 69-82. doi:[10.1080/02698595.2017.1370924](#)

Barker P. (2017) The Social Structure of Islamic Science. *Journal of World Philosophies*, 2, 37-47. doi:[10.2979/jourworlphil.2.2.03](#)

Herman, B.C. (2017) Students' environmental NOS views, compassion, intent, and action: Impact of place-based socioscientific issues instruction. *J Res Sci Teach*, 1-37. doi:[10.1002/tea.21433](#) online first

Novak, A.M., Treagust, D.F. (2017) Adjusting claims as new evidence emerges: Do students incorporate new evidence into their scientific explanations? *J Res Sci Teach*, 1-24. doi:[10.1002/tea.21429](#) online first

Papadouris N., Vokos S., Constantinou C.P. (2017) The pursuit of a "better" explanation as an organizing framework for science teaching and learning. *Science Education*, 1-19. doi:[10.1002/sce.21326](#) online first

Wray, K. B (2017) The atomic number revolution in chemistry: A Kuhnian analysis. *Foundations of Chemistry*, 1-9. doi:[10.1007/s10698-017-9303-6](https://doi.org/10.1007/s10698-017-9303-6) online first

Recent HPS&ST Related Books

Fara, Patricia (2018) *A Lab of One's Own: Science and Suffrage in the First World War*. Oxford: Oxford University Press. ISBN: 9780198794981

“Fascinating... [Patricia Fara] has uncovered the hidden, suppressed histories of scientists and clinicians who made great contributions to war and welfare, and she has woven a broader narrative of gain and loss that still resonates today.” - Gregory Radick

“Many extraordinary female scientists, doctors, and engineers tasted independence and responsibility for the first time during the First World War. How did this happen? Patricia Fara reveals how suffragists, such as Virginia Woolf’s sister, Ray Strachey, had already aligned themselves with scientific and technological progress, and that during the dark years of war they mobilized women to enter conventionally male domains such as science and medicine. Fara tells the stories of women such as: mental health pioneer Isabel Emslie, chemist Martha Whiteley, a co-inventor of tear gas, and botanist Helen Gwynne Vaughan. Women were now carrying out vital research in many aspects of science, but could it last?

(...)

“Fara examines how the bravery of these pioneer women scientists, temporarily allowed into a closed world before the door clanged shut again, paved the way for today’s women scientists. Yet, inherited prejudices continue to limit women’s scientific opportunities.” (From the Publisher)

More information available [here](#).

Galison, Peter L., Holton, Gerald & Schweber, Silvan S. (Eds.) (2017) *Einstein for the 21st Century: His Legacy in Science, Art, and Modern Culture*. Princeton, NJ: Princeton University Press. ISBN: 9780691135205

“In this wide-ranging collection, eminent artists, historians, scientists, and social scientists describe Einstein’s influence on their work, and consider his relevance for the future. Scientists discuss how Einstein’s vision continues to motivate them, whether in their quest for a fundamental description of nature or in their investigations in chaos theory; art scholars and artists explore his ties to modern aesthetics; a music historian probes Einstein’s musical tastes and relates them to his outlook in science; historians explore the interconnections between Einstein’s politics, physics, and philosophy; and other contributors examine his impact on the innovations of our time. Uniquely cross-disciplinary, *Einstein for the 21st Century* serves as a testament to his legacy and speaks to everyone with an interest in his work.” (From the publisher)

Chapter 1, by Gerald Holton: <http://assets.press.princeton.edu/chapters/s8644.pdf>

More information available [here](#).

Keel, Terence (2018) *Divine Variations: How Christian Thought Became Racial Science*. Abingdon, UK: Stanford University Press. ISBN: 9780804795401

“*Divine Variations* offers a new account of the development of scientific ideas about race. Focusing on the production of scientific knowledge over the last three centuries, Terence Keel uncovers the persistent links between pre-modern Christian thought and contemporary

scientific perceptions of human difference. He argues that, instead of a rupture between religion and modern biology on the question of human origins, modern scientific theories of race are, in fact, an extension of Christian intellectual history.

“Keel’s study draws on ancient and early modern theological texts and biblical commentaries, works in Christian natural philosophy, seminal studies in ethnology and early social science, debates within twentieth-century public health research, and recent genetic analysis of population differences and ancient human DNA. From these sources, Keel demonstrates that Christian ideas about creation, ancestry, and universalism helped form the basis of modern scientific accounts of human diversity—despite the ostensible shift in modern biology towards scientific naturalism, objectivity, and value neutrality. By showing the connections between Christian thought and scientific racial thinking, this book calls into question the notion that science and religion are mutually exclusive intellectual domains and proposes that the advance of modern science did not follow a linear process of secularization.”
(From the Publisher)

More information at: <http://www.sup.org/books/title/?id=25826>

Lehoux, Daryn (2017) *Creatures Born of Mud and Slime: The Wonder and Complexity of Spontaneous Generation*. Baltimore, MD: Johns Hopkins University Press. ISBN: 9781421423814

“We accept that, at some point in the history of our universe, living creatures emerged from nonliving matter. Yet from the time of Aristotle until the late nineteenth century, many people believed in spontaneous generation, that living creatures sprang into existence from rotting material. As Daryn Lehoux explains in this fascinating book, spontaneous generation was perhaps the last stand of the ancient scientific worldview.

“In *Creatures Born of Mud and Slime*, Lehoux shows that—far from being a superstitious, gullible, or simplistic belief—spontaneous generation was a sophisticated and painstakingly grounded fact that stood up to the best scientific testing. Starting with the ancient Greeks’ careful and detailed investigations into how animals are generated straight through to the early modern period, Lehoux brings to life the intellectual contexts, rivalries, observational evidence, and complex and fascinating theories that were used to understand and explain the phenomena.

“The book highlights both the weirdness and the wonder that lie at the heart of investigations into nature. Lehoux concludes with a new look at a set of conflicting experiments that demonstrate that even the best scientific evidence can end up muddying what we take to be the truth about the world. *Creatures Born of Mud and Slime* is a compelling look at how we understand conceptions of scientific change, truth, and progress.” (From the Publishers)

More information available [here](#).

Niaz, Mansoor (2018). *Evolving Nature of Objectivity in the History of Science and its Implications for Science Education*. Dordrecht: Springer. ISBN: 978-3-319-67725-5

“This book is remarkable for its insistence that the philosophy of science, and in particular that discipline’s analysis of objectivity as the supposed hallmark of the scientific method, is of direct value to teachers of science. Meticulously, yet in a most readable way, Mansoor Niaz looks at the way objectivity has been dealt with over the years in influential educational journals and in textbooks; it’s fascinating how certain perspectives fade, while basic questions show no sign of going away. There are few books that take both philosophy and education seriously – this one does!” by Roald Hoffmann, Cornell University, chemist, writer and Nobel Laureate in Chemistry

“This book explores the evolving nature of objectivity in the history of science and its implications for science education. It is generally considered that objectivity, certainty, truth, universality, the scientific method and the accumulation of experimental data characterize both science and science education. Such universal values associated with science may be challenged while studying controversies in their original historical context. The scientific enterprise is not characterized by objectivity or the scientific method, but rather controversies, alternative interpretations of data, ambiguity, and uncertainty. Although objectivity is not synonymous with truth or certainty, it has eclipsed other epistemic virtues and to be objective is often used as a synonym for scientific.

“Recent scholarship in history and philosophy of science has shown that it is not the experimental data (Baconian orgy of quantification) but rather the diversity / plurality in a scientific discipline that contributes toward understanding objectivity. History of science shows that objectivity and subjectivity can be considered as the two poles of a continuum and this dualism leads to a conflict in understanding the evolving nature of objectivity.

“The history of objectivity is nothing less than the history of science itself and the evolving and varying forms of objectivity does not mean that one replaced the other in a sequence but rather each form supplements the others.” (from the publisher)

More information available [here](#).

Ruse, Michael (2017) *On Purpose*. Princeton, NJ: Princeton University Press ISBN: 9780691172460

“Can we live without the idea of purpose? Should we even try to? Kant thought we were stuck with purpose, and even Darwin’s theory of natural selection, which profoundly shook the idea, was unable to kill it.

Indeed, teleological explanation—what Aristotle called understanding in terms of “final causes”—seems to be making a comeback today, as both religious proponents of intelligent design and some prominent secular philosophers argue that any explanation of life without the idea of purpose is missing something essential.

“In *On Purpose*, Michael Ruse explores the history of the idea of purpose in philosophical, religious, scientific, and historical thought, from ancient Greece to the present. Accessibly written and filled with literary and other examples, the book examines “purpose” thinking in the natural and human world. It shows how three ideas about purpose have been at the heart of Western thought for more than two thousand years. In the Platonic view, purpose results from the planning of a human or divine being; in the Aristotelian, purpose stems from a tendency or principle of order in the natural world; and in the Kantian, purpose is essentially heuristic, or something to be discovered, an idea given substance by Darwin’s theory of evolution through natural selection.

“*On Purpose* traces the profound and fascinating implications of these ways of thinking about purpose. Along the way, it takes up tough questions about the purpose of life and whether it’s possible to have meaning without purpose, revealing that purpose is still a vital and pressing issue.” (From the Publisher)

More information available [here](#).

Silva, Marcos (Ed.) (2017) *How Colours Matter to Philosophy*. Dordrecht: Springer

“This edited volume explores the different and seminal ways colours matter to philosophy. Each chapter provides an insightful analysis of one or more cases in which colours raise philosophical problems in different areas and periods of philosophy.

“This historically informed discussion examines both logical and linguistic aspects, covering such areas as the mind, aesthetics and the foundations of mathematics. The international contributors look at traditional epistemological and metaphysical issues on the subjectivity and objectivity of colours. In addition, they also assess phenomenological problems typical of the continental tradition and contemporary problems in the philosophy of mind. The chapters include coverage of such topics as Newton’s and Goethe’s theory of light and colours, how primary qualities are qualitative and colours are primary, explaining colour phenomenology, and colour in cognition, language and philosophy.” (From the Publisher)

More details available [here](#).

Authors of HPS&ST-related papers and books are invited to bring them to attention of the Note’s assistant editors, Paulo Maurício at paulo.asterix@gmail.com or Nathan Oseroff at nathanoserooff@gmail.com for inclusion in these sections.

Appointment of Assistant Editor

This monthly HPS&ST newsletter/note has been produced and distributed for the past 25+ years. Since its original printed, folded and posted beginnings, it has served as a vehicle for keeping the wide and ever-growing international community of HPS scholars who have education interests and the equally wide community of science educators with HPS interests in contact with each other, and with research and activities in the HPS&ST field. It has had connections with the International History, Philosophy and Science Teaching Group (IHPST) and the Inter-Divisional Teaching Commission (IDTC) of the IUHPS. It also serves to promote the better and more engaged teaching of history and philosophy of science disciplines.

Since 1987 its editor has been Michael Matthews, School of Education, UNSW (m.matthews@unsw.edu.au).

For the past 3 years Paulo Maurício from Lisbon, Portugal has been the assistant editor, giving invaluable help in gathering material, especially information about HPS&ST publications (books and journal articles), for the newsletter, and maintaining the website.

Paulo Maurício graduated with a BSc and MSc in Physics from Lisbon University. Since 2008 he has taught in the Lisbon's School of Education, Polytechnic Lisbon Institute, Portugal.

In 2015 obtained his PhD in Science Education at Lisbon University on the use of HPS in training pre-service elementary teachers. Since then he has been Adjunct Professor (invited). He has several publications in peer-reviewed journals, as well as presenting papers at several international and national conferences.

He is editorial assistant of the HPS&ST Note, Associate Member of the IAU WG Theory and Methods in Astronomy Education, Editorial Assistant of *HOPOS* (2017-2018).

His main research areas and interests are: HPS in science education, and how to develop its integration in teaching-learning practices; aspects (and views) of Nature of Science and IBSL related to the integration of HPS in teaching and learning.



See: <https://sites.google.com/site/pauloeigenvalue/>
<https://orcid.org/0000-0003-3321-9108>

Lisbon Polytechnic Institute

A second Assistant Editor has now been appointed for the HPS&ST Note

Nathan Oseroff is a graduate student at King's College London. His focus is primarily on philosophy of science and epistemology. He currently is working on reappraising demarcation criteria first proposed by Rudolf Carnap and Karl Popper.



He received an MA from University College London in 2013, with a dissertation on applying case studies of predictively successful, but false, scientific theories in history of science to the problem of epistemic counter-closure. Nathan received his BA in philosophy from Oberlin College in 2011, and was previously an adjunct professor at Baltimore County Community College.

His website is <http://nathanoserooff.com>.

Coming HPS&ST Related Conferences

January 26-27, 2018, New Perspectives on Truth and Deflationism. University of Salzburg.

More information [here](#).

March 10-13, 2018, NARST annual conference, Atlanta, USA.

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

March 15-16, 2018, Natural Kinds: Language and Metaphysics, Complutense University of Madrid, Spain.

Inquiries to: Javier Cumpa: jcarteseros@ucm.es

March 22-26, 2018, Philosophy of Education Society (USA), Annual Conference,

Chicago.

Details at: <https://www.philosophyofeducation.org/conference>.

March 23-24, 2018, Joint Meeting of the South Carolina Society for Philosophy and the North Carolina Philosophical Society, Winthrop University (Rock Hill, SC), USA.

Inquiries to: dholiday@coastal.edu

March 23-24, 2018, Midsouth Philosophy Conference, Rhodes College, Memphis, TN, US.

Details at: <https://sites.google.com/a/lclark.edu/midsouth/mpc/mupc>

March 30-31, 2018, Sixty Years of an Idea: Peter Winch's The Idea of a Social Science after more than Half a Century, University of Pécs, Hungary

More information: Dr. Akos Sivado, akos.sivado@gmail.com

Deadline: 1st December

April 3-6, 2018, "Science, Imagination and Wonder: Robert Grosseteste and His Legacy" Pembroke College, Oxford, UK

More information at: <https://ordered-universe.com/oxford-conference/>

And, Seb Falk sldf2@CAM.AC.UK

April 4-6, 2018, BSHS Postgraduate Conference 2018, Centre for the History of Science, Technology and Medicine (CHSTM), University of Manchester, UK.

Details at: <http://www.bshs.org.uk/conferences/postgraduate-conference>

April 6-7, 2018, Humanities for STEM: Using Archives to Bridge the Two Culture Divide, NYU Tandon School of Engineering in Brooklyn, NY.

Inquiries: humanitiesforSTEMsymposium@nyu.edu

April 6-7, 2018, Learning from Empirical Approaches to HPS. Center for Philosophy of Science, University of Pittsburgh, Pittsburgh, PA, USA

More information available [here](#).

April 12-14, 2018, BSHP Conference 2018: Habit in The History of Philosophy.

University of Durham, UK.

More information at: <http://www.bshp.org.uk/confevents/annualc>

April 18-20, 2018, Evolution and Moral Epistemology, Utrecht University, The Netherlands.

More information at: <http://www.evoethics.com/evolution-and-moral-epistemology-2018.html>

April 19-20, 2018, Research Workshop on Science, Technology, Society (STS)/History, Technology, Society (HTS): Bioeconomy, Biotechnology, Medical Technologies. National and Kapodistrian University of Athens, Athens, Greece.

Details at: http://old.phs.uoa.gr/hst/files/2nd_CfP_STS-HTS_Workshop.pdf

April 26, 2018, Graduate Philosophy Conference, Department of Philosophy, National Taiwan University.

More information at: <http://ntu-graduate-philosophy-conference.webnode.tw/>

May 17-18, 2018, Philosophy of Biology at the Mountains (POBAM), University of Utah, Salt Lake City, US.

Details at: <https://sites.google.com/view/pobam/home>

May 17-20, 2018, The 8th Annual Values in Medicine, Science, and Technology Conference. The University of Texas at Dallas, Richardson, Texas, USA

Details at: <http://www.utdallas.edu/c4v/2018-conference/>

May 18-20, 2018, 46th annual meeting of the Society for Exact Philosophy. University of Connecticut, USA.

More information at: <http://www.phil.ufl.edu/SEP/meeting/2018/index.html>

May 24-26, 2018, 4th International Workshop on Historical Epistemology: Historical epistemology and the disunities of the sciences. Université Paris 1 Panthéon-Sorbonne

More information at: <https://episthist.hypotheses.org/1016>

May 31, June 1, 2018, Is Religion Natural?, Centre for Ethics and the Centre Pieter

Gillis, University of Antwerp (Belgium)

Inquiries with Esther Kroeker: esther.kroeker@uantwerpen.be.

June 4-6, 2018, Consortium for Socially Relevant Philosophy of/in Science and Engineering (SRPOISE) 4th Conference, Academy of Medicine at Georgia Tech, Atlanta, USA

Details at: <http://srpoise2018.weebly.com>

June 4-7, 2018, Canadian Philosophical Association: 2018 Annual Congress. Montreal, Quebec, Canada

More information at: <https://www.acpcpa.ca/cpages/home-page>

June 7-8, 2018, The Spirit of Inquiry in the Age of Jefferson. American Philosophical Society, Philadelphia.

Details at: <https://www.amphilsoc.org/spirit-inquiry-age-jefferson>

June 14-15, 2018, Explanatory Power. A workshop in the DACH project: Inferentialism, Bayesianism, and Scientific Explanation. University of Geneva.

More information at: http://www.unige.ch/lettres/philo/files/1114/9917/0204/Explanatory_Power.pdf

Inquiries to: lorenzo.casini@unige.ch

June 14-16, 2018, Phenomenological Approaches to Physics Historical and Philosophical Perspectives, University of Graz, Austria

Details at: <http://phenphysics.weebly.com/>

June 18-20, 2018, Society of European Philosophy and Forum for European Philosophy Annual Conference, University of Essex, UK.

More information available [here](#).

June 18-20, 2018, 5th Annual Conference of the International Association for the Philosophy of Time (IAPT), Seoul, South Korea.

More information at: <https://iapt5seoul.weebly.com/>

June 27-29, 2018, Reconceiving Cognition, Antwerp, Belgium

- More information at: <https://www.uantwerpen.be/en/rg/filop/reconceiving/>
- June 27-29, 2018, Measurement at the Crossroads. University Paris Diderot, France.
Details at: <https://measurement2018.sciencesconf.org/>
- June 29 – July 1, 2018, Annual Conference of the Society for Applied Philosophy.
Utrecht, The Netherlands.
More information available [here](#).
- June 30 – July 2, 2018, 7th SPSP Congress, Ghent University, Belgium
Details, Erik Weber, Erik.Weber@UGent.be.
- July 3-6, 2018, 9th Conference of the International Society for the Study of Argumentation (ISSA), University of Amsterdam, The Netherlands
Details at: <https://www.conftool.net/issa2018/>
- July 5-7, 2018, The Evolution of Knowledge. &HPS7: Integrated History and Philosophy of Science, 7th conference. Leibniz Universität Hannover, Hannover, Germany
Inquiries to: Uljana Feest feest@philos.uni-hannover.de
Or, Ohad Parnes oparnes@mpiwg-berlin.mpg.de
- July 9-12, 2018, HOPOS 2018 International Conference, Groningen, the Netherlands
Details at: <http://www.hopos2018.nl/>
- July 16-18, 2018, Annual Conference of the International Society for the Philosophy of Chemistry (ISPC). Department of Philosophy, University of Bristol, UK
Inquiries to gb0859@bristol.ac.uk
More information at: <https://sites.google.com/site/socphilchem/>
- July 17-21, 2018, International Committee for the History of Technology, 45th symposium, Jean Monnet University, Saint-étienne, France.
Further information at: <http://www.icohtec.org/annual-meeting-2018.html>

- July 19-27, 2018, 2018 Summer Institute; From Biological Practice to Scientific Metaphysics. Taipei, Taiwan
Details at: <http://biological-practice-to-metaphysics.org/summer-institutes/2018-east-asia>
- August 29 – September 1, 2018, Society for Social Studies of Science – Transnational STS, Sydney, Australia
Details at: http://www.4sonline.org/item/4s_sydney_18_announced
- September 3-5, 2018, 4th Latin American Conference of the International History, Philosophy and Science Teaching Group (IHPST-LA), Federal University of ABC, UFABC, Santo André, Brazil
Information at: <http://www.brenoam.com/ihpstla-2018-en>.
- September 14-17, 2018, European Society for the History of Science Biennial Conference and British Society for History of Science annual conference, 'Unity and Disunity', University College London's Institute of Education, London, UK
More information at: <http://eshs2018.uk/index.php/call-for-papers/>
For further details please contact the Programme Co-ordinator, Frank James: fjames@ri.ac.uk.
- September 17-20, 2018, Tenth international conference (GAP.10) of the German Society for Analytic Philosophy (GAP), Cologne, Germany
More information at: <https://gap10.de/en/>
- October 2-6, 2018, XIII International Ontology Congress: Physics and Ontology. San Sebastian (University of the Basque Country) and Barcelona Autonomous University of Barcelona, Spain.
Details at: <http://www.ontologia.info/>
- October 17-21, 2018, 3rd International Conference on the History of Physics under the auspices of the European Physical Society, Donostia-San Sebastian (Spain)
Details at: <http://www.ehu.eus/ehusfera/hopdss2018/>
- November 1-4, 2018, 26th Biannual Meeting of Philosophy of Science Association, Seattle, Washington.

More information at: <http://philsci.org/psa-biennial-meeting/psa2018-contact-information.html>

November 13 – 16, 2018, IX conference of the Spanish Society of Logic, Methodology and Philosophy of Science (SLMFCE), Madrid, Spain.

More information at: <http://www.solofici.org/congreso2018/>

November 23-28, 2018, East Asian Science Education Association (EASE) annual conference, National Dong Hwa University, Hualien Taiwan.

Details at: <http://new.theease.org/conference2018.php>