

Upcoming

January 2020

29th Workshop on Philosophy of Cancer Biology, Bristol, UK

February

17th Workshop on aging with Thomas Kirkwood, Bordeaux, France

May

5th-7th Final Conference of the ERC IDEM project, Bordeaux, France

25th-29th Summer School "Philosophy in Biology and Medicine", Carcans, France

June

8th-12th Philosophy of Biology at the Mountains, Salt Lake City, USA

September

7th-11th EASPLS Summer School "Dealing with complexity in the life sciences", Klosterneuburg, Austria

Writing-up fellowship

The deadline for the [Writing-Up-Fellowships](#) offered by the Konrad Lorenz Institute (KLI) is approaching fast. Applicants have to fill out the [contact form](#) by **January 30th**.

More information can be found on the [KLI website](#).

An example is a recent exchange in the journal *Trends in Ecology and Evolution*. Connolly *et al.* ([2017]) employed philosophical work on mechanisms in the course of advocating greater use of process-based and component-based models in macroecology. Brian McGill, a macroecologist, and I wrote a response letter, urging that ecologists not underestimate the importance of distant and large-scale causes. In our view, because of the importance of such causes, not all causal models represent processes or components. It was this exchange that inspired these thoughts about practice-based philosophy of science. Here I was, disagreeing with biologists about their own field. Who was I to say? In this instance, I had a convenient answer to that question: I felt comfortable weighing in because a different biologist agreed with me. But I don't think a philosopher's ability to jump into the scientific fray is limited to that circumstance.

Scientists regularly take different approaches to their work and disagree with one another about significant matters. This is why philosophers of science not only can but indeed must bring to bear considerations that go beyond existing scientific practices. So, while contemporary philosophy of science takes actual scientific practices as its starting point, those practices aren't definitive; legitimate philosophical positions may be at odds with some, or even all, of what the relevant scientists are up to.

That's my first point about a practice-based approach to philosophy of science. Here's a second. If we are truly pursuing philosophical accounts of science that take their lead from actual scientific practices, then we need to take seriously how the features of scientists influence the character of science. Scientists take up space, so to speak. Scientific practices are not only influenced by the nature of the world and the specific aims of the research, they also reflect the features of scientists, both individual and shared, and the features of their circumstances, including those that are incidental.

The general point that features of scientists and their circumstances influence scientific practices is accepted by many or most philosophers of science. This is perhaps a result of work done in history and sociology of science, feminist philosophy of science, and on the topic of values in science. But you wouldn't know this by the look of many of our other philosophical debates about science. Many of these debates proceed as if scientists' features and their circumstances are inconsequential or, at most, distracting side issues.

This is so even among some who accept that actual scientific practices are the starting point for theorizing about science. Dominant views in philosophy of science have tended to ignore or underplay the significance of scientists' characteristics in shaping scientific practices, research aims, and the nature of scientific successes. Most work on scientific explanation, for example, focuses predominantly or entirely on the relationship a satisfactory explanation should bear to the world, that is, on the nature of metaphysical dependence that qualifies as explanatory, setting to the side questions about how explanations are shaped by their audience.

My basic point is simply that philosophers of science could, and should, get more mileage out of basing our work in scientific practices. We can do so by acknowledging that scientific practices are shaped by science's practitioners and the circumstances in which they find themselves, and that this influence is philosophically significant. This is the basic idea at the root of my book *Idealization and the Aims of Science* (2017).

Considering the two points developed here, I suppose what I'm after is, first, the recognition that philosophy of science can't simply be based on what scientists say and do. But, on the other hand, there are other aspects of what scientists say and do that need to be taken more seriously. Truly taking on board a starting point in scientific practices requires deeper changes to our philosophical stances about science. Scientific practices are shaped not just by the need for the scientific enterprise to connect with the world, but also by the need for the scientific enterprise to connect with its human practitioners and audience.

(This article was adapted from *Spotlight, the blog of the British Journal for Philosophy of Science*)

References

Connolly, S. R., Keith, S. A., Colwell, R. K. and Rahbek, C. [2017]: 'Process, Mechanism, and Modeling in Macroecology', *Trends in Ecology and Evolution*, *b*, pp. 835–44.

McGill, B. J. and Potochnik, A. [2018]: 'Mechanisms Are Causes, Not Components: A Response to Connolly et al.', *Trends in Ecology and Evolution*, *33*, pp. 304–5.

Potochnik, A. [2017]: *Idealization and the Aims of Science*, Chicago, IL: University of Chicago Press.

Workshop Philosophy of Cancer Biology



On **January 29th** the University of Bristol is holding a workshop on the **Philosophy of Cancer Biology**. The workshop will take

place in the Wills Memorial Building from 1 pm - 5:30 pm.

Speakers will be:

Anya Plutynski (Washington): "Why precision oncology is not very precise"

Samir Okasha (Bristol): "Cancer, evolutionary conflict, and levels of selection"

Lucie Laplane (Paris): "Cancer and stem cells"

Sabina Leonelli (Exeter): "Actionable data for precision oncology: building trustworthy evidence for diverse research spaces"

After the workshop from 6 pm - 7:30 pm, the Centre for Science and Philosophy and the Centre for Health, Humanities and Science are co-hosting a Public Lecture entitled 'Cancer as a Complex System'. There will be a talk by Professor Anya Plutynski, followed by a panel discussion with Dr Karoline Wiesner, Dr James Brennan and Heidi Loughlin. Dr Julian Baggini will chair.

Please follow the eventbrite link below for full details and to register your interest for the Public Lecture:
<https://www.eventbrite.com/e/cancer-as-a-complex-system-tickets-85532665505>

Workshop on Aging

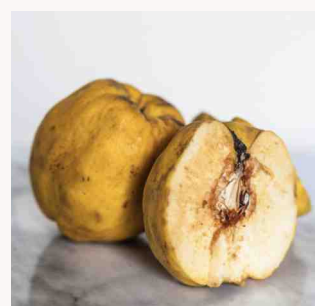
PhIlInBioMed members **Pierre-Oliver Méthot** and **Maël Lemoine** are



organizing a **Workshop on Aging** with **Thomas Kirkwood** on the 17th February in Bordeaux.

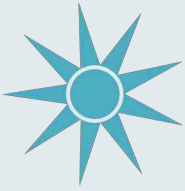
Bringing together philosophers and biologists, this workshop will examine the physiologically based evolutionary hypothesis of aging known as the 'disposable soma' theory proposed by Thomas Kirkwood in 1977.

Setting Kirkwood's theory into the broader context of the search for an evolutionary explanation of aging in the past century, contributions will also consider the extent to which the disposable soma hypothesis is consistent with classical



theories of aging such as mutation accumulation (Medawar) and antagonistic pleiotropy (Williams).

PhillnBioMed Summer Schools



Two PhillnBiomed member institutions are proposing summer schools in 2020. In May will take place the summer school [Philosophy in Biology and Medicine](#) organized by the University of Bordeaux and financed by Thomas Pradeu's ERC IDEM project. The second summer school [Dealing with Complexity in the Life Sciences](#) is hosted by the Konrad Lorenz institute for Evolution and Cognition Research (KLI) in Klosterneuburg near Vienna.

The **deadlines for both events are respectively the 21st and the 28th of February**. These summer schools are excellent opportunities for young scholars to experience the benefits of interdisciplinarity first hand.

Best Practices



by Joel Brown

The key to spend *quality time* with your children, is simply to spend lots of time with them. Afterwards some of it will turn out to be quality time.

The same is true for cooperations between philosophers and scientists. You cannot have meaningful interactions on command. Therefore the more time you spend together, the better your chances to be successful.

Forthcoming volume: Philosophy of Science for Biologists

Biologists rely on theories, apply models and construct explanations, but rarely reflect on their nature and structure. This book introduces key topics in philosophy of science to provide the required philosophical background for this kind of reflection. It concisely and accessibly addresses fundamental questions such as: Why should biologists care about philosophy of science? How do concepts contribute to scientific advancement? What is the nature of scientific controversies in the biological sciences?

[Philosophy of Science for Biologists](#) draws on contemporary examples and case studies from across biology, making the discussion relevant and insightful. Edited by Kostas Kampourakis (Université de Genève) and Tobias Uller (Lunds Universitet, Sweden), it includes many contributions by PhillnBiomed members, such as Angela Potochnik, Anya Plutynski, Tim Lewens and Michael R. Dietrich. Written for researchers and advanced undergraduate and graduate students across the life sciences, its aim is to encourage readers to become more philosophically minded and informed to enable better scientific practice.

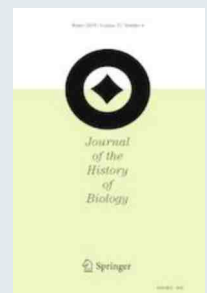
Unhinged



WESTERN PHILOSOPHY

Revisiting the Modern Synthesis

PhillnBioMed member Philippe Huneman has edited a [special issue on Revisiting the Modern Synthesis](#) in the *Journal of the History of Philosophy*.



Though a lot of work has been done by biologists, historians, and philosophers on the Modern Synthesis, a number of questions still remain unanswered, either because they have not been addressed or because different individuals assume very different answers.

Given that many views coexist about where the Modern Synthesis started and what fields it covered, this special issue aims to be very open about these questions and considers less what the Modern Synthesis was than how it developed.

Online debate: After Darwin- Evolution beyond the selfish gene



The Institute of Arts and Ideas has recently hosted the debate: "[After Darwin: Evolution beyond the selfish gene](#)". Massimo Pigliucci (CUNY-City College New York, USA), Tim Lewens (University of Cambridge, UK), and Zanna Clay (Durham University, UK) discussed if the current theories can capture the full richness of evolution or if there is more for us to find. The recorded debate is available [online](#).

3 questions for Jonathan Birch

[Jonathan Birch](#) is an Associate Professor at the London School of Economics and Political Science, specializing in the philosophy of the biological sciences. He has published extensively in both science and philosophy journals. In 2014, he was one of four UK philosophers honoured with a Philip Leverhulme Prize.



1. What sparked your interest for philosophy of science?

My first degree was in Natural Sciences at Cambridge. You mix and match courses from all over the sciences, and I think it led naturally to an interest in methodology, and in what the sciences have in common and how they differ. One of the courses I took was in the History & Philosophy of Science. Peter Lipton taught the Philosophy of Science half and made it sound like the most important and interesting subject on Earth. I came to realize that the questions I cared about most were questions that practising scientists tended to set aside as being too foundational or conceptual to deal with.

2. What is your main research focus?

For a long time, I was mainly focussed on the evolution of social behaviour. I wanted to understand why social evolution is such a persistent source of controversy (e.g. kin selection vs. group selection), and I wondered how much of the biological world could be explained as the result of cooperation: cooperation between genes in a genome, organelles in a cell, cells in a multicellular organism, and so on. This led to my book [The Philosophy of Social Evolution](#) (2017, OUP). At the moment, though, I am working on animal sentience.

3. What are the topics you want to explore in the future?

I have just started a five year ERC-funded project on animal sentience — the "[Foundations of Animal](#)

[Sentience](#)" (ASENT) project. Sentience, in a broad sense, is the capacity to feel. In a narrower sense, it refers to the capacity to have feelings with a positive or negative quality, such as feelings of pain, pleasure, boredom, excitement, frustration, anxiety and joy. These feelings have the elusive property that philosophers like to call "phenomenal consciousness". It feels like something to have them.

Everyone wonders about sentience. For example, do bees feel anything? What about crabs? Or jellyfish? Or amoebas? Where's the line beyond which it is inappropriate to attribute feeling? It seems very important to know, in particular, which animals can feel pain or something like pain. But there is no consensus about this, and no consensus about how these questions can be approached scientifically.

My project aims to move these debates forward. We will be looking at the methodological foundations of the science of sentience: how can we study the subjective side of the mental with scientific methods? We'll also be looking at the pathway from scientific research to better animal welfare regulations and laws. If we decide some invertebrates do deserve welfare protection, how can we go about achieving that, given that our understanding of their welfare needs is currently so limited?

