

The Magazine

January 2024

Introduction

Hello PiBM network members!

Welcome to 2024. Whether you're glad to see 2023 go or wishing it were just a bit longer, hopefully the start of this year is treating you well thus far. We have a lot of interesting announcements this month. There were/are some interesting conferences taking place, some exciting new research being funded, and perhaps the longest list of publications we have had to date. So, if that's any indication of how 2023 went/ended, it seems that the PiBM world has been productive. Here's to another productive year (with one extra day coming soon)!

Enjoy!

Academic Opportunities

[Last Chances for Applications to Phil In Bio Med MA, Bordeaux](#)

The Master Philosophy in Biology and Medicine at Bordeaux is looking for interested candidates for the next academic year (starting September 1, 2024). Interested students should contact us at their earliest convenience, using the following address: mael.lemoine@u-bordeaux.fr.

This program (details presented here: <https://www.philinbiomed.org/teaching/>) is designed for philosophy students who have a strong appetite for collaboration with scientists, or scientists with a strong appetite for collaboration with philosophers, particularly in the areas of cancer, immunology, microbiota, systems biology, nutrition, neuroscience, and aging. The students will have the opportunity to be embedded in research in scientific labs as well as be integrated into a very dynamic international community of philosophers and scientists.

More news

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[Philinbiomed.org](https://www.philinbiomed.org)

Academic Opportunities (cont.)

Please keep in mind that the master is **exceptionally inexpensive**, but very **competitive** (as we will only hire 5 students per year). It is 100% in English.

Thanks for forwarding this information to anyone you think might be interested, and thanks again to those who have already done so.

Conferences

6th Philosophy of Cancer Biology Workshop

The 6th Philosophy of Cancer Biology workshop will be held in Bordeaux, France, from **March 4th to March 6th, 2024**. Invited speakers include: Ilaria Elia, Andrew Ewald, Peter Friedl, Cristina Lo Celso, Guillaume Montagnac, Julie Pannequin, Maria Rescigno, Gregory Sepich-Poore, Eric Solary, and Orsolya Vincze.

More information can be found on this website: <https://www.philinbiomed.org/event/sixth-philosophy-of-cancer-biology-workshop/>

Is Philosophy Useful for Science, and/or Vice Versa?

An interdisciplinary conference addressing this question will take place on January 30 - February 2, 2024 in Beckman Hall 401 at Chapman University, CA, USA. You may also view the conference presentations live on Zoom.

In celebration of the first year of the Doctor of Science program in Mathematics, Philosophy and Physics (MPP) at Chapman University, Schmid College of Science and Technology and the MPP program organize a conference on the utility of philosophy for the sciences.

Please join to hear talks from world-renowned researchers in the fields of Mathematics, Physics, Philosophy, Social Sciences, Philosophy of Science, and Biology. More information can be found here: <https://www.chapman.edu/scst/conferences-and-events/conferences/philosophy-science-conference.aspx>



Publications

Badaut, J. et al. (2024). “Blood-brain borders: a proposal to address limitations of historical blood-brain barrier terminology”, *Fluids and Barriers of the CNS*, DOI: [10.1186/s12987-023-00478-5](https://doi.org/10.1186/s12987-023-00478-5)

Boem, F. et al. (2024). “Minding the gut: extending embodied cognition and perception to the gut complex”, *Frontiers in Neuroscience*, DOI: [10.3389/fnins.2023.1172783](https://doi.org/10.3389/fnins.2023.1172783)

de Boer, N., Kostic, D., Ross, M., de Bruin, L., Glas, G. (2022) “Using Network Models in Person-centered Care in Psychiatry: How Perspectivism Could Help to Draw Boundaries.” *Frontiers in Psychiatry*, 13:925187, <https://doi.org/10.3389/fpsy.2022.925187>.

Konsman, J.P. (2024). “Expanding the notion of mechanism to further understanding of biopsychosocial disorders? Depression and medically-unexplained pain as cases in point.” *Stud. Hist. Philos. Sci.*, [10.1016/j.shpsa.2023.12.002](https://doi.org/10.1016/j.shpsa.2023.12.002)

Kostic, D. & Halfman, W. (2023). “Mapping Explanatory Language in Neuroscience”. *Synthese* 202, 112. <https://doi.org/10.1007/s11229-023-04329-6>.

Liaghat, A. & Konsman, J.P. (2024). “Methodological advice for the young at heart investigator: Triangulation to build better foundations”, *Brain, Behavior, and Immunity*, <https://doi.org/10.1016/j.bbi.2023.11.003>

Milkowski, M. & Kostic, D. (2023). “Forging Connections: Uniting Neuroscience and Philosophy of Science.” eLetter, Levenstein, Daniel, et al. “On the role of theory and modeling in neuroscience.” *Journal of Neuroscience*, 43.7 (2023): 1074-1088. <https://www.jneurosci.org/content/43/7/1074/tab-e-letters#forging-connections-uniting-neuroscience-and-philosophy-of-science>.

Nathan, M. (2024). *The Quest for Human Nature: What Philosophy and Science Have Learned*. Oxford University Press. <https://global.oup.com/academic/product/the-quest-for-human-nature-9780197699256?lang=en&cc=us>

Ross, L.N. & Bassett, D.S. (2024). “Causation in neuroscience: keeping mechanism meaningful”. *Nature Reviews Neuroscience*, 25, 81–90. <https://doi.org/10.1038/s41583-023-00778-7>



Publications (cont.)

Sholl, J. & Raubenheimer, D. (2023). “Who’s Afraid of Nutritionism?” *The British Journal for the Philosophy of Science*. <https://doi.org/10.1086/728785>

Sober, E. (2024). *The Philosophy of Evolutionary Theory: Concepts, Inferences, and Probabilities*. Cambridge University Press. <https://www.cambridge.org/core/books/philosophy-of-evolutionary-theory/8D3BB3BDD978A94079F41F245D51D262#fn-tin-information>

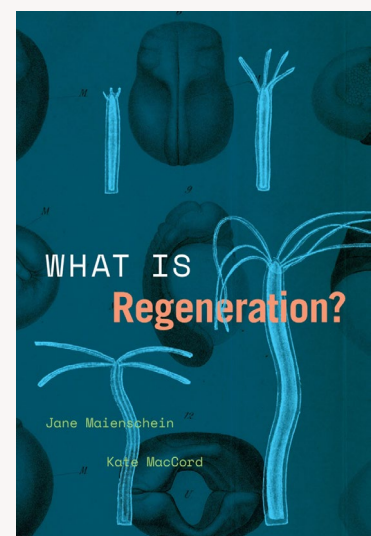
Turner, J. (2024). “Bad Feelings, Best Explanations: In Defence of the Propitiousness Theory of the Low Mood System”. *Erkenntnis*. <https://doi.org/10.1007/s10670-023-00773-5> (Preprint here: <https://philarchive.org/rec/TURBFB>)

Members of the McDonnell Initiative at the Marine Biological Laboratory (<https://mcdonnellinitiativeatmbl.com/>) have published three books with University of Chicago Press, highlighting the transformative work that historians, philosophers, and scientists can accomplish when they work together on shared problems.

Maienschein, Jane, and Kate MacCord. *What Is Regeneration?* University of Chicago Press, 2022. <https://press.uchicago.edu/ucp/books/book/chicago/W/bo131392320.html>

In punishment for his stealing fire, the Greek gods chained Prometheus to a rock, where every day an eagle plucked out his liver, and every night the liver regenerated. While Prometheus may be a figure of myth, scholars today ask whether ancient Greeks knew that the human liver does, in fact, have a special capacity to regenerate. Some organs and tissues can regenerate, while others cannot, and some organisms can regenerate more fully and more easily than others.

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Publications (cont.)

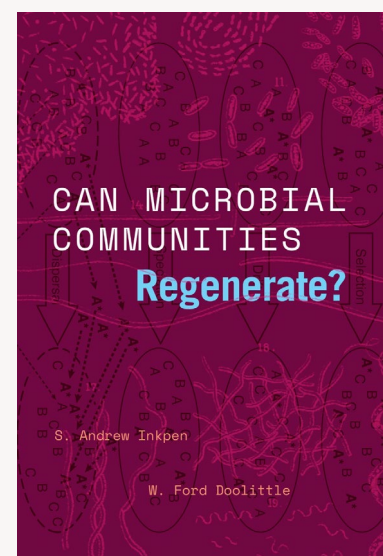
...Cut an earthworm in half, and two wiggly worms may confront you. Cut off the head of a hydra, and it may grow a new head. Cut off a human arm, and the human will be missing an arm. Why the differences? What are the limits of regeneration, and how, when, and why does it occur?

In this book, historians and philosophers of science Jane Maienschein and Kate MacCord explore biological regeneration, delving into a topic of increasing interest in light of regenerative medicine, new tools in developmental and neurobiology, and the urgent need to understand and repair damage to ecosystems brought on by climate change. Looking across scales, from germ, nerve, and stem cells to individual organisms and complex systems, this short and accessible introduction poses a range of deep and provocative questions: What conditions allow some damaged microbiomes to regenerate where others do not? Why are forests following a fire said to regenerate sometimes but not always? And in the face of climate change in the era called the Anthropocene, can the planet regenerate to become healthy again, or will the global ecosystem collapse?

Inkpen, S. Andrew, and W. Ford Doolittle. *Can Microbial Communities Regenerate?: Uniting Ecology and Evolutionary Biology*. University of Chicago Press, 2022. <https://press.uchicago.edu/ucp/books/book/chicago/C/boI63I94783.html>

By investigating a simple question, a philosopher of science and a molecular biologist offer an accessible understanding of microbial communities and a motivating theory for future research in community ecology.

Microorganisms, such as bacteria, are important determinants of health at the individual, ecosystem, and global levels. And yet many aspects of modern life, from the overuse of antibiotics to chemical spills and climate change, (...)



Publications (cont.)

...can have devastating, lasting impacts on the communities formed by microorganisms. Drawing on the latest scientific research and real-life examples such as attempts to reengineer these communities through microbial transplantation, the construction of synthetic communities of microorganisms, and the use of probiotics, this book explores how and why communities of microorganisms respond to disturbance, and what might lead to failure.

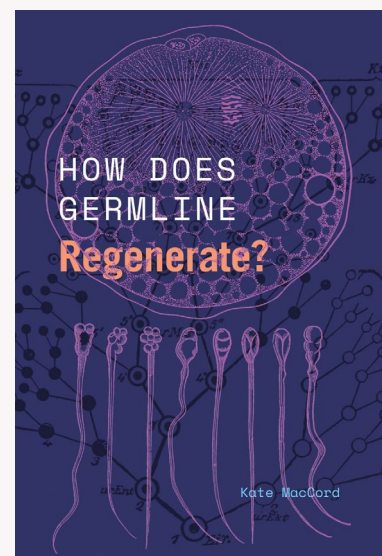
It also unpacks related and interwoven philosophical questions: What is an organism? Can a community evolve by natural selection? How can we make sense of function and purpose in the natural world? How should we think about regeneration as a phenomenon that occurs at multiple biological scales?

Provocative and nuanced, this primer offers an accessible conceptual and theoretical understanding of regeneration and evolution at the community level that will be essential across disciplines including philosophy of biology, conservation biology, microbiomics, medicine, evolutionary biology, and ecology.

MacCord, Kate. *How Does Germline Regenerate?* University of Chicago Press, 2024. <https://press.uchicago.edu/ucp/books/book/chicago/H/bo209031619.html>
Open access: <https://www.bibliopen.org/9780226830506>

A concise primer that complicates a convenient truth in biology—the divide between germ and somatic cells—with far-reaching ethical and public policy ramifications.

Scientists have long held that we have two kinds of cells—germ and soma. Make a change to germ cells—say using genome editing—and that change will appear in the cells of future generations. Somatic cells are “safe” after such tampering; modify your skin cells, and your future children’s skin cells will never know. ...



Publications (cont.)

... And, while germ cells can give rise to new generations (including all of the somatic cells in a body), somatic cells can never become germ cells. How did scientists discover this relationship and distinction between somatic and germ cells—the so-called Weismann Barrier—and does it actually exist? Can somatic cells become germ cells in the way germ cells become somatic cells? That is, can germ cells regenerate from somatic cells even though conventional wisdom denies this possibility?

Covering research from the late nineteenth century to the 2020s, historian and philosopher of science Kate MacCord explores how scientists came to understand and accept the dubious concept of the Weismann Barrier and what profound implications this convenient assumption has for research and policy, from genome editing to stem cell research, and much more.

Members of the McDonnell Initiative, including Jennifer R Morgan (Marine Biological Laboratory), Frank Stahnisch (University of Calgary), Pamela Imperadore (Zoological Station Anton Dohrn), and Fabio De Sio (Heinrich Heine University of Düsseldorf) also served as topic editors on a special research topic collection for *Frontiers in Cell and Developmental Biology*, which published the last contribution in late 2023. This collection grew from a handful of scientists, philosophers, and historians, to encompass 28 articles from 107 authors at institutions around the world.

<https://www.frontiersin.org/research-topics/17983/regeneration-from-cells-to-limbs-past-present-and-future>



Reports from recent PiBM events

[Previous talk in PiBM Seminar Series](#)

On Friday, December 15th, 2023, Joseph LeDoux (Professor of Neural Science and Psychology, NYU) gave a talk entitled: “Our Four Realms of Existence: A Fresh Look at the Science of What and Who We Are.” The video of Joe LeDoux’s talk is available online: <https://www.philinbiomed.org/event/joseph-ledoux/>

[Upcoming talk in PiBM Seminar Series](#)

On February 6th, 2024, 5pm (UTC+1) Sabine Eming (Cologne) will give a talk entitled: “Immunological checkpoints in wound healing and misregulated reparative responses.” Detailed information can be found here: <https://www.philinbiomed.org/event/sabine-eming/>

Zoom link: <https://u-bordeaux-fr.zoom.us/j/85269529345> (Note that this talk will not be recorded.)

[Dr. Sabine Eming](#) is Professor of Dermatology at the University of Cologne. She received her MD and her training in Dermatology at the University of Cologne. She was research fellow at The Scripps Research Institute and Harvard Medical School.

Dr. Eming’s research interest has focused on the mechanisms how the skin senses damage and how these events translate into a regenerative response or disease. Her research team has extensively studied mechanisms of induction and regulation of the immune response during skin wound healing. Her findings aim to develop novel strategies for pharmacological interventions in pathological healing conditions associated with diabetes mellitus, inflammatory diseases or ageing.



Other Events in the World of PiBM

Funding for a PiBM Project

A new 3-year project “Immunity and biological resilience: a conceptual framework” is a collaboration between a philosopher, [Martin Zach](#), and an immunologist, [Dominik Filipp](#), with several international partners, including the ImmunoConcept lab, CNRS & University of Bordeaux; Center for Translational Immunology, UMC Utrecht; Lydia Becker Institute of Immunology and Inflammation, University of Manchester; Department of Microbiology and Immunology, Stanford University; and Inflammation Lab, Instituto Gulbenkian de Ciência.

The project aims to contribute to a deeper understanding of biological resilience by shedding light on its conceptual foundations. Resilience is sometimes taken to refer to the capacity of a system to return to its original state after a perturbation (homeostasis). Other times, it is understood in terms of the capacity of organisms to withstand the negative effects of a perturbing stimulus (disease tolerance). Resilience is also taken to refer to the capacity of an organism to recover from an illness (return to health). The project is premised on the claims that each account of resilience is underdeveloped, and that to provide an encompassing view on resilience, a more unified account needs to emerge. (Martin Zach on the left, Dominik Filipp on the right)



Other Events in the World of PiBM (cont.)

Additionally, the project promises to discuss the role of philosophy in science via organizing special events aimed at addressing the role of conceptual thinking in scientific research and science education. The first such event is currently scheduled for June 2024 with the visit of the prominent immunologist Shimon Sakaguchi. The project, funded by the Czech Science Foundation in 2024-2026, will be realized at the Institute of Philosophy of the Czech Academy of Sciences in collaboration with the Institute of Molecular Genetics of the Czech Academy of Sciences.

You can also follow Martin (@martinzach_) and Dominik (@FilippLab) on Twitter/X.

Looking ahead...

That's it for this month. Thanks, as usual, for all the exciting updates and announcements. Seeing all this activity really makes composing the newsletter a joy. Hopefully the same is felt in reading it!

More news

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