

PhilInBioMed

THE MAGAZINE

- July 2019 -

All about conferences

Dear PhilInBioMed members,

The academic year 2018/2019 has come to an end and vacations are here. But summer time also means conference time. If you haven't picked where to go this summer, you will find some suggestions in this issue.

You can also read how the 2nd PhilInBioMed meeting is coming along and learn about a successful cooperation between a philosopher of science and an developmental biologist.

Cordially, your
PhilInBioMed Magazine team



The 2nd meeting of the PhilInBioMed international network will be held in Bordeaux (© Nicolas Duffaure)

Get ready for the 2nd PhilInBioMed meeting



The 2nd meeting of the PhilInBioMed international network is coming up and the program is about to be finished. Besides the two planary speakers: Elliott Sober (UW Madison) and Eugene Koonin (NCBI) there will be a number of invited speakers representing the different PhilInBioMed institutional members. Confirmed speakers so far are: Pierrick Bourrat, John Dupré, Arantazu Etxeberria Agiriano, Matt Haber, Kate MacCord and Duygu Özpolat, Dan Nicholson and Jacob Stegenga.

Furthermore, the Scientific Committee has selected 9 oral presentations out of 63 abstracts that were sent in. As there were so many worthy candidates and only 9 slots to be filled, the organizers offered the possibility to all highly ranked candidates to present their work in form of a poster. Though this form of presentation is still relatively novel for philosophy conferences, many of the candidates have accepted the proposition and thus the program will include a poster session.

For more information go to: www.philinbiomed.org/conferences-2.

Summer break



The PhilInBioMed Magazine will go on a summer break. Therefore, there will be no Magazine in August.

The next PhilInBioMed Magazine will appear in September. But you can already send us any announcement, report, idea or suggestion you might have. Just write to:
contact@philinbiomed.org.

Upcoming

August 2019

13th-16st 8th ISEMPH annual meeting, Zurich, Switzerland

October 2019

11th What is an individual organism?, Krakow, Poland

14th-15th 2nd meeting of the PhillnBioMed international network, Bordeaux, France

PhillnBioMed at annual ISEMPH meeting



INTERNATIONAL SOCIETY FOR
EVOLUTION, MEDICINE & PUBLIC HEALTH

The **International Society for Evolution, Medicine & Public Health (ISEMPH)** is holding their fifth annual meeting on August 13th-19th in Zurich,

Switzerland. PhillnBioMed members Paul Griffith and Maël Lemoine will present a session entitled Symposium The Normal and The Pathological (Friday 16th at 11 am). The full program with abstracts can be found under <https://easychair.org/smart-program/ISEMPH2019/index.html>

The mission of the International Society for Evolution, Medicine, and Public Health's is to foster communication among scientists, students, clinicians and public health professionals who want to use evolutionary insights to improve medical research and practice, and to use studies of human health and disease to advance evolutionary biology.

Conference on individuality in Krakow

Understanding the origins and nature of biological individual constitute important problems in the biological sciences. What separates a genuine biological individual from an aggregate of lower units? What status should be attributed to ant colonies or honey bees? And what about the holobiont, the multispecies ensemble of host and its symbiotic microorganisms.



On October 11th PhillnBioMed member Adrian Stencel organizes the conference "What is an Individual Organism? Philosophical Problems" at the Jagiellonian University in Krakow, Poland. Applications are open to philosophers, biologists, medical doctors, and any other scholars interested in the subject. More information on the conference and how to apply can be found on the PhillnBioMed website under [News](#).

Report from the ERC IDEM summer school in Biarritz



In the first week of July 20 young scholars made their way to Biarritz in the south of France. They came to attend the **ERC IDEM summer school on Microbiota, Sybiosis and Individuality**. Among them were philosophers, scientists, science communicators and even a curator. The program that awaited them was just as diverse as the participants: presentations, group work, speed dating, philbio-battles, swimming in the Atlantic and much more.

But the best program is only as good as the course leaders who present it: [Scott Gilbert](#) (Swarthmore College), [Jan Pieter Kongsman](#) (CNRS/University of Bordeaux), [Johannes Martens](#) (Université catholique de Louvain) et [Thomas Pradeu](#) (CNRS/University of Bordeaux) did not only give excellent presentations, they were also present at all times, and their interactions with the participants ranged from conceptual discussions to beach volley ball. [Thomas Bosch](#) (University of Kiel) gave a video conference and [Rob Knight](#) (UC San Diego) was able to join the summer school on Friday. Though he must have been incredibly jet lagged, he gave an exciting talk and was readily available all day for discussions with participants.

Both participants and course leaders saw the summer school as a success and hopefully this was the starting point for many fruitful interactions to come.

Publications



Special issue on oncoviruses

Viruses are responsible for more than 10% of cancers in humans worldwide. For decades these silent cancer agents have challenged both medical and fundamental research. A [new issue of Philosophical Transactions of the Royal Society B](#) brings together expertise and insights from a variety of fields to tackle the threat posed by oncogenic DNA viruses.

Samuel Alizon has contributed the introduction where he pleads for a [multi-level and a multi-disciplinary approach to DNA oncovirus virulence](#). A comprehensive review on the subject is given by Daniel DiMaio, who looks at [how studies of small DNA tumour viruses revolutionized biology](#).

Articles

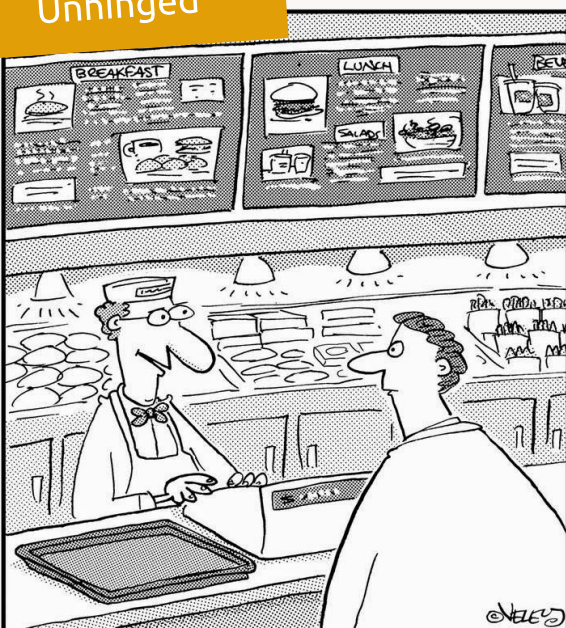
Minelli A. (2019) An evo-devo perspective on analogy in biology, *Philosophies*, 4, 5. Open access from <https://doi.org/10.3390/philosophies4010005>

Minelli A. (2019) Biodiversity, disparity and evolvability, in E. Casetta, J. Marques da Silva & D. Vecchi (eds.), *From Assessing to Conserving Biodiversity*, Springer, Cham, pp. 233-246 (2019). Open access (the whole book) from <https://link.springer.com/book/10.1007/978-3-030-10991-2>

Minelli A. (due September 2019) Evolution, development and the distributed uniqueness of the individual, Chapter 12 of A. Pennisi, A. Falzone (eds.), *The Extended Theory of Cognitive Creativity (Perspectives in Pragmatics, Philosophy & Psychology 23)*, Springer, Cham. Info: <https://www.springer.com/gp/book/9783030220891>

Fusco G. & Minelli A. (due October 2019) *The Biology of Reproduction*, Cambridge University Press, Cambridge, xvi+472 pp. Info: <https://www.cambridge.org/it/academic/subjects/life-sciences/zoology/biology-reproduction?format=PB> [includes discussion on individuality and other conceptual issues]

Unhinged



"And finally, sir, would you like your burger flipped by a Ph.D. in Philosophy, History or English Literature?"

New Philosophy and Medicine network

Jeremy Howick has launched the [Oxford Philosophy and Medicine network](#).

The aim of the network is to foster synergies between the philosophers of medicine and medical researchers interested in philosophy of medicine.

Furthermore, it wishes to encourage all forms of philosophy of medicine, with a focus on empirical philosophy of medicine that has an impact outside academia.

Currently the Oxford Philosophy and Medicine network is welcoming applications as an academic visitor. Interested candidates must hold an established teaching or research post in a Philosophy department at another University. For more information on the application procedure go to: <https://www.philosophy.ox.ac.uk/academic-visitors>.



Focus on famous PhilnBioMed articles

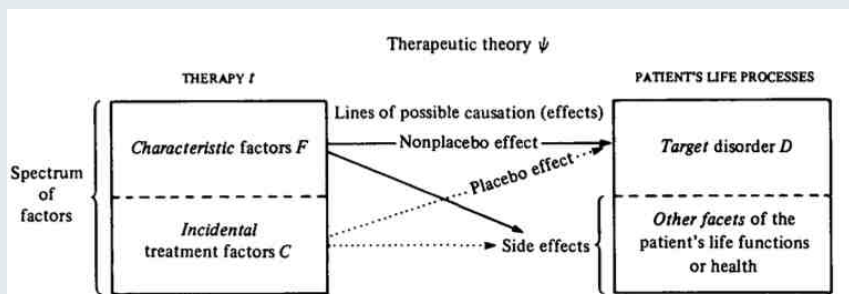


This series reviews articles that are examples of applied PhilnBioMed. If you would like to publish a review, please write to contact@philinbiomed.org

Adolf Grünbaum, “The Placebo Concept in Medicine and Psychiatry”, Psychological Medicine, 1986
(by Maël Lemoine)

Grünbaum was the founder of the Center for Philosophy of Science at the University of Pittsburgh, now one of the biggest in the world. He is known for his philosophical work on space and time and on psychoanalysis, less so for his work on the definition of ‘placebo’, a cornerstone concept for philosophy of medicine. Not only were his two main articles on the topic published in medical journals, but “The Placebo Concept in Medicine and Psychiatry” consists entirely of discussions led by medical scientists and psychiatrists (39 references, none of which in philosophy), and it has been cited and discussed in medical science, if less than Arthur Shapiro’s.

Shapiro was a physician and the author of an influential work on the history and definition of both ‘placebo’ and ‘placebo effect’. It is a central concept in medical science because effects of treatments ought to be attributed to a specified action of the treatment if they are to be understood, assessed, improved. According to Shapiro, “a placebo is defined as any therapy or component of therapy that is deliberately used for its nonspecific, psychological, or psychophysiological effect, or that is used for its presumed specific effect, but is without specific activity for the condition being treated” (cited in Grünbaum). Grünbaum objects that ‘specificity’ is left without any criterion and that the status of the prescriber’s intention and beliefs is unclear. Instead, Grünbaum proposes a figure.



In this figure, “therapeutic theory” stands for the current state of medical science. A therapy t acts on a patient’s life processes. The cause decomposes into more characteristic and more incidental factors. The effect decomposes into ‘close to the target disorder’ and ‘remote

from the target disorder’. Then the resulting possible effects are nonplacebo, placebo and side effects.

What follows is a more accurate definition of ‘placebo’ as a treatment, none of whose characteristic factors can have a positive effect on a given disorder according to a therapeutic theory. It is intentional when the prescriber thinks that it is a placebo but believes that some of its incidental factors can have an effect on the disease. It is inadvertent when the prescriber thinks it has a characteristic effect on the disease. Note that the placebo is never defined in terms of “psychological effects”, or “effects of beliefs” or “expectations”, and need not be. In turn, a ‘placebo effect’ is either any effect of a placebo or an effect of any incidental factor of a treatment. Placebo effects can be either good or bad for the patient. Grünbaum presents his definition as a simple clarification, explication or reformulation of Shapiro’s definition. An interesting revision of Grünbaum’s definition has been published by philosopher of medicine Jeremy Howick in *Synthese* in 2016.

All in all, Grünbaum’s definition has deserved credit, but it has not been influential in medical science. This is probably because it has not been put to use, for instance, as a working criterion to include or exclude studies in a meta-analysis on the placebo effect. It has not been very successful in philosophy of medicine either. This is probably because it has failed to convince that a definition of the placebo is indeed central to the assessment of effective treatments in medicine.

Cooperation chronicle: The who, how and what of germ line regeneration

For this edition of the Cooperation Chronicle [Duygu Özpolat](#) and [Kate MacCord](#) give us insights into their collaboration at the [Marine Biological Laboratory \(MBL\)](#), Woods Hole, Massachusetts.

Duygu Özpolat (left) is a Developmental Biologist and Principal Investigator of a group exploring stem cells and regeneration. Kate MacCord (right) is a Philosopher of Science and Program Administrator for the James S. McDonnell Foundation-funded initiative at the MBL.



1- Could you explain in a few words the topic of your collaboration?

We work on germ line regeneration in metazoans. The germ line is all of the cells in the lineage that lead up to the gametes (reproductive cells). Our research together examines how scientists conceive of the germ line, including concepts like continuity and discontinuity, germ line immortality, and the Weismann barrier (i.e. that soma cannot convert to germ). Looking at germ line regeneration, a phenomenon that occurs naturally in a lot of metazoans, allows us to prod the assumptions that have been made about the germ line over the past century and a half, which, in turn, feeds back into the experiments that Duygu conducts in her lab.

2- How did you meet?

We met at the Marine Biological Laboratory (MBL) where Duygu is a Hibbitt Fellow and Kate is a McDonnell Foundation Fellow. The MBL has a small year-round faculty, so we were bound to bump into each other.

3- Could you each describe what your collaborator brings to this joint work?

Kate: Duygu gives me constant insights into how scientists currently conceive of the germ line. Her analyses of different research papers, and her extensive knowledge on the subject, provoke me to ask deeper questions about the philosophical underpinnings of the science, and to look to the historical record with new questions.

Duygu: Kate helps me put ideas and concepts my lab studies in historical context. This helps greatly because often times, as biologists, we do not think enough about what people meant when they used a certain term back in the day. In addition, when we are discussing these topics, Kate asks the best questions that make me reassess my assumptions. We brainstorm together, and try to figure out the meaning (as best as we can) behind some commonly-used verbiage in my field, and ask how our view of the concepts would change if we applied different (e.g. broader or narrower) definitions.

4- What are the obstacles that you have met to do your collaborative work?

We have had difficulty finding venues for publishing our collaborative work. There is also the looming threat that anything we publish together will not be regarded highly, should either of us move into a tenure track position.

5- Do you have suggestions as to how to improve collaborations between scientists and philosophers?

Regarding the collaboration itself: Going into a collaboration, you have to understand that such different ways of understanding problems take a while to come into alignment. Understanding that collaborations are long-term investments, and ensuring that you have sufficient time to be in contact with your collaborator are essential. We thus highly recommend co-locating with your collaborator. Other than that, collaborators need to learn to speak a common language, leaving aside jargon until it is essential for understanding, and then

explaining it when it is. And, one of the most important pieces of collaboration is mutual respect and a sense of camaraderie. Spend time with your collaborator as a friend, not simply as an expert.

Regarding getting scientists and philosophers into collaborations, we have a few ideas:

1. Promote successful collaborations so that both fields become familiar with the option. This is clearly already being done, as members of the PhilInBioMed network can attest. We just need to keep it up!
2. Provide venues where the fields can overlap and mingle. The History of Biology Seminar at MBL, McDonnell Initiative, PhilInBioMed meetings, etc. are all great places to do this, and we need more!
3. Work to incentivize philosopher/scientist collaboration - make the products count for tenure review, open up places where products can fit, etc.

6- What are the most exciting questions that you would like to address in your future collaborations?

Kate: I think one of the most interesting questions ahead of us is understanding how the germ line is specified. The field currently acknowledges two modes of germ line specification, but looking to the ontology that Lucie Laplane has laid out for stem cells holds a lot of promise for better understanding how germ line is specified. If we could sort this out more clearly, then we could begin to resolve the mechanisms of germ line regeneration across metazoans.

Duygu: In addition to what Kate mentioned above, I am excited about having a better understanding of how the way scientists view the germ cells evolved throughout history, because I think this will help us understand some of the language and concepts we have around the germ cells today. It seems like scientists were investigating a broad variety of organisms (phylogenetically speaking) as they were forming their ideas around somatic and germ cells. Then the model organisms took over, and findings from these few species now dominate our understanding. I am curious to find out when the shift happens in the literature.

3 questions for Gregor Greslehner

Gregor Greslehner is a postdoctoral fellow in Thomas Pradeu's [ERC IDEM](#) project. He has a double background in science and philosophy, with a PhD in philosophy and a MSc in molecular biology, both obtained from the University of Salzburg. During the academic year 2016/17 Gregor Greslehner was a visiting scholar at the Department of Logic and Philosophy of Science at UC Irvine.



1. What sparked your interest for philosophy of science?

I fell in love with philosophy in Greek class, reading the Presocratics and Plato - and independently with science, especially physics. However, I soon realized that the questions that I found interesting would not be covered in a standard physics university curriculum. Thus, I decided to go with philosophy and molecular biology instead, where I immediately got enthralled by questions from philosophy of science.

2. What is your main research focus?

My big obsession is the relationship between structure and function. Biologists make reference to it a lot, from the molecular to the ecological

scale. Right now, I am investigating which explanatory role different notions of structure and function play in immunology and microbiota studies. Another line of research addresses conceptual questions related to aging and the physiological role of the microbiota.

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

Aging has not yet received much attention from philosophers of biology and medicine. There are many open philosophical questions on which I want to work in more detail.