The Reasoner

Contents

Guest Editorial

For this month's issue of The Reasoner, I'm happy to interview Margaret Gilbert, the Abraham I. Melden Chair in Moral Philosophy and Distinguished Professor of Philosophy at University of California, Irvine. She has made important contributions to the philosophy of social sciences, political philosophy, the philosophy of law and ethics. I enjoyed scientific discussions with Margaret on collective intentionality and social ontology at several conferences.

This interview aims at introducing Margaret's biography and research to the readers of The Reasoner. In partic-ular, it aims at addressing the key messages and future perspectives of her new book "Rights and Demands" that we were glad to discuss in June 2018 in a symposium at the Centre for the Study of Social Action in Milan, Italy.

Anika Fiebich
Università di Milano

Features

An interview with Margaret Gilbert

Anika Fiebich: Why did you become a philosopher?

Margaret Gilbert: As an undergraduate at Cambridge University in the U.K. the first part of my degree was in classics, involving a study of the history, literature, and philosophy of ancient Greece and Rome in the original languages. This was a good choice for someone who found it hard to decide on a particular area of specialization. I then moved to philosophy for the second part of my degree. I was prompted to do this in part by reading Descartes' Meditations. I was also influenced by Jonathan Bennett's lecturing style when I sat in one of his lectures. He poured so much passion into the lecture that I felt assured that philosophy was of great importance. There weren't many undergraduates in philosophy at that time, but some of us - including Simon Blackburn, Roger Scruton, and Crispin Wright - went on to be professional philosophers. Many of us transferred over to Oxford University for graduate work, as I did.

AF: Oxford must have been a great place for graduate students in philosophy. Who has supervised you there, and what was your thesis about?

MG: I first studied for the Oxford B. Phil. in philosophy, a degree devised by Gilbert Ryle as a substitute for the Ph.D. that would give people a broader graduate training. There was a thesis – mine was an original production on character trait

concepts inspired by Sartre's remarks on character – and three exams in different subjects. While studying for the B.Phil. I was supervised by quite a galaxy of philosophical talent including Elizabeth Anscombe, Philippa Foot, Alasdair MacIntyre, Gilbert Ryle, and Peter Strawson. After gaining the B. Phil with distinction on both the examinations and thesis, I took up my first full-time teaching position in the Philosophy Department at Manchester University in the U.K. Later I went back to Oxford as a Research Fellow and worked on an Oxford doctorate.

AF: Was your doctorate an extension of your B. Phil.?

MG: No. In later years it was possible simply to add a chapter or two to one's B. Phil thesis in order to obtain the doctorate. In my case I started a completely new project, which was an attempt to give a philosophical characterization of the social realm. I had been stimulated by a remark by Peter Winch to the effect that such an investigation was needed. I searched, and didn't find a sustained discussion of the topic within analytic philosophy, the approach to philosophy in which I had been trained. The comple whole was entitled "On Social Facts", and the examiners approved it in 1978. It was then housed along with other Oxford doctoral theses in the Bodleian Library in Oxford.

AF: Your thesis became an important contribution to the philosophical debate on social ontology. It was Routledge that published it first, wasn't it?

MG: Routledge wanted to publish the thesis and I signed a contract with them to prepare it for publication in book form within a year. As I worked on it, however, I began to think further about the topic. To cut a long story short, the book that appeared from Routledge ten years later under the same title was significantly different from the thesis. In particular, the idea that what I refer to as joint commitment is a central feature of our social life made its appearance in the book. Princeton University Press brought out a new edition in 1992.

AF: Today you are still working on joint commitments and social ontology. What is your current research interest and how does it relate to your previous work?

MG: My main research interests currently relate in one way or another to the understandings in terms of which human beings conduct their lives together. Since "On Social Facts" the central concept in my work has been that of joint commitment, where this is understood as a normative commitment that two or more people impose upon the same two or more people by virtue of open expressions of their personal readiness to do so. I continue to focus on the contexts in which I believe an appeal to joint commitment is illuminating. Essays on many such topics can be found in my essay collection "Joint Commitment: How we Make the Social World". Some of the essays in this collection have been translated into Italian in the book "Il Noi Collettivo: Impegno Congiunto e Mondo Sociale". These topics include: doing things together, beliefs, intentions, attitudes and emotions of groups, social rules and conventions, whether or not citizens have an obligation to uphold their country's laws,

and patriotism, to name just a few.

AF: This work covers a broad range of fields, including social, political, and moral philosophy, the philosophy of law, and the philosophies of action and mind, and epistemology, in their collective aspects. Most recently, you have written a book on "Rights and Demands" that we are now happy to discuss in a symposium at the Centre for the Study of Social Action in Milan. What was your motivation to write this book?

MG: In writing the book "On Social Facts" I proposed that those who jointly committed themselves thereby created rights and obligations for one another. I have attempted over the years further to clarify the relationship between joint commitments, rights, and obligations. I felt it was time to bring this theme into contact with the central established theories of rights in the literature. The book does this and other things as well.

AF: What is the key message of "Rights and Demands"?

MG: The book focuses on a central class of rights, which I refer to as demand-rights. When one has a demand-right to someone's performance of a particular action, one has the standing or authority to demand that action of the person in question. It is important to understand the conditions under which people accrue demand-rights. The key message of the book is that joint commitment is a ground of demand-rights, and may well be the only ground.

AF: Just some final questions about the future perspectives of "Rights and Demands": Is there anything that the book does not yet cover that you would like to address in your future work? Are you now working on or planning to work on any further elaborations of this book, or are there rather any completely new projects planned?

MG: I would like to address some of the implications of material in "Rights and Demands" that were not discussed in the book. It would take a while to explain what these are, so I will not try to go into details here. I expect, too, that readers will raise questions that I will want to follow up. Other projects include further work on topics related to collective moral responsibility.

News

Models of Bounded Reasoning in Individuals and Groups, Leiden 2-6 July 2018

The workshop on Models of Bounded Reasoning in Individuals and Groups was an interdisciplinary event that took place in the first week of July, bringing together at the Lorentz Center in Leiden young and senior researchers in the areas of individual and collective rationality. The organizers (Davide Grossi, Hykel Hosni, and Sanjay Modgil) and the 40 participants came from a wide spectrum of scientific fields, including Artificial Intelligence, Logic, Economics, Cognitive Science, and Philosophy.

A plethora of mathematical models of individual and group reasoning have been developed within the above disciplines,

but with limited interaction across them. The central goal of the workshop was to facilitate communication among scholars who work on similar questions—yet from different angles—and establish a conceptual and technical common ground for the modelling and the analysis of bounded rationality regarding (human and artificial) agents and groups.

The workshop consisted of two parts. The first one, of a more "standard" form, contained tutorial sessions given from known researchers of different expertise that disseminated the key contributions to, and challenges for, the study of bounded rationality over disciplines. The second one, with a more "relaxed" structure, included a few specialist invited talks, and various participants-led discussion groups that focused on exploring novel research directions and initiating scientific collaborations.

Marcello D'Agostino from Milan was the first to highlight the relationship between bounded reasoning and formal Logic, and Christian Fermüller from Vienna brought the discussion one step further, putting automated deductive systems into perspective. The first day ended with Paolo Turrini from Warwick discussing the role of bounded reasoning in games played by artificially intelligent agents, both in a theoretical and a practical context.

At the beginning of the second day, Fabio Paglieri and Iris van Rooij from Rome and Nijmegen respectively talked about the history and the ideas behind the notion of bounded rationality from the perspective of Cognitive Science, while the latter brought into the picture Computational Complexity too. In the afternoon, Nina Gierasimczuk from Copenhagen explained models of learning within the framework of Dynamic Epistemic Logic and Thomas Icard from Stanford investigated the more philosophical question concerning the normative and descriptive interplay of research on bounded rationality.

The next day started with Michael Mandler from London who spoke about rational choice using a model of Economics and continued with the formation of several working groups. The topics that were discussed among the participants spanned across disciplines and technical depth. Some of the enquiries were: "What can the mathematical models of Computational Complexity tell us about the complexity that actual humans encounter when reasoning?" and "How do boundaries on group reasoning differ from those on individual reasoning?"

The working groups remained active for the last two days, shedding light to more answers and—inevitably—bringing out more questions. At the same time, Francesco Berto from Amsterdam presented a modelling challenge in respect of the logical omniscience of rational agents and Emiliano Lorini from Toulouse introduced the concept of belief bases into the discussion.

Overall, the workshop can be deemed successful! Mutual understanding was encouraged between experts in different disciplines, new collaborations were set up, and brand new research ideas were born. Such events are certainly of high value to the scientific community beyond the area of bounded reasoning, and we can hope that they will keep happening in the future.

Zoi Terzopoulou
Institute for Logic, Language and Computation, Amsterdam

Calls for Papers

What's Hot in . . .

Medieval Reasoning

While this column might have given a different impression, medieval logicians/philosophers did not just focus on abstract speculations about logic, language and rationality – and maybe epistemology when feeling particularly daring. Of course, ontology, theology, and natural philosophy played a big role in the philosophical scene as well, and overall the applications and interactions between medieval logic and other branches of medieval philosophy are among the most interesting and active research topics to work on. For instance, many medieval authors used their refined analytical tools also to reflect about the nature of the social world, its facets and its structure. Recently, the scholarly interest into medieval social ontology has been on the rise. Next spring the university of Bonn is going to host what looks to be a very interesting conference on *Contemporary and Medieval Ontologies* (14-16 March 2019). The CFP follows:

In *The Construction of Social Reality* (New York 1995) and *Making the Social World. The Structure of Human Civilization* (New York 2010), John Searle instigated the emergence of social ontology as a vital part of contemporary analytic philosophy. But a cursory glance at medieval debates reveals that many texts written between the thirteenth and sixteenth centuries dealt with the ontology of the social world in one way or another. Of course, medieval authors did not use the term "social ontology," but they discussed the mode of existence of money, ownership, law, contracts, promises, language, communities and institutions, etc. That medieval authors were aware of and interested in questions concerning the reality of the social world gives rise to the guiding question of this conference: how do medieval and modern authors conceive of the mode of being of social objects and institutions? With this end in mind, we are looking for abstracts for papers from both historians of medieval philosophy (historians of late ancient philosophy and second scholasticism are welcome as well) and contemporary philosophers to participate in a fruitful exchange. Deadline for abstracts: 30 July 2018 Deadline for notification: 15 August 2018 For more information, please do not hesitate to contact: Christian Rode, Bonn University (crode@uni-bonn.de) and Jenny Pelletier, University of Leuven (jenny.pelletier@kuleuven.be).

Graziana Ciola
UCLA

Uncertain Reasoning

So the World Cup is over, Wimbledon is finished. I also recently read the murder mystery novel "Magpie Murders" by Anthony Horowitz. What these facts have in common is that they've made me think that humans seem to enjoy uncertainty and unpredictability, as long as there are no real consequences attached.
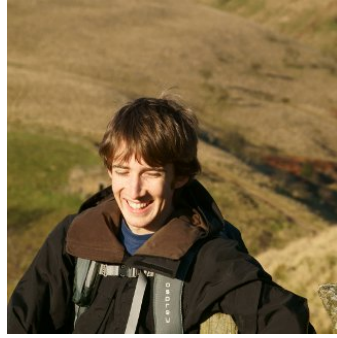
Sport is, by and large, meaningless. Of course things can happen in sport that have serious political weight – the joint North/South Korea ice hockey team at this year's winter olympics, the Switzerland's Swiss-Kosovan players' "eagle" gestures at their game with Serbia – but the outcomes of the games themselves just don't matter much. Contrast this with politics, where as with sport there is a lot of uncertainty, a lot of analysis of dubious validity, and a lot of nice graphics produced by websites like fivethiryeight.com: if you don't care about politics, the outcome will still likely impact on your life. Not so with sport, where you are only affected by how much emotion you invest in following your team.

So why is sport so fascinating? There are, of course, the human stories (see, for example, Romelu Lukaku's piece "I've Got Some Things To Say" https://www.theplayerstribune.com/en-us/articles/romelu-lukaku-ive-got-some-things-to-say); and there are the political stories (e.g. female Iranian fans using the world cup to protest their exclusion from football stadia in Iran); there are the great sporting rivalries (Federer, Nadal, Djokovic...); there are the impressive displays of skill, nerve or endurance (Nacho's volley, Ronaldo's free kick against Spain, Anderson and Isner's 6 and a half hour Wimbledon semi-final, Batshuayi expertly walloping the ball into his own face...) but there's something else that makes sport fascinating. Ultimately, sport is uncertain, and we enjoy being surprised, we enjoy the unusual. Belgium vs Japan was not a game that, on paper, should have interested many outside of the countries involved. It didn't appear to be an interesting game because Belgium were big favourites to win. But it was enjoyable because it was so surprising: it was surprising that Japan went 2-0 up, it was surprising that Belgium overcame that deficit to win the match.

Many TV sitcoms have had a story involving somebody trying to avoid finding out the result of some sporting encounter that they intend to watch after the fact. It is less interesting to read a book or watch a film knowing what will happen. These a scenarios where we actively try to maintain our state of ignorance until the appropriate time (until the final whistle, until the parlour scene). Prima facie, this behaviour is in conflict with Good's theorem which states that it is always a good thing to gain more information. (Good, Irving John (1967). "On the principle of total evidence". British Jour- nal for the Philosophy of Science 17, pp. 319–321.) It doesn't take much to analysis to work out that the conflict is merely apparent, since Good's theorem requires that the information learned has no *intrinsic* value, and that its influence on your utilities comes only through how learning it might cause you to act differently.

We – reasoners about uncertainty – are used to thinking about uncertainty as something to be tamed, surprises as something to be avoided, unpredictability as something to be mitigated. I think it's worth remembering that many of our leisure activities seem to be built around generating and maintaining uncertainty. We seem to enjoy complex systems set up to produce ultimately meaningless social facts (like "France are the winners of the 2018 world cup"), in an expensive, elaborate and time-consuming fashion. And given what I said in the last paragraph, we do this in such a way that we invest some sort of intrisic utility in the obtaining of these facts. Rationalising such a clearly bonkers endeavour is a challenging task.

As a postscript to the above, sporting events provide a wonderful opportunity for non-experts to be exposed to interesting and innovative graphical depictions of uncertainty. For example, Five Thirty Eight's "How France and Croatia made it to the World Cup in one chart" https://fivethirtyeight.com/features/how-france-and-croatia-made-it-to-the-world-cup-final-in-one-chart/). I think in general sports provide a good environment for lay people to be exposed to and reason about uncertainty. In my column in November 2017, I wrote about the poor state of the public understanding of uncertainty: perhaps here is a more positive take. Every year more and more data is collected about each and every aspect of popular sports. This is big business: top sports teams pay big money to be able to use this data. (This is the topic of Michael Lewis' "Moneyball" 2004 W.W. Norton and Co.). But having this data allows people to build models to make predictions about sporting events. Five Thirty Eight do this, using the same basic techniques that inform their election modelling. The Economist have also turned their hand to predicting the world cup. As these practices become more widespread, more people will be exposed to probabilistic forecasting, and one might hope that this greater aptitude with probabilities will mean that the mistakes I highlighted in November become less widespread.

There are, of course, limits to what these models can provide, however. Nobody could possibly have predicted that England would win a penalty shootout.

Seamus Bradley
Philosophy, University of Tilburg

Mathematical Philosophy

One can sometimes hear complaints that there is not enough communication between philosophers of mathematics and mathematical philosophers on the one hand, and philosophers working in fields that have nothing to do with mathematics on the other. Mathematics-centred philosophers often respond to this by pointing out that mathematics simply doesn't have much in common with other subjects philosophers are typically interested in, like morality, possible worlds, or God.

As it turns out, however, both the complaint and the response are wrong. A new and rapidly expanding literature is emerging that investigates 'mathematics analogies', structural parallels between mathematics and other non-empirical domains, such as ethics, modality, and even religion (see e.g. Jonas, Silvia. 2017. 'Access Problems and Explanatory Overkill'. Philosophical Studies Vol. 174). The focus of these analogies are shared problems arising for realist views about those domains: how to justify ontological commitment, counter objections from dispensability and evolutionary debunking, ex-

plain epistemic access, and accommodate peer disagreement.

The arguments typically have the following form: a local point of analogy between mathematics and another non-empirical domain is identified, based on which a global conclusion is drawn about one or both of the domains. For example, Justin Clarke-Doane argues that, since considerations from evolutionary debunking apply just as much to mathematical as to moral realism, there may be no epistemological ground on which to be a moral antirealist and a mathematical realist ('Morality and Mathematics: The Evolutionary Challenge' (2012). Ethics Vol. 122: 2). David Enoch argues that, just as mathematical truths are indispensable to empirical science, normative truths are indispensable to the intrinsically indispensable project of human deliberation, and therefore, we should be ontologically committed to their existence (Taking Morality Seriously: A Defense of Robust Realism (2011). Oxford University Press). I have argued that, just like modal structuralists about mathematics can reinterpret mathematical statements in a way that preserves objective truth-values yet remains neutral on the question of ontology, theists could come up with a semantics for theistic statements that preserves objective truth-values at no ontological cost (Silvia Jonas. 'Modal Structuralism and Theism' (2018). In: Fiona Ellis (ed.): New Models of Religious Understanding. Oxford University Press).

Arguments like these are of course far from uncontroversial (see e.g. Uri Leibowitz and Neil Sinclair: Explanation in Ethics and Mathematics: Debunking and Dispensability (2016). Oxford University Press), but it does indeed look like comparing the way we reason about mathematics to the way we reason about other non-empirical domains has the potential of generating exciting new insights into long-standing metaphysical debates.

However, the growing interest in mathematics analogies also raises methodological questions. For example, what is the criterion of relevance according to which substantial points of analogy are separated from merely superficial ones? To what extent can reasoning about non-empirical domains be theoretically unified? Can analogical arguments ever be confirmatory? These questions have been discussed for decades in the philosophy of science (e.g. Mary Hesse. Models and Analogies in Science (1966). University of Notre Dame Press; Dedre Gentner. 'Structure-Mapping: A Theoretical Framework for Analogy' (1983). Cognitive Science Vol. 7; Bartha, Paul. By Parallel Reasoning: The Construction and Evaluation of Analogical Arguments (2010). Oxford University Press); however, applying them to non-empirical domains poses entirely new challenges.

For example, Hesse offers three criteria of relevance for analogical arguments between empirical domains: material similarities between observable properties, a causal connection between the properties of each domain, and the absence of disanalogies featuring those properties or causal connections. What would be the equivalent of those criteria for non-empirical domains whose objects (e.g. mathematical or moral entities) are by definition unobservable and causally inert? If, instead of looking for material similarities, we focus on structural similarities, i.e. systematic, one-to-one structure-mappings between the source and the target domains (as suggested by Gentner), we face the problem that high-level similarities between non-empirical domains are relatively easy to come by (cf. Peter Achinstein's famous analogy between swans and line-segments in 'Models, Analogies and Theories' (1964). Philosophy of Science Vol. 31). Moreover, in domains that are rich in objects but not in relations, such as mathematics, a high degree of systematicity can be achieved so easily that most analogical arguments would yield false conclusions (Dirk Schlimm. 'Two Ways of Analogy: Extending the Study of Analogies to Mathematical Domains' (2008). Philosophy of Science Vol. 75). Finally, how should we evaluate whether an analogical argument about non-empirical domains is plausible? Philosophers of science interpret plausibility in terms of rational credence, which in turn is represented probabilistically: if each point of analogy between a source and a target domain is probable to degree X, the probability of the conclusion increases with each point of analogy that is established. However, if the domains under consideration feature only necessary truths, as is the case with non-empirical domains like mathematics and ethics, then probabilistic reasoning is not going to be helpful, both because we lack an accepted method of assigning priors to hypotheses about non-empirical domains, and because the probability of necessary truths is always 1.

The growing literature on mathematics analogies thus refutes the claim that philosophers working on or with mathematics have nothing to talk about with philosophers working in non-mathematical fields. However, drawing analogies between mathematics and other non-empirical domains is a worthwhile philosophical enterprise only if methodological questions are addressed as well.

Silvia Jonas
Munich Centre for Mathematical Philosophy

Evidence-Based Medicine

Last year, John Worrall wrote a blog post setting out, on evidential grounds, why the case for the NHS ban on homeopathic treatments may not be as clear cut as it may at first seem. Recently, he has updated this view in another blog post to come out in favour of the ban, this time on ethical grounds. It is worth detailing what these arguments are, and unpacking how they fit together to give a wider view on the integrated roles of evidence and ethics in medicine.

The first, epistemic, argument concludes that there is good evidence that homeopathic treatments are effective but only when a number of important and nuanced points are made about evidence and effectiveness. Firstly, Worrall does not claim that there is evidence for the theory that homeopathy is based on: that like treats like, and water retains a memory of active compounds that are diluted to the point no molecules of the active compound remain in the treatment. He states that while this is nothing but pseudoscience the NHS ban was made on the basis that there is no high-quality evidence from clinical studies to show that homeopathy is effective. Given that high-quality evidence means evidence obtained from Randomised Controlled Trials (RCTs), a claim of effectiveness would mean

that the treatment is more effective than placebo. Homeopathic treatments do routinely fail to demonstrate this notion of effectiveness, but are often shown to be no worse than placebo in these trials. Being no worse than placebo is of no use for major conditions such as cancer or stroke, but it is for conditions such as mild-to-moderate depression, Irritable Bowel Syndrome (IBS), and chronic pain. This is because inducing the placebo effect - which appears to be what homeopathy does - has been shown to relieve symptoms in a restricted set of conditions. Importantly, other treatments that induce the placebo effect, such as using anti-depressants for IBS, often come with unwanted side-effects, of which there are none for homeopathy. Why homeopathy then, instead of a sugar pill that will also come with no side effects? Crucially, expectation of benefit is required for a placebo to work. If a patient knows it is a placebo, the effect is reduced. If a patient is not entirely sceptical about homeopathy then they may expect it to work, and so will benefit from the placebo effect. Not only that, but requiring the NHS to prescribe it adds authority and expertise that will both increase the expectation of the patient and allow the identification of conditions appropriate for treatment. Therefore, based on the best available evidence, homeopathy is effective for treating some conditions when the patient receives the treatment in a way that makes them expect a benefit. Moreover, the best way to prescribe such treatments is on the NHS.

The second, ethical, argument does not alter any of the claims about evidence. On the basis of the epistemic argument, homeopathy is still an effective treatment. However, Worrall concludes that the NHS should ban the prescription of homeopathy on ethical grounds. He first examines the idea of patient autonomy. Implementing this idea ensures that patients are not just told what to do, but that they are advised what to do by experts so that they can make their own decisions. This bans lying to the patient, even if it is in the patient's interests. Prescribing homeopathy could mean patients are deceived into thinking they are receiving a real treatment, rather than just a placebo. On the basis of more evidence, Worrall argues that this is not an issue, as there is a way of casting the advice a clinician may give a patient about homeopathy that does not deceive them. Unfortunately, this would involve making the patient aware of the inert nature of the treatment, which removes the expectation that is required for inducing the placebo effect. A way of mitigating this is to tell the patient the treatment will work because of the body's self-healing processes and leave out details about the physical make-up of the pill. This seems less of a worry than outright lying to the patient about the action of the treatment, and so in the context of an individual prescription homeopathic treatments are ethical. However, Worrall finally concludes that homeopathy is unethical when the decision problem is cast in a wider scope. The crux of this claim is that "the ethical misdemeanour of giving encouragement to pseudoscience and of missing an opportunity to challenge a pseudoscientific belief outweighs any advantage to the patient of, say, an extra degree of relief from their symptoms of IBS". By condoning the use of homeopathic treatments, the pseudo-scientific basis of homeopathy is condoned implicitly. For the individual patient, as there can be no mention of placebo while prescribing, they will go away with a reinforced false belief about how homeopathy is more effective than placebo.

Worrall concludes, then, that it is more ethical not to prescribe a treatment that will reinforce pseudo-scientific beliefs, even if the treatment is shown to be effective. However, I am not so sure that this is enough of an issue to outright ban the treatments. When producing a clinical guideline, whether a treatment is recommended is based on claims of efficacy and effectiveness, as well as on the basis of a comparison of the benefits and harms to patients, and considering patient values; all concerns highlighted in Worrall's posts. It is not so clear that, as Worrall states, an IBS sufferer would consider relief of symptoms to be outweighed by some general epistemic value. Worrall assumes that these epistemic values are as important for everyone as they are for him (or readers of this gazette maybe, myself included). Some IBS sufferers (or sufferers of other conditions) may be inclined to weigh up the situation differently, and medical decision makers will have to take this in to consideration when making recommendations, especially if we are to respect patient autonomy. A ban would rule out this option and so may not be the best approach. One thing we definitely agree on is that while at first the ban appeared to be a " 'no-brainer'...maybe, when thought through, its rationale is not so clear-cut."

D.J. Auker-Howlett
Philosophy, Kent

Events

Courses and Programmes

Courses

LUCG: Logic, uncertainty and games, Como, 9–13 July.

SIPTA: 8th School on Imprecise Probabilities, Oviedo, 24–28 July.

SSA: Summer School on Argumentation: Computational and Linguistic Perspectives on Argumentation, Warsaw, Poland, 6–10 September.

Programmes

APhil: MA/PhD in Analytic Philosophy, University of Barcelona.

Master Programme: MA in Pure and Applied Logic, University of Barcelona.

Doctoral Programme in Philosophy: Language, Mind and Practice, Department of Philosophy, University of Zurich, Switzerland.

Doctoral Programme in Philosophy: Department of Philosophy, University of Milan, Italy.

LogiCS: Joint doctoral program on Logical Methods in Computer Science, TU Wien, TU Graz, and JKU Linz, Austria.

HPSM: MA in the History and Philosophy of Science and Medicine, Durham University.

Master Programme: in Statistics, University College Dublin.

LoPhiSC: Master in Logic, Philosophy of Science and Epistemology, Pantheon-Sorbonne University (Paris 1) and Paris-Sorbonne University (Paris 4).

Master Programme: in Artificial Intelligence, Radboud University Nijmegen, the Netherlands.

Master Programme: Philosophy and Economics, Institute of Philosophy, University of Bayreuth.

MA in Cognitive Science: School of Politics, International Studies and Philosophy, Queen's University Belfast.

MA in Logic and the Philosophy of Mathematics: Department of Philosophy, University of Bristol.

MA Programmes: in Philosophy of Science, University of Leeds.

MA in Logic and Philosophy of Science: Faculty of Philosophy, Philosophy of Science and Study of Religion, LMU Munich.

MA in Logic and Theory of Science: Department of Logic of the Eotvos Lorand University, Budapest, Hungary.

MA in Metaphysics, Language, and Mind: Department of Philosophy, University of Liverpool.

MA in Mind, Brain and Learning: Westminster Institute of Education, Oxford Brookes University.

MA in Philosophy: by research, Tilburg University.

MA in Philosophy, Science and Society: TiLPS, Tilburg University.

MA in Philosophy of Biological and Cognitive Sciences: Department of Philosophy, University of Bristol.

MA in Rhetoric: School of Journalism, Media and Communication, University of Central Lancashire.

MA programmes: in Philosophy of Language and Linguistics, and Philosophy of Mind and Psychology, University of Birmingham.

MRes in Methods and Practices of Philosophical Research: Northern Institute of Philosophy, University of Aberdeen.

MSc in Applied Statistics: Department of Economics, Mathematics and Statistics, Birkbeck, University of London.

MSc in Applied Statistics and Datamining: School of Mathematics and Statistics, University of St Andrews.

MSc in Artificial Intelligence: Faculty of Engineering, University of Leeds.

MSc in Cognitive & Decision Sciences: Psychology, University College London.

MSc in Cognitive Systems: Language, Learning, and Reasoning, University of Potsdam.

MSc in Cognitive Science: University of Osnabrück, Germany.

MSc in Cognitive Psychology/Neuropsychology: School of Psychology, University of Kent.

MSc in Logic: Institute for Logic, Language and Computation, University of Amsterdam.

MSc in Mind, Language & Embodied Cognition: School of Philosophy, Psychology and Language Sciences, University of Edinburgh.

MSc in Philosophy of Science, Technology and Society: University of Twente, The Netherlands.

MRes in Cognitive Science and Humanities: Language, Communication and Organization: Institute for Logic, Cognition, Language, and Information, University of the Basque Country (Donostia San Sebastián).

Open Mind: International School of Advanced Studies in Cognitive Sciences, University of Bucharest.

Research Master in Philosophy and Economics: Erasmus University Rotterdam, The Netherlands.
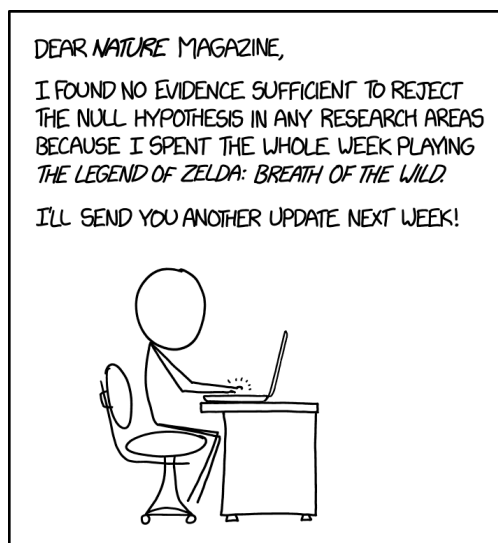
Jobs and Studentships

Jobs

Associate Professor: in Philosophy of Science, University of Oslo, deadline 10 August.

Lecturer: in Philosophical Logic, University of Queensland, deadline 12 August.

Professorship: in Formal Philosophy, Gdańsk, Poland, deadline 15 August.

Lecturer: in Logic, Ludwig-Maximilians-University, Munich, deadline 1 September.

Professor: in Theoretical Philosophy, University of Vienna, deadline 30 September.

DEAR *NATURE* MAGAZINE,

I FOUND NO EVIDENCE SUFFICIENT TO REJECT THE NULL HYPOTHESIS IN ANY RESEARCH AREAS BECAUSE I SPENT THE WHOLE WEEK PLAYING *THE LEGEND OF ZELDA: BREATH OF THE WILD.*

I'LL SEND YOU ANOTHER UPDATE NEXT WEEK!

THE PUSH TO PUBLISH NEGATIVE RESULTS SEEMS KINDA WEIRD, BUT I'M HAPPY TO GO ALONG WITH IT.