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Editorial

It is a great pleasure to guest edit the Reasoner, and to offer the following interview with my colleague, Rachael Briggs. Though she probably does not need much introduction to *Reasoner* readers, Rachael has done groundbreaking work in quite diverse areas of metaphysics and epistemology, making significant contact with logic, foundations of probability, decision theory, even ethics and political theory. In a recent collaborative project she has explored novel approaches to difficult questions about the nature of gender. Apart from her philosophical research she is also an accomplished poet, with bidirectional influence between her philosophy and her poetry. In what follows we learn a bit more about each of these aspects of her work, and how she envisions careful research on reasoning fitting into the broader social and cultural landscape.

Thomas Icard
Stanford University

Features

Interview with Rachael Briggs

TI: At what point did you decide you wanted to be a philosopher, and what led you to the decision?

Rachael Briggs: When I went off to Syracuse University for my undergrad education, I planned to become a veterinarian. But intro biology bored me, and I fell in love with my first philosophy class (an intro ethics course called "The Good Life", taught by Tamar Gendler). If I'd been better at the Protestant work ethic, I might have persevered with biology until I got to the good stuff, but I was seventeen and in love. I decided I'd keep studying philosophy until I got kicked out, and no one has kicked me out yet.

TI: Much of your research focus, since you were a student, has been on issues in decision theory and foundations of probability. What do you think these tools, and perhaps formal tools more generally, can contribute to ethics?

RB: Ethical questions are aimed at making decisions on which something morally important turns, often in the face of uncertainty. The tools of probability and decision theory were specifically designed to aid in decision making in the face of uncertainty. So if you're making an ethical decision about how to design health care policy, you have to trade off the values of different kinds of goods and bads (death or prolonged life, changes in quality of life, resources required to keep medical facilities open). And many of these goods and bads aren't known outcomes of any decision, but only likely or expected out-

comes...you don't generally know for certain how many lives a new drug will save, or what its side effects will be, though you can gather lots of useful evidence on the matter. Decision theory offers a precise framework for weighing these costs and benefits against each other.

There are also fruitful analogies between decisions involving many different possible outcomes and decisions involving many different people, as philosophers like Rawls and Harsanyi have long recognized. Just as you can use decision theory to trade off good and bad possible outcomes for one person, so you might use it to trade off known good and bad outcomes for different people. Depending on how you think the analogy works, you might end up with a version of the utilitarian doctrine that says you should seek the greatest good for the greatest number (this is roughly what Harsanyi thought) or you might end up with the view that we should prioritize the needs of the least well off in society (this is roughly what Rawls thought), or you might end up with something else. But regardless of what conclusion you ultimately draw, the analogy is helpful for thinking through ethical tradeoffs.

TI: What would you consider to be the biggest open problems—technical or philosophical (or both)—in decision theory?

RB: Many of the biggest open problems have to do with framing decision puzzles so that they're amenable to decision theory in the first place. How do you identify available acts, potential outcomes, and likely states of the world? One instance of this problem involves moving between **small world representations** of a situation, with short-term consequences and tractable plans, and **grand-world representations**, with long-term consequences and comprehensive plans. Another involves assigning probabilities to states and utilities to outcomes. Measurement theory has made some progress on this second puzzle, particularly the probability side, but we still don't have a fully worked-out theory of utility for real humans.

Another exciting set of open problems has to do with the relationship between belief-like probabilities and desire-like utilities. Older work in decision theory often treats belief as pragmatic—what you are confident of is what you are willing to bet on, even at short odds. Newer work in epistemic decision theory instead tries to develop non-pragmatic norms for belief: your belief-forming policies should aim at giving you an accurate representation of the world.

TI: In moving from small worlds to grand worlds, do you imagine it necessary to reconsider the traditional building blocks for a theory of decision making, viz., a probability function and a utility function? Or is the challenge rather one of figuring out how to use these familiar concepts in a more complex, larger-scale setting?

RB: While I think there are many ways to frame the problem, I see it as one of figuring out how probability and utility functions from the larger and smaller settings might relate to each other. But that doesn't necessarily mean we have to stick with the building blocks we started with. One promising option is to keep probability and utility, but supplement them with extra ingredients, such as plans or intentions, that help bridge the gap between small worlds and grand worlds.

TI: In addition to being an accomplished philosopher, you are also an award-winning poet. To what extent does your philosophical work inform your poetry, or vice versa?

RB: My philosophy definitely informs my poetry. Some of my poems address philosophical themes, including Zeno's paradoxes, the metaphysics of numbers and merely possible objects, and the nature of truth. Philosophy has also made me better at editing and critique; I think philosophy's argumentative methods makes it easier to accept and learn from critique in many areas of life.

I try to use the methods of poetry to become a better philosophical writer. Poets are good at picking apt and economical phrases, and at illustrating abstract concepts with specific, vivid examples. Philosophers, including me, could learn a lot from poets.

TI: Some philosophers—famously including Plato, Nietzsche, and Dostoevsky—have considered there to be an essential tension between reason and poetry. Plato even suggested that poetry might have epistemologically deleterious consequences, with the potential to "distort" our thoughts, an influence that must be corrected by careful philosophical deliberation. Do you recognize such a tension? And if so, do you think it is a hazardous one, or a wholly productive one (as perhaps Nietzsche or Dostoevsky might have advocated)?

RB: Poetry and philosophical reason are suited to different tasks, but I'm not sure that amounts to a tension. (Is my laptop in tension with my washing machine?) Reason is useful for ruling out possibilities: produce a valid argument, and you've eliminated all possibilities where its premises are true and its conclusion is false. Poetry is good for imaginatively generating and filling in possibilities (as well as impossibilities), for creating emotional experiences, and for encouraging readers to see similarities between apparently distinct things. I don't mean to deny the existence of emotionally engaged, creative philosophical essays, or of poetic arguments—I'm just talking about broad tendencies in philosophy and poetry. In general, I think it's good to use all the tools at your disposal.

TI: You have recently begun working on questions concerning gender, including both philosophical and political angles. What led you to this topic, and what do you hope to achieve in this work?

RB: This new work is collaborative, and arose out of a series of conversations with my fellow philosopher BR George. Public visibility of trans people has increased tremendously in the past 10 years, but the conceptual resources of the general public, and the philosophical profession, haven't really kept up. People are still inclined either to conflate gender with sex, or to think there's nothing more to it than conformity to gender stereotypes. B and I think the tools of analytic philosophy can

be useful here: definitions, thought experiments, and careful distinctions can help us develop the conceptual toolkit we need to understand gender for both trans people and cis people (that is, people who are not trans). My hope is that having the right concepts will empower people to be kinder to others, and to themselves, around issues of gender. (I don't think you can get people to be kind just by giving them the right concepts, but it can help.)

TI: In addition to studying abstract and idealized problems in epistemology and metaphysics, much of your work has been on topics that bear on important social issues, e.g., consequentialism, judgment aggregation and voting methods, characterizations of gender, etc. Following on your previous response, do you have thoughts on how those of us working in theoretical philosophy (and perhaps other theoretical disciplines concerned with reasoning) should position ourselves with respect to real-world practical issues?

RB: With 2017 looming large and scary, I realize I personally need to get a lot better at this. The profession has been improving, I think, and I'd like to help us get even better. Many of my colleagues have been writing op eds (thank you George Yancy and Kate Manne), writing trade books (thank you Cordelia Fine and Carrie Jenkins), giving public lectures (thank you Anthony Appiah), and producing podcasts (thank you Myisha Cherry and Ken Taylor). (Apologies to the many brilliant people I've doubtless left off my list.) I'm glad that The Stone has been giving philosophers a public platform, which we can use to apply the insights of philosophy to current events, in a way that's accessible beyond the academy. I'd like to see more philosophical reasoning skills taught in high schools, and I'd like to see us be better gadflies to the powerful people who live near me in Silicon Valley.

While I think a lot of politically loaded questions have obvious answers (of course climate change is a pressing danger to our planet; of course our legislators should not be wasting valuable time making unnecessary and bigoted laws about who is allowed to use which bathroom) I don't think that philosophers can or should be partisans. Just applying the tools of argumentation and critical thinking has tremendous revolutionary potential.

News

Inferentialism, Bayesianism, and Scientific Explanation, 25–26 January

The workshop "Inferentialism Bayesianism, and Scientific Explanation" took place at the Ludwig Maximilian University, Munich on 25–26 January. It was the first in a series of events sponsored by the DACH German-Swiss project on Inferentialism, Bayesianism, and Scientific Explanation, which involves the Munich Center for Mathematical Philosophy, LMU Munich, and the University of Geneva. The aim of the project is to better understand scientific explanation by combining Bayesianism—to explicate the quantitative and dynamic aspects of explanation—and inferentialism—to capture aspects of explanation that are often thought to resist Bayesian treatment (e.g., Inference to the Best Explanation, the asymmetry of explanation), as well as to accommodate the sensitivity of explanation to contextual and pragmatic factors. The workshop was organized by Reuben Stern (MCMP), Stephan Hartmann (MCMP), Lorenzo Casini (Geneva and MCMP), and Marcel Weber (Geneva).

The first day was opened by Jon Williamson, who in his talk "Inferentialism and Causal Explanation", discussed the limitations of several accounts of causality—including Reiss's inferentialist account—in explicating how causal explanations are genuinely explanatory, and argued for the superiority of an explication based on his epistemic account. In "The Goodness of a Causal Explanation", Julian Reiss proposed to understand causal explanation in inferentialist terms, as based on a contextual material inference, that is, an inference the validity of which is driven by facts about the content, rather than the form, of the premisses from which it is made and the context within which it is made. He defended his proposal against Williamson's objections.

In the talk "Causation, Explanation, and Context", Reuben Stern used graphical causal models to develop an account of causal explanatory relevance based on a context-invariant analysis of causal relevance, plus an inferentialist component, which requires the justifiability to infer the explanandum effect from an intervention on the explanans cause, relative to a knowledge context. In the next talk, "Causal Explanatory Strength", Ben Eva argued that Schupbach and Sprenger's probabilistic measure of explanatory strength of an explanans with respect to its explanandum gives incorrect results for distinctively causal explanations, because it ignores causal information relative to which some factors should or should not be included in the background context of the explanation. He proposed an alternative that relies on causal graphs and Pearl's notion of an intervention.

Next, in the talk "Stalnaker's Hypothesis: A Causal Account", Jan Sprenger discussed how to connect recent research in epistemology and the psychology of reasoning, which suggests that indicative conditionals express an inferential connection between antecedent and consequent, and Stalnaker's hypothesis that the probability of a conditional is equal to the probability of the consequent conditional on the antecedent. He proposed causal and inferential conditions to escape Lewis's triviality arguments. The day was closed by Lorenzo Casini, who in the talk "Confirmation by Robustness Analysis: A Bayesian Account" argued against the received view that robustness analysis does not confirm empirical hypotheses. To this end, he proposed a Bayesian rationalization of how robustness analysis raises the confirmation of a hypothesis by selectively confirming that hypothesis against alternative, possible explanations of the evidence.

The second day was opened by Alexander Reutlinger, who in the talk "Is the Counterfactual Theory of Explanation an Epistemic Account?" defended his counterfactual view of explanation, which holds that causal and non-causal explanations are explanatory by virtue of revealing counterfactual dependencies of the explanandum on factors cited in the explanans, and argued that, by the light of his account, explanations need not be asymmetric. In the next talk, "The Counterfactual Theory of Explanation and Explanatory Asymmetry", Carsten Held argued that Reutlinger's account is on the one hand too permissive, as it counts certain dependencies (e.g., the dependence of the flagpole's height on the shadow's length) as explanatory, and too exclusive, as it rules out certain dependencies (e.g., the

dependence of ravenness on blackness) as non-explanatory. He also argued against the Lewisian view that counterfactuals can, by themselves, help identify explanatory asymmetries.

In the talk "Explanatory Asymmetry and Inferentialist Expressivism", Jared Millson interpreted the notion of explanation in terms of subjunctively robust, nonmonotonic material inferences, and argued that this view of explanatory inferences is not subject to the symmetry problem that plagued the Deductive-Nomological account of explanation. He suggested that, suitably supplemented with other conditions, this explication of explanatory inferences may deliver an adequate account of inference to the best explanation.

In the talk "Inference to the Best Explanation in Cases of Uncertain Evidence", Borut Trpin and Max Pellert discussed an extension of the probabilistic inference to the best explanation—recently proposed by Douven as an alternative to Bayesian conditionalization—that accounts for updating based on uncertain evidence. They used an agent-based simulation to show that an agent using their proposed rule outperforms a Bayesian updater when trying to detect a true hypothesis (e.g., on the bias of a coin) in the light of uncertain evidence. Finally, in the talk "Inference to the Best Explanation and the Relevance of the Closest Competitor", Igor Douven argued that psychological evidence shows that subjects' judgments of explanatory goodness are better predictors of their acceptance of an hypothesis than their degrees of belief in the truth of the hypothesis, in that the former better track the difference between the accepted hypothesis and its closest competitor.

The next workshop of the project will take place next year in Geneva. Stay tuned!

Lorenzo Casini
Department of Philosophy, University of Geneva

Calls for Papers

Evidence Amalgamation in the Sciences: special issue of *Synthese*, deadline 17 February 2017.

Probabilistic Logic Programming: special issue of *International Journal of Approximate Reasoning*, deadline 1 March.

Inferences and proofs: special issue of *TOPOI*, deadline 31 March.

Infinite Idealizations in Science: special issue of *Synthese*, deadline 15 April.

Formal and Traditional Epistemology: special issue of *MANUSCRITO*, deadline 1 July 2017.

Logic, Inference, Probability and Paradox: special issue of *Philosophies*, deadline 20 July 2017.

What's Hot in ...

Uncertain Reasoning

Dear Readers of *The Reasoner*, in May 2017 I will have the privilege of becoming editor of this amazing gazette. As a consequence, I'm no longer reporting on 'What's Hot in Uncertain Reasoning'.

Please get in touch with us at features@thereasoner.org if you wish to keep this column up and running! More information is available from The Reasoner's website.

Hykel Hosni
Philosophy, University of Milan

Evidence-Based Medicine

Every year the BMJ publishes a special two-week Christmas issue. A number of the articles are usually quite light-hearted. In a past issue, there was an article on an observational study of doctors' coffee purchasing patterns at work. Among other things, the study concluded that '[h]ierarchical position is positively correlated with coffee consumption and generosity with regard to buying rounds of coffee'. In the same issue, another study found evidence of a Christmas spirit network in the brain.

Although some of the articles are light-hearted, they can still make important points. In this year's issue, Anders Huitfeldt considers the question: Is caviar a risk factor for being a millionaire? Huitfeldt points out that there are a number of different definitions of risk factor depending on the research objective: diagnostic factor, prognostic factor, treatment effect, and aetiological factor. He suggests that a risk factor according to one definition, say, a diagnostic factor, need not be a risk factor according to another definition, say, a prognostic factor. As an example, he appeals to some hypothetical studies, studies that show, among other things, 'that caviar is useful for predicting if someone is a millionaire (diagnosis/detection) but not for predicting if they will become a millionaire in the future (prognosis)'. As a result, he claims that a disagreement about whether caviar is a risk factor for being a millionaire may be purely semantic. His point is that:

> Unless the research objective is clearly defined in terms of an explicitly stated definition of risk factor, it is not possible to evaluate whether the study design and data analysis are appropriate to answer the research questions, and therefore not possible to evaluate the credibility of the study or its conclusions.

Huitfeldt concludes with a suggestion that journal editors require authors to give the definition of risk factor employed in the study: 'Only then will it be possible for readers to understand exactly what the investigators intended to learn, and to engage in productive scientific conversation about whether they succeeded in accounting for the biases associated with that particular research objective'.

Also included in this year's issue, there is an account of an operation undergone by Eddie Spiegelhalter in 1947, namely, a thoracoplasty, 'a rather horrifying procedure in which some of my ribs were removed and my shoulder blade slid inside the remaining ribs to keep my lung permanently crushed'. He wonders if he was the longest survivor of the operation. The article includes an impressive X-ray. And there is also an article on morality and non-medical drug use by philosopher A.C. Grayling. It is all well worth a New Year read.

Michael Wilde
Philosophy, Kent

Events

February

M&ME: Mathematical and Metaphysical Explanation Workshop, Paris, France, 2–3 February.
SI&O: Symbolic Inference and Optimization, San Francisco, California, 4–5 February.
MIPUM: Mathematical Imaging with Partially Unknown Models, University of Cambridge, 20–21 February.
ERiS: Explanatory Reasoning in the Sciences, Munich Center for Mathematical Philosophy, 23–24 February.

March

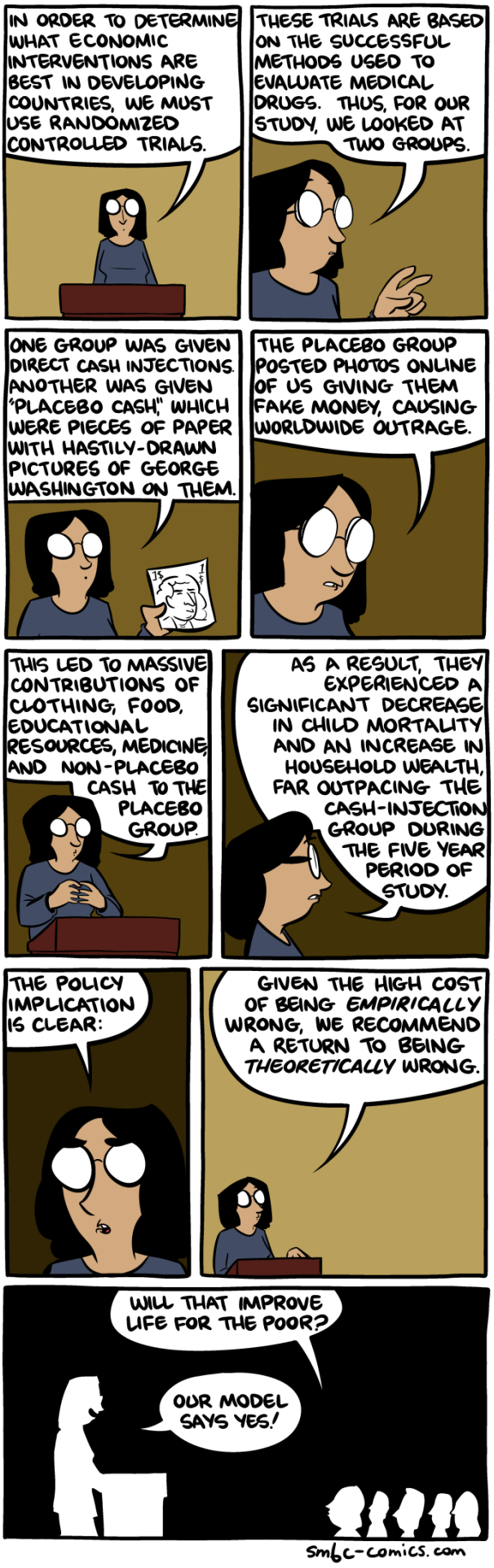
C&P: Consequence and Paradox Between Truth and Proof, Tübingen, Germany, 2–3 March.
LoC: Logics of Consequence: Logical Inferentialism, Defeasible Reasoning, and Transitivity, Concordia University, Montreal, 3–4 March.
NK:O&S: Natural Kinds: Ontology and Semantics, Complutense University of Madrid, 16–17 March.
WoIR: Workshop on Infinite Regress, University of Groningen, the Netherlands, 21–22 March.
EIPE: Erasmus Institute for Philosophy and Economics 20th anniversary conference, Erasmus University Rotterdam, 22–24 March.
EoD: The Epistemology of Disagreement, University of Tartu, Estonia, 25–26 March.
G&D: Workshop on Groups and Disagreement, University of Copenhagen, Denmark, 30–31 March.

April

UK-CIM: UK Causal Inference Meeting: Causal Inference in the Health, Economic and Social Sciences, University of Essex, 5–8 April.

May

M-ODM: Workshop on Multi-Objective Decision Making, Brazil, 8–9 May.



ADVERSE: Adversarial Reasoning in Multi-agent Systems, Brazil, 8–9 May.
Brazilian Logic Meeting: Pirenópolis, GO, Brazil, 8–12 May.
ARiS: Ampliative Reasoning in the Sciences, Ghent University, 18–19 May.
E&EK: Expertise and Expert Knowledge. What is it? Where do we find it?, University College Dublin, 29–30 May.
R&AiS: Reasoning and Argumentation in Science, Center for Advanced Studies, LMU Munich, 31 May–2 June.

Courses and Programmes

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.
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.

MA in Reasoning

A programme at the University of Kent, Canterbury, UK. Gain the philosophical background required for a PhD in this area. Optional modules available from Psychology, Computing, Statistics, Social Policy, Law, Biosciences and History.

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.

Jobs and Studentships

Jobs

Post doc: Ethics of Biomedical Big Data, University of Oxford, deadline 3 February.
Lectureships: Statistics and Data Science, University of Edinburgh, deadline 7 February.
Post doc: Machine Learning and Deep Learning, University of Amsterdam, deadline 15 February.
Tenure Track: Theoretical Philosophy, University of Zurich, deadline 19 February.
Tenure-Track Position: Philosophy & Economics, University of Vienna, deadline 28 February.
Senior Lecturer: Applied Statistics, University of Western Australia, deadline 31 March.

Studentships

PhD position: in Machine Learning and Deep Learning, University of Amsterdam, deadline 15 February.