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EDITORIAL

I am very happy to act again as guest editor of *The Reasoner*. This month's interviewee will be [Graham Oddie](#), Professor of Philosophy at the University of Colorado Boulder. Graham's interests range from logic, formal epistemology and the philosophy of science to value theory, metaphysics and metaethics. I will not even try to do justice to his impressive list of accomplishments; let me only mention Graham's most recent books: the one on *Value, Reality, and Desire* (OUP 2009), where he develops a "robust realism" on values (we touch upon this in our con-



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versation below) and the collection (edited with his Colorado colleague David Boonin) devoted to some central ethical debates: *What's Wrong? Applied Ethicists and Their Critics* (OUP 2004).

As for myself, I only know well Graham's work on truthlikeness (or verisimilitude). Readers will be acquainted with the familiar, if perhaps not too popular, idea that the aim of inquiry is approaching the truth about some relevant matter. Popper tried to formalize this idea in the early sixties, but, in 1974, David Miller and Pavel Tichý independently proved that his explication of verisimilitude was irremediably wrong. As recounted in the interview, at that time Tichý was teaching in Otago, where Graham was still an undergraduate: thus, he was involved in the research on truthlikeness since its very beginning. Graham later published the first book on this topic (*Likeness to Truth*, Reidel 1986) and currently maintains the entry on [Truthlikeness](#) for the *Stanford Encyclopedia of Philosophy* (updated recently, so it's a good moment to read it!).

Last October, I met Graham (on the right in the picture) at the Munich Center for Mathematical Philosophy, where Hannes Leitgeb invited him to give a talk on truthlikeness and epistemic utility theory. These two research programs are both concerned with the idea of "accuracy" as closeness of our beliefs to the truth, and one would hope that they can be smoothly combined. As Graham told us in Munich, however, this is not the case. In fact, Graham has recently strengthened this surprising impossibility result, proving that some crucial properties at the core of the two programs simply cannot fit together. This is exciting news, and the implications of this result deserve careful scrutiny. During our meeting, we talked about this and much other stuff. The result



of our conversation and later exchanges is the interview you are going to read; I stop here, and leave the floor to Graham.

GUSTAVO CEVOLANI
University of Turin

FEATURES

Interview with Graham Oddie

Gustavo Cevolani: First, thank you very much for accepting my invitation! Can you start by briefly telling us about your intellectual career? How did you first get into philosophy of science and who influenced you in particular?

Graham Oddie: I went to Otago University as an undergraduate to study Law, but also signed up for a couple of Philosophy classes. I found the first law lecture tedious, but the philosophy classes—*Theory of Knowledge* by Alan Musgrave and *Logic* by Pavel Tichý—I found engrossing, unlike anything I had ever studied in high school. I decided immediately to switch to Philosophy. Musgrave



tried to dissuade me, arguing that I wouldn't be able to make a living doing philosophy. Fortunately I was unmoved. Musgrave was a brilliant lecturer. He had a knack for cutting to the chase. He laid out the problems extremely clearly, and fairly, and then argued strongly for his favorite solutions. He took there to be a truth of the matter in philosophy, as in science, and he believed in progress in philosophical inquiry. As a Popperian he despised the later Wittgenstein, along with ordinary language philosophy, and I myself absorbed his contempt for these. I always had a healthy respect for Popper—I wrote an honors thesis on the Michelson-Morley experiment as a “crucial experiment” in Popper's sense. But I was never a devoted Popperian, in part because I had an even healthier respect for the Carnapian tradition, which I absorbed from Pavel Tichý.

Tichý had a truly beautiful philosophical mind. He is the most talented philosopher I have ever had the good fortune to interact and collaborate with. Tragically, in my view, his work is almost completely neglected and sadly underrated. He involved me in his research on truthlikeness while I was still an undergraduate, and that is what I wrote a PhD on at LSE.

Musgrave and Tichý were the main influences on me as an undergraduate, along with the philosophers to whom I was introduced by Tichý: Brentano, Meinong, Twardowski, Frege, Russell, Carnap and Schlick—a veritable golden age in philosophy.

GC: Concerning Tichý and Popper, I would like to ask you about a nice story that is going around. I heard that it was in Otago that Tichý presented what we now know as the “Tichý-Miller theorem” to an audience including Popper himself. For the reader, this is the result that destroyed Popper's own definition of truthlikeness; still, Sir Karl is said to have reacted to Tichý's talk with elegant (someone would say, unusual) fair

play. Did you attend that seminar? What can you recall about this incident?

GO: In 1973 Popper was the William Evans Visiting Professor, invited by his student, the newly minted Professor Musgrave. Musgrave instructed the faculty to prepare a paper on Popper to present at the weekly colloquium during Popper's visit. Tichý flipped through *Conjectures and Refutations*, came across Popper's definitions of verisimilitude, and quickly spotted the defect—that it deems no false theory closer to the truth than any other—and presented that. He ended by announcing, in his characteristically provocative manner, that Popper's definitions are *completely useless*—perhaps not a wisest gambit given that Popper was among the most celebrated philosophers of the day, but Tichý was no respecter of persons. Popper—who, unlike his nemesis Carnap, was not known for his warm appreciation of refutations of his own conjectures—uncharacteristically but graciously commended Tichý on the paper. He begged to differ on the conclusion, however, claiming that no conjecture that produced such a beautiful refutation was *entirely* useless. As a second-year undergraduate I wasn't allowed to attend the departmental colloquium—a privilege extended to undergraduates in their third year—but I did hear all about it from those who were there. We were excited that someone on our team had wrestled with the great Popper, in hand to hand combat, and won.

GC: Tichý is not so well-known a scholar, despite his contributions in logic and philosophy of language. Would you like to briefly comment on him and his work?

GO: Tichý is well known for his work on verisimilitude but he is almost unknown for what is a far more significant contribution: the development, from the late sixties until his untimely death in the mid-nineties, of *Transparent Intensional Logic*. He took Church's simple theory of types, with its extensional, higher-order lambda-calculus, and extended it into an intensional higher-order system, adding worlds and times as basic types to Church's individuals and truth values. It is a thoroughly *objectual* system and in place of syntactic items—formulas—Tichý works with entities he calls *constructions*. These are *procedures* for arriving at objects. In TIL abstraction on worlds and times is explicit, and it is this which enables one to neatly dispose of many of the puzzles and paradoxes of intensionality, without simply replicating natural language opacity. The first iteration of TIL bears some resemblance to Montague's framework (although they were developed independently) but TIL has a number of advantages—notably its transparency. Although from 1970 onwards Tichý published many papers on TIL in top journals (e.g., *Noûs*, *Journal of Philosophy*, *Linguistics and Philosophy*, *Philosophical Studies*, *Philosophy of Science*) he encountered inexplicable roadblocks to publishing his book-length exposition of it. Maybe TIL was too much of a stretch for referees steeped in the tradition of tweaking first-order extensional systems. Academic politics may also have played a role. His ramified theory of entities and constructions—presented in *The Foundations of Frege's Logic*—fell stillborn from the press, in part because of its unfortunate title. It was not a work of Fregean exegesis (though it did lay bare both the virtues and the limitations of Frege's insights) but rather a systematic, all-embracing, higher-order, hyperintensional framework that dwarfs its competitors. Just

one symptom of its neglect: a recent celebrated work on the metaphysics of modality, which claims to break ground at the intersection of modal and higher-order logic, contains not a single reference to any of Tichý's works, even when laying out positions (like the necessity of the domain of individuals) that Tichý expounded at length over 30 years ago. It was the total neglect of his work that precipitated Tichý's tragic suicide in 1994, at the age of 58. Now he is not even appropriately celebrated in his adopted homeland. The current fads and fashions of philosophy (naturalism, fictionalism, non-cognitivism, neo-positivism and so on) which swept the profession left him cold. He is now better known and appreciated in pockets of Europe than in New Zealand.

GC: Your monograph, *Likeness to Truth*, is the first book-length treatment of truthlikeness: the Popperian idea that a false theory can be closer to the truth than another (true or false) one. In a recent *Synthese* paper you systematize much of the ongoing work on different approaches to truthlikeness. What is your evaluation of the current status of research in this field?

GO: When I became interested in the topic as an undergraduate there were only half a dozen papers on it. It amazes me that the notion of truthlikeness—so central to our conception of inquiry—still has so few who take any interest in it. There are burgeoning literatures on truth, models, probability and vagueness, but truthlikeness (at least as interesting as these) has a tiny following. I am not sure why. It may be because truthlikeness is a more difficult concept to analyze. But there are lots of open problems, and connections with other ideas (e.g., epistemic utility, belief revision) and a graduate student might be well advised take a look at it before heading down those heavily-trodden paths.

GC: In your last book (*Value, Reality, and Desire*, p. 8) you say: "Sometimes the truth, or closeness to truth, of current theory has been thought to be an important component of realism—especially of scientific realism. I take this to be a mistake as it stands, but it is on to something important." This is a surprising remark by a verisimilitude theorist, since many find truthlikeness appealing exactly because it allows one to defend scientific realism as based on the idea that science progresses by devising theories which are increasingly close to the truth about the world. Can you briefly comment on this?

GO: A central component of realism about a domain is the anti-idealist, anti-positivist thesis that there is a mind-independent or inquiry-independent truth of the matter: that truth is not constituted by what our inquiries lay bare. Some realists hold, in addition, that our most recent speculations about a domain must be zeroing in on the truth. But these two requirements are in tension. That the truth is mind-independent entails that our inquiries need not zero in on the truth. Realism postulates a goal towards which progress can be made, if we are clever and lucky. Of course, there are empirical indicators of progress, but these are fallible. While the concept of truthlikeness is indeed a compulsory accessory for any realist who thinks that partial or gradual progress in an inquiry is possible, that is compatible with our not having made any progress in fact. The evidence is that science has made progress, but we might still be brains in a vat, or virtual minds in a clever simulation. If that is true

it wouldn't undermine the realist's stance. It would just mean our actual views are far from the truth. But that possibility presupposes realism and a concept of truthlikeness.

GC: Coming back to your work in value theory, in *Value, Reality, and Desire* you defend a very "robust" form of realism about values. Could you briefly sum up its main tenets?

GO: I argue that there are genuine truth-evaluable propositions about value; that some of them are true (not all of them are false or truth valueless); that there are value attributes (properties, relations and magnitudes); that these do not reduce to non-evaluative attributes and states; that the value states are fully paid up members of the causal network; that we have epistemic access to values through experiences of them; and that these value experiences are desiderative in nature. If desires are appropriately causally networked with the values themselves then we can have knowledge of value by acquaintance.

GC: What about moral realism? Does your account imply that there are moral facts and that we can make "moral progress" by discovering more and more of them? To the effect that, ideally, a "moral consensus" can eventually emerge?

GO: I argue there are degrees of realism, with robust value realism at one extreme. I don't embrace a similarly robust deontic realism. I think moral permissibility and obligatoriness are partly constituted by moral conventions—regularities in belief, desire and behavior in recurring interactions. Not all conventions are moral, and not all conventions taken to be moral are so. A convention is moral if it actually solves a pressing coordination problem generated by value. There are typically multiple solutions to these coordination problems so there is no such thing as the *one true morality*. The moral truths that apply to a group depend on which moral conventions they adhere to. So we have a kind of moderate *moral relativism*, but one which is compatible with robust *value realism*. If there were a *unique* solution to these coordination problems then we would have a more robust deontic realism but the axiological form would still be more fundamental.

GC: How is your work on value theory related to your research on cognitive values (including truthlikeness) in epistemology and philosophy of science? Are these two separate areas or, at least ideally, should the former include the latter, since "cognitive" values are just a special kind of values after all?

GO: All my philosophical interests are grounded in an interest in value, including my interest in cognitive value. I take the fundamental value bearers to be *states of being*—properties that things have or lack—rather than states of affairs. States of affairs inherit value from the instantiation of states of being. Happiness, for example, is not a state of affairs, it is a state of being. It is the traditional thesis of the intrinsic value of happiness that it is better (other things being equal) to be more happy than less. (This is actually false, but that's another story.) Some cognitive states are better than others. If all-out belief is a cognitive state, then some determinates of it are better than others. Believing a proposition close to the truth is (other things being equal) better than believing a proposition far from the truth. The *ceteris paribus* clause is crucial of course. This

raises lots of interesting issues of additivity, separability and organic unity that value theorists have to address.

GC: Let me conclude with a more general question: what are, in your opinion, the most interesting and promising problems that you would recommend to young philosophers of science starting out today?

GO: The only piece of advice I might offer—and it may not be the most prudent advice to follow—is this: don't fall in lock-step with the latest philosophical fads and fashions. I can see why it is tempting—it looks like the only sensible path to a job and a career—but it generates a vast amount of work that hardly anyone will ever read and that will lose all interest once the fashion changes. Of course, doing your own thing won't guarantee you either a readership or a successful career, but at least it will be your thing. You will be sailing your own boat in a direction of your own choosing, not being swept along in a vast flotilla which is likely heading in quite the wrong direction altogether.

SCIENCE ARTICLES: A GUIDE

	AVERAGE SENTENCE IS EASY TO UNDERSTAND	AVERAGE SENTENCE IS HARD TO UNDERSTAND
SUBJECT MATTER IS COMPLEX	GREAT WRITING	TYPICAL WRITING
SUBJECT MATTER IS SIMPLE	HONEST WRITING	PROBABLY JUST BULLSHIT

smbc-comics.com

NEWS

Rationality and its Rivals, 10–11 December

The 2nd International Conference on Natural Cognition, *Rationality and its Rivals*, took place at the University of Macau on 10–11 December 2015. The main aim of the ‘Natural Cognition’ series, established by Nevia Dolcini and Mario Piazza, is to offer an interdisciplinary forum for exploring cognition as a natural phenomenon, where philosophy can serve to monitor and weave discussions between biology, neuroscience, psychology, linguistics, and logic. With this objective in mind, the conference *Rationality and its Rivals* gathered philosophers working in different areas together with philosophically minded scientists drawing expertise on this topic



from both Western and Eastern countries.

Following on from the inaugural meeting *Logic, Evolution, Organisms*, held in 2013, the purpose of this second meeting was to explore the interplay between rational and irrational cognitive strategies. The focus was on the nature and epistemic standing of cognitive phenomena, which appear to deviate significantly from the standard norms of rationality and thereby call into question the very idea of subjects as rational agents. Key issues driving the debates over the two days concerned whether irrational phenomena can be assessed within the traditional model of rationality, whether there are multiple forms of rationality and how to account for them, and what the role of cognitive biases in human reasoning and processes of belief formation and revision might be.

Highlights of the conference included the discussion of the seemingly intractable nature of many disputes concerning rationality due to the apparent impossibility of establishing rational norms in a non-circular way (Jonathan Ichikawa), an analysis of the notion of desire and ways to overcome the problem of indeterminacy about what we want (Derek Baker), and reflections on the nature of belief-like states that interact with religious values (Neil Van Leeuwen). Several speakers presented research at the intersection of philosophy, logic, psychology and neuroscience, such as an evolutionary explanation for the existence of reasoning according to which logic is *relevant* in a domain-sensitive way to the dynamic process of belief revision (Mario Piazza), reflections on different approaches to rationality and how these bear on the assessment of philosophical debates on the ‘naturalization’ of rationality (Marco J. Nathan), and proposals for naturalizing approaches to human inference, such as the so-called Eco-cognitive model of abduction, and their interactions with cognitive science (Lorenzo Magnani).

The topic of self-deception was considered from a variety of disciplinary perspectives, with special attention to its relation to evolution, morality, action, and rationality. Particular issues raised included the question as to what kind of irrationality self-deceptive phenomena represent and what moral consequences they carry for the agent (Carla Bagnoli). These philosophical questions were complemented by the perspective of computational biology: James Marshall presented and discussed the first formal model of the evolution of cognitive biases in the form of self-deception via a mechanism that assumes a physiological cost for separating internal decision biases from external dishonest signaling.

Rationality and its Rivals, organized by Nevia Dolcini with Adriano Angelucci, Davide Bordini and Mog Stapleton as co-organizers, was sponsored by the University of Macau, and supported by the Philosophy and Religious Studies Programme and the Faculty of Arts and Humanities at UM.

ADRIANO ANGELUCCI
NEVIA DOLCINI
University of Macau

Calls for Papers

METHODOLOGIES FOR RESEARCH ON LEGAL ARGUMENTATION: special issue of *Informal Logic*, deadline 14 February.

WEIGHTED LOGICS FOR ARTIFICIAL INTELLIGENCE: special issue of *International Journal of Approximate Reasoning*, deadline 22 February.

CAUSALITY AND MODELING IN THE SCIENCES: special issue of *Dis-*

putatio, deadline 31 March.

LOGICAL PLURALISM AND TRANSLATION: special issue of *Topoi*, deadline 30 April.

EXPERIMENTAL PHILOSOPHY: special issue of *Teorema*, deadline 30 April.

LOGIC AS TECHNOLOGY: special issue of *Philosophy and Technology*, deadline 1 May.

STATISTICAL SIGNIFICANCE AND THE LOGIC OF HYPOTHESIS TESTING: special issue of *Entropy*, deadline 30 May.



WHAT'S HOT IN ...

Uncertain Reasoning

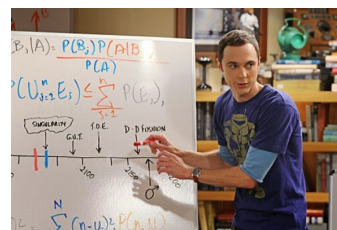
John Horgan published recently, on his blog hosted by the *Scientific American*, a post titled [Bayes's Theorem: What's the Big Deal?](#) From the social media, to rather specialised mailing lists, this piece has clearly reached a considerably wide public. Indeed chances are that you have already come across it. If you haven't, here's a quick fix, for the subtitle really says it all: "Bayes's theorem, touted as a powerful method for generating knowledge, can also be used to promote superstition and pseudoscience."

So, yes, this is yet another piece discussing, with splendid shallowness, why so many seemingly learned people call themselves Bayesians, and why equally learned masses get offended by the very label. The stated goal is clarificatory: "the Bayes fever has become too pervasive to ignore", so the author takes upon himself the burden "to get to the bottom of Bayes, once and for all". I refer the interested reader to the original post to find out what the bottom of Bayes ultimately looks like. Let me just mention that—with the exception of Andrew Gelman's comments which have been added in *postscript*—none of the controversial foundational issues on Bayesian statistics and inference are touched upon by Horgan. And yet this piece appears to have gone (academically) viral.

Be it as it may, this *Scientific American* post does raise an interesting question. Bayes Theorem is a mathematically trivial consequence of the so-called "product rule" of probability functions and the commutativity of conjunction (or, more



specifically, of the fact that events are taken to be elements of a Boolean algebra). And yet it's rather easy to be impressed by its counterintuitive consequences. This is nicely illustrated by [this scene from the film "21"](#), where the outstanding student astonishes Professor—and professional gambler—Kevin Spacey with his effortless solution of the Monty Hall problem.



Compare this with, say Modus Ponens in classical logic, which again follows trivially from the definition of classical consequence and the truth table for "material implication". Of course there is a good deal of arbitrariness (i.e., mathematical convenience) in defining this truth table, but this is hardly more arbitrary than the product rule for probability. And yet Modus Ponens fails to impress and therefore fails to generate suspicion. Its use in causing a variety of evils, from Finance to Terrorism, doesn't seem to fuel much discussion. No blog post on Modusponianism appears to be (academically) viral on social media. Why is that?

HYKEL HOSNI

Philosophy, University of Milan

Evidence-Based Medicine

About ten years ago there was a trial of a drug that made the [news](#). The study was a phase one trial, which is a trial conducted with a small group of people, intended to determine any side effects and to evaluate the safety of the drug. In this trial, six participants were hospitalized, and four of these suffered multi-organ failure. Following the trial, an [expert scientific group](#) was set up to provide recommendations in order to help prevent something like happening again.

Among other things, the expert scientific group recommended that 'new agents in first-in-man trials should be administered sequentially to human subjects with an appropriate interval between dosing of subjects to limit the number of people that may be affected by a severe adverse reaction'. They also recommended that:

The calculation of starting dose should utilise all relevant information. Factors to be taken into account include the novelty of the agent, its biological potency and its mechanism of action, the degree of species-specificity of the agent, the dose-response curves of biological effects in human and animal cells, dose-response data from *in vivo* animal studies, pharmacokinetic and pharmacodynamic modelling, the calculation of target occupancy versus concentration and the calculated exposure of targets or target cells in humans *in vivo*.

These recommendations look to require gathering a range of different types of evidence including evidence of mechanisms. But a major focus of the recommendations was in making more accessible evidence that had already been gathered. In particular, the expert scientific group were presented with a phase one trial of a similar drug with a similar adverse outcome that had gone unpublished. Therefore, the group recommended also that

‘[d]evelopers of medicine, research funding bodies and regulatory authorities should expedite the collection of information from unpublished pre-clinical studies relevant to the safety of human exposure’.

More recently, [last month](#) a phase one first-in-man drug trial left one man brain-dead and another five hospitalized. It was [reported shortly after](#) that the man left brain-dead had later died, and four of the five other people hospitalized had neurological problems. Once again there has been a call to improve the access to evidence from unpublished trials. For instance, the [British Pharmacological Society](#) released a [statement](#). In about ten years, it looks like not much has changed.

[MICHAEL WILDE](#)
Philosophy, Kent

EVENTS

FEBRUARY

[IBC](#): Introductory Bayesialab Course, Paris, 2–4 February.

[SS&T](#): Science, Statistics and the Truth, University of Leeds, 3 February.

[FUB](#): False but Useful Beliefs, London, 4–5 February.

[TP](#): Graduate School on Topological Philosophy, Warsaw, Poland, 6–7 February.

[NDPD](#): Nature Does Play Dice! Randomisation Without an Experiment, London, 9 February.

[UIB&R](#): Understanding Irrational Belief, Action, and Reasoning, Kings College London, 19 February,

[.SR&HoS](#): Scientific Realism and the Challenge from the History of Science, Indiana University-Purdue University Indianapolis, 19–21 February.

[OPTIMISM](#): Its Nature, Causes and Effects, Senate House, London, 25–26 February.

[SvCS](#): Science versus Common Sense, VU University Amsterdam, 25–27 February.

[PoP](#): Philosophy of Physics Conference, University of Hamburg, 29 February–3 March.

MARCH

[ECA](#): The Trinity of Policy-Making: Evidence, Causation and Argumentation, ArgLab, New University of Lisbon, Portugal, 3–4 March.

[EN&UEM](#): Explanation, Normativity, and Uncertainty in Economic Modelling, London School of Economics, 16–17 March.

[CHE](#): Causalism & Anti-Causalism in Historical Explanation, Hagen, Germany, 16–18 March.

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 & 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.

[MRÉS 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

ASSOCIATE PROFESSORSHIP: in Medical Philosophy, University of Aarhus, deadline 2 February.

ASSISTANT PROFESSOR: in Philosophy of Science, Merrimack College, Massachusetts, deadline 5 February.

CHAIR: of Statistics, University of Edinburgh, deadline 15 February.

RESEARCH ASSISTANT: in Statistical Computing, McGill University, deadline 29 February.

ASSISTANT PROFESSOR: in Artificial Intelligence & Machine Learning, University of California, Irvine, deadline 15 March.

Studentships

TWO PHD POSITIONS: on paradoxes of truth and/or vagueness, Munich Centre for Mathematical Philosophy, deadline 8 February.

PHD POSITION: in Benefits of Factually Erroneous Cognitions, University of Birmingham, deadline 15 February.

PHD POSITION: in Statistics, University College Dublin, deadline 1 April.

