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Editorial

I must say that when Jon asked me to become part of the editorial board for *The Reasoner*, I was quite surprised. 'What do I know about logic, reasoning and method?', I thought, considering my specialization in a (not too popular—perhaps rightly so ...) mixture of metaphysics, philosophy of physics and philosophy of science. At the same time, I also thought that Jon surely knew what he was doing, and that, as a general rule, one should always accept new challenges. Having accepted the challenge, here I am, writing my first guest editorial and preparing my first interview for our gazette. Before I introduce my interlocutor, though, let me submit to you a few considerations (unfortunately, still quite vague at the moment) concerning some issues I have been thinking about lately, and that might be of interest for at least some of the readers of *The Reasoner*.

On the one hand, there is a debate in epistemology about whether or not coherence is truth-conducive, and although the existence of a direct connection between coherence and truth has been almost conclusively ruled out, some authors insist that the coherence of a set of beliefs plays an important epistemic role. On the other hand, scientific realists have sometimes defended their view—that scientific theories are not simply useful instruments but rather (approximately) true descriptions of an objective external reality—on the basis of a sort of 'argument from coincidence'. It is often the case that several independent theories, hypotheses and practices lead to the same conjecture, say, about the existence of a certain unobservable entity or mechanism. Think, for example, of Salmon's argument that, since there are several very different ways to establish the value of Avogadro's number, we should take the latter to correspond to a real characteristic of the world. This can certainly be made more general: there are, e.g., many independent arguments for believing in the sphericity of the Earth, in the fact that water is H_2O, in the existence of multiverses (example courtesy of Jon Williamson!), and so on. Now, couldn't these two things be put together with a view to establishing, and making rigorous, a sort of argument 'from the coherence of independent sources' in favour of scientific realism (so providing, at the same time, a clear example of the truth-coherence connection)? To my knowledge, little has been said in this respect—although I think that, in a sense, something along these lines was already present in Whewell's idea of the 'consilience of inductions'. I am curious to know what people think about all this, perhaps some of the readers of *The Reasoner* could write something related to this topic send it to us!

Ok, let me now get back to duty and to our guest for this month. I had the pleasure to first meet him at a talk he gave in Paris; more recently, we met again in Konstanz, where he is a professor and where I recently started as a research fellow. Perhaps, he

can tell me why the idea of coherence cannot be of any help to scientific realists!

Matteo Morganti
Philosophy, Konstanz

§2
Features

Interview with Wolfgang Spohn

Wolfgang Spohn is Professor of Philosophy and Philosophy of Science in the Department of Philosophy of the University of Konstanz. He has interests in logic, the theory of knowledge and the philosophy of the natural sciences. He claims to have a high respect for the history of philosophy, but also whole-heartedly declares himself a 20th/21st century analytic philosopher, interested in the rigorous conceptual analysis of concepts and problems rather than in what was done in the past. He has written around 70 papers, edited and translated books and given seminars and lectures internationally on a broad range of topics. He is the author of *Causation, Coherence, and Concepts. A Collection of Essays* (Springer, Dordrecht, 2008).

Matteo Morganti: Can you, first of all, tell us how you got interested in philosophy, and in the sort of philosophy you have specialized in?

Wolfgang Spohn: I recall I lost faith when I was 15 and then got deeply interested in philosophy. Reading a lot, I hit upon W. Stegmüller's *Hauptströmungen der Gegenwartsphilosophie*, that contained various chapters on deterring philosophers, but also a chapter on Rudolf Carnap and the Vienna Circle. This opened my heart and my mind, and so I decided at 17 to study this kind of philosophy; in 1968, Stegmüller's institute was almost the only place in Germany where I could do this. I never got any reason at all to regret my decision.

MM: What topics are you currently working on? I understand you're completing an ambitious (and thick!) book. Can you tell us a bit about it, a sort of special preview?

WS: I hope to finish this year my book on ranking theory comprising ca. 700 manuscript pages and collecting my research over 27 years. Ranking theory may rightfully claim to be the little sister of probability theory reaching adulthood with my book. On important scores (all related to relative frequency) ranking theory is less useful than probability theory, on many scores (confirmation, explanation, causation, lawlikeness, etc.) it is equally useful, and on some scores, in particular philosophical ones (belief, justification, and truth) it is more useful. The fact that there could be a little sister at all comes as a kind of surprise after probability theory is already 350 years old. Of course, the siblinghood helped me enormously in developing ranking theory.

MM: Apart from those that your research focuses on, what do you take to be 'hot topics' for contemporary logic and philosophy? Where do you see the most potential

for progress (if there's anything like progress in philosophy . . .)?

WS: Oh, there are so many hot topics for contemporary logic and philosophy; starting any list could only mean starting to be unfair. There are even so many topics on which I would still like to contribute. Of course, there is progress on philosophy. I see a lot of timidity and conservativity among my colleagues; I see that philosophy has largely become a normal science and that many philosophers feel like that (though there are reasons to deplore this, it is first of all a virtue). However, I also see that so many issues are still fundamentally unclear. I am convinced that many important ideas, foundational and other ones, are lying ahead of us, worth of all our efforts to find them.

MM: You probably know that *The Reasoner* is devoted to reasoning, inference and method in philosophy and the sciences. What is your perception of the current status of research in this area?

WS: The current research in these areas is definitely in good shape. There are many excellent studies of details, and there is even foundational innovation (ranking theory being one example) again entailing many particular studies. A symptom of flourishing certainly is the foundation of the new *European Journal for the Philosophy of Science* that will hopefully establish as an equal partner to the two leaders in the field.

MM: In general, you seem to be fond of formal methods as a tool for philosophers. What exactly is the role they play (or, should play) in your opinion? Should they become a more integral part of philosophy education, or are they just useful in some cases?

WS: In teaching I am quite defensive about formal methods, perhaps overly so. The reason is that students of philosophy have widely varying interests, and most of them are not educated for an academic career; I do not feel to have the right to burden them with extensive formal obligations. Still, formal methods are of utmost importance in philosophy. In my view, they provide the best method for gaining more security in philosophical argument. You give an informal account of some philosophical issue that is plausible (it can be no more), you give a formal account of the same philosophical issue that proceeds by rigorous proof, you cross-check the two accounts at many points (that guards against formal fantasies), and the two accounts agree well. What better (though not fool-proof) control could there be that you have done something reasonable? Of course, many issues in philosophy are not amenable to formal methods. However, many are, and there are more than are presently accessible.

MM: One of your long-standing interests is in the philosophy of causality, on which you wrote several papers. I know this is asking a lot, but could you outline your views on the topic, which is certainly one of the most controversial in analytic philosophy?

WS: The more I think about it, the more it seems to me that I am realizing a strictly Humean position. I am not referring to his regularity theory (nor to his counterfactual paraphrase), but rather to his other definition, to what may be called his associationist theory of causation. Ranking theory is perfect for elaborating this theory (there will be a long chapter on this in my book) and thus provides a direct rival to the now popular counterfactual theory of deterministic causation and its variants, foremost the interventionistic one. My main argument is that, overall, the ranking theoretic approach is better suited to cope with all the examples, structural intuitions, etc., that I subsume under the "logic" of causation. The conception thus emerging is decidedly subjectivistic; causal relations are explained only relative to doxastic states (as Hume had it). This is a high

price to pay, much too high for many. I agree. Therefore I have bolstered up my subjectivistic account by a theory of objectification that is present, in a simplistic way, already in Hume's writings. In effect, I thereby render precise what has been called Hume's projectivism. I am most interested to learn whether readers are satisfied by this construction.

MM: You have recently started a new cooperation with philosophers at the IHPST in Paris on this, more precisely on probability and causality. Can you tell us something about it, and about any other similar plans you might have?

WS: Jacques Dubucs from the IHPST and I succeeded in getting our three-year joint project on Causality and Probability funded jointly by the ANR and the DFG. The cooperation is just about to start, and I am quite enthusiastic about it. We shall see how it really develops. Another plan of mine is to engage in a DFG-Sonderforschungsbereich *Psychoeconomics* for which mainly economists and psychologists of my university have applied and within which I would like to pursue my project on, as I call it, reflexive rationality. I am convinced that decision and game theory could considerably gain in normative adequacy by attending to this reflexive perspective.

MM: Who are you (or, will you be) working with for this project on the Konstanz side? Did any 'promising new talents' arrive on the shores of Lake Konstanz lately?

WS: For the French-German cooperation I hired Michael Baumgartner from Bern and Luke Glynn from Oxford. So, we shall be quite an international group. Indeed, philosophical life in Konstanz has become (or rather continues to be) very lively. Besides the regular department we could attract the Emmy Noether research group of Franz Huber on *Formal Epistemology* that will be with us for five years. Moreover, the University of Konstanz has succeeded in becoming one of nine so-called elite universities in Germany. This means a lot of funding for research from which philosophy profits as well. One important funding line is what we call our *Zukunftskolleg* at which so far the Italian quantum philosopher Matteo Morganti and the German philosopher/historian of science Samuel Schindler successfully applied; we expect to have them here for five years. So, you see: Lake Konstanz borders on three countries, and the world meets at the university.

MM: Slight change of topic. In my editorial, I claim that it might be interesting to explore the connection between the epistemological debate on the relationship (or lack thereof) between coherence and truth and the discussion concerning scientific realism. In particular, the (relatively unexplored) idea that a) the convergence of different independent hypotheses, theories, methods and procedures towards the same conjecture about the unobservable lends plausibility to realism might be fruitfully connected to the idea that b) at least in some cases, the probability of a belief increases with an increase in the coherence of a set of beliefs that it belongs to or follows from. Do you have anything to say about this, if only at the level of intuition?

WS: Here you raise crucial issues by connecting various key notions. However, they find me in a state of confusion, mainly because I have difficulties to share the presuppositions apparently underlying the discussion of those issues and because I have not yet developed a coherent view doing without these presuppositions. So, let me make just some miscellaneous remarks.

For instance, I always took scientific realism to be the natural attitude and could

never really grasp the force of objections; in particular, van Fraassen's constructive empiricism seems artificial to me. Also, I could not find that the recent discussion of coherence (and its potential for probability raising) led to useful positive results; in my view this notion is too indeterminate to be explicable. Of course, I endorse the inference to the best explanation (and believe that it basically is the ranking version of Bayes' theorem), but I have found all accounts of explanatory coherence wanting.

More importantly, I do not share common views about epistemology, ontology, and their relation. For instance, empiricist inclinations are strongly motivated by arguments from the underdetermination of theories. The background of such arguments, though, is a hypothetico-deductivist notion of theories that I do not share. I rather believe that the inductive relations theories bear to evidence are not external to them, but are right away built into them and into the concepts they use. In my account of dispositions (that are often treated as a rudimentary kind of theoretical concepts) I have explained what this could mean, and I am wondering how such ideas could work for richer scientific theories.

Similarly, a common view seems to be that basic ontological theories are rivals. I rather take them to be essentially interdefinable, so that everything they claim to exist does indeed exist; I am an ontological liberal opposing Occam's razor. So, in a way, all of these theories are true, they only err in their claims of ontological primacy. Again, I am wondering how this view fares in relation to more specific scientific ontologies. I am even at odds about truth. I have come to the conclusion that there really are two notions of truth (not just, as some would have it, a concept and a criterion), which even apply to different kinds of bearers (or propositions). One is the obvious one (correspondence, deflationary, etc.), though it comes in subtle and vigorously discussed variants. The other one is still very ill-understood. It is related to pragmatic, coherentist, and evaluationist ideas that are poorly elaborated and thus cannot yet be said to converge. My background of such heretic remarks is my view on two-dimensional semantics in which I strongly believe and which, I think, indeed applies different notions of truth in its two dimensions.

So, I would love to have positive answers to the issues you raise, and I think they are feasible, but quite different from present views and inquiries. However, I presently have at best pieces—that may or may not be worked out to form a coherent view.

MM: Ok, thanks a lot, this was very thought-provoking . . . Now, let me change topic again. How is it like to be an analytic philosopher of science in Germany? What is the situation like, especially with respect to the relationship between analytic philosophy and 'traditional' philosophy (I am not sure whether you believe in the analytic-continental distinction . . .)—in Konstanz and elsewhere?

WS: The analytic/continental distinction wears its silliness on its face; sometimes I suspect this is intended. Still, it has descriptive content, and there is some truth in mixing methodological and historiographic features. As to Germany, both, "analytic philosophy" and "traditional philosophy" stand for variegated bunches of attitudes or paradigms that even partially overlap. I do not perceive open fights, but underneath there is still a lot of rivalry and intrigue. In earlier times I clearly felt analytic philosophy to be underrepresented in Germany (see my above remark about the Stegmüller institute); this is why I so heavily engaged in *Erkenntnis*, was a founding member of the *Gesellschaft für*

Analytische Philosophie, etc. Presently, I am not so sure; analytic philosophy flourishes in Germany. Moreover, dominance and monoculture would definitely be disastrous for philosophy; we have to cultivate pluralism and open-mindedness on high standards, and certainly analytic philosophy is not *per se* good philosophy. Sometimes I feel that pluralism is rather threatened by the weakness of other philosophical paradigms; it seems we have to familiarize ourselves with the idea of having pluralism within analytic philosophy.

MM: How do you see the role of German analytic philosophy (especially of science) with respect to the European, and more generally international, network?

WS: German analytic philosophy has no special role. However, I am very pleased to see that European analytic philosophy and philosophy of science gains increasing confidence and organization, as manifested by the foundation of ESAP and EPSA and their regular congresses, the growing importance of the ESF, etc. The American or Anglo-Saxon dominance in the past decades was certainly unhealthy, and the fact that the one European philosopher saw the other one only via a transcontinental detour was absurd. I am glad this is changing, certainly also to the benefit of the American or Anglo-Saxon scene. I deplore that these remarks are still extremely Western-centered. However, advancing the integration of world philosophy is a more difficult project by far.

MM: To conclude, do you have any advice for those of us that are relatively new in the field, and especially for the younger students thinking about an academic career? Why should they choose philosophy?

WS: Advice? I do not try to persuade anyone to do philosophy; the academic prospects are too dim. The passion must come from inside. If it's there, I have the fullest empathy (or rather I share it for more than 40 years) and try to support and not to deter it. But you follow your passion at your own risk. If so, do not be too self-critical; however, try to have a realistic estimate of your talents! Work really hard and, subsidiarily, be active in acquiring good records (though they are no guarantee)! And don't forget to be a philosopher (though that's hard sometimes)!

MM: Thanks a lot for your time!

§3
News

Book: Argumentation in Artificial Intelligence

Iyad Rahwan and Guillermo R. Simari (2009). *Argumentation in Artificial Intelligence*, Springer.

This volume is a systematic, expansive presentation of the major achievements in the intersection between two fields of inquiry: Argumentation Theory and Artificial Intelligence. Contributions from international researchers who have helped shape this dynamic area offer a progressive development of intuitions, ideas and techniques, from philosophical background to abstract argument systems, to computing arguments, to the appearance of applications producing innovative results. Each chapter features extensive

examples to ensure that readers develop the right intuitions before they move from one topic to another.

In particular, the book exhibits an overview of key concepts in Argumentation Theory and of formal models of Argumentation in AI. After laying a strong foundation by covering the fundamentals of argumentation and formal argument modeling, the book expands its focus to more specialized topics, such as algorithmic issues, argumentation in multi-agent systems, and strategic aspects of argumentation. Finally, as a coda, the book explores some practical applications of argumentation in AI and applications of AI in argumentation.

Argumentation in Artificial Intelligence is sure to become an essential resource for graduate students and researchers working in Autonomous Agents, AI and Law, Logic in Computer Science, Electronic Governance, and Multi-agent Systems. The book is suitable both as a comprehensive introduction to the field, and also as a highly organized and accessible reference for established researchers.

The book is written for researchers and postgraduate students working in artificial intelligence, AI and law, logic in computer science, electronic democracy, multi-agent systems, etc.

Iyad Rahwan
Faculty of Informatics, British University in Dubai

Journal: Dialogue and Discourse

We are happy to announce the launch of a new international journal, *Dialogue and Discourse*.

Dialogue and Discourse reflects the surge of interest in the analysis of language 'beyond the single sentence', in discourse (i.e., text, monologue) and dialogue, from a formal, computational, or experimental perspective, as reflected in the wide range of work presented at the SEMDIAL and SIGDIAL conferences and various other forums. *Dialogue and Discourse* will be the first journal devoted to the wide dissemination of such work.

Our aim is to publish (i) the best research in the area of dialogue and discourse (as specified in our Aims and Scope), (ii) in a timely fashion (we are committed to achieving a mean time between submission and decision of 3 months), (iii) open to interested readers everywhere (open access, online).

We are part of the ejournal initiative of the Linguistic Society of America.

Articles will be published online as soon as they have been accepted. Each year, a (hardcopy) volume, collecting all articles of the year will be published by CSLI Publications, Stanford.

The journal can be found here and here, each of these sites providing immediate access to a submission portal and to available articles.

As with any journal, the two most important resources are its contributors and its readers. The journal is open for submissions and we urge you to consider submitting

your work on any topic relevant to *Dialogue and Discourse*. Our first articles should start appearing within the next two months.

David Schlangen
Computational linguistics, Potsdam

Conditionals, 11 May

On May 11th 2009 a one-day workshop on Conditionals was held at the University of Düsseldorf, which was organized by Gerhard Schurz and Matthias Unterhuber (University of Düsseldorf). It took place in the context of the European Science Foundation (Eurocores) programme "Modelling Intelligent Interaction Logics in the Humanities, Social and Computational Sciences (LogiCCC)", and brought together researchers from the project "Logic of Causal and Probabilistic Reasoning in Uncertain Environments (LcpR)" with reserachers from another Eurocores project (Hannes Leitgeb, "Metacognition as a Precursor to Self-Consciousness: Evolution, Development, and Epistemology (MPSC)") and other projects (Igor Douven and Richard Dietz, "Formal Epistemology Project at the University of Leuven"; Niki Pfeifer, "Mental Probability Logic" project of the Austrian Science Foundation).

Hannes Leitgeb (University of Bristol and University of Düsseldorf) gave an account of his logical system for counterfactuals which combines a possible worlds semantics with a probability semantics. Igor Douven (University of Leuven) discussed several options of updating rules for beliefs in the context of the Judy Benjamin problem and its consequences for an account of belief. Niki Pfeifer (University of Salzburg) discussed recent probabilistic approaches in the psychology of deductive reasoning and described empirical studies on how people understand and reason about uncertain conditionals. Gerhard Schurz (University of Düsseldorf) presented empirical findings on human non-monotonic reasoning and discussed several formal problems in probabilistically reliable reasoning. Eva Rafetseder (University of Salzburg) described a series of studies in which the development of hypothetical and counterfactual reasoning compentencies from three year olds to adults were traced. Gernot Kleiter (University of Salzburg) proposed a formal framework for describing imprecise conditionals by means of beta-distributions. Finally, Richard Dietz (University of Leuven) discussed explications of the Ramsey test for left-nested conditionals in the context of Adam's thesis. Material from the talks can be found here.

Acknowledgements: We would like to thank the German Research Foundation, the Austrian Science Fund and the Alexander von Humboldt Foundation.

Matthias Unterhuber
Philosophy, Heinrich-Heine-Universität Düsseldorf

Argument Cultures, 3–6 June

The Ontario Society for the Study of Argumentation (OSSA) "Argument Cultures" conference was held 3–6 June 2009 at the University of Windsor (Windsor, Ontario, Canada), organized by the Centre for Research in Reasoning, Argumentation & Rhetoric (CRRAR). There were 88 papers and commentaries, plus 3 keynote addresses, by 120 scholars from 19 countries (mainly from Europe and North America), representing the disciplines of AI, classics, communication, discourse analysis, linguistics, law, medicine, philosophy and rhetoric.

The OSSA conferences are distinctive in that presenters have c. 25 minutes, and each is followed by a 10-minute commentary prepared in advance by a commentator matched to the paper by the organizers, followed by 15 minutes' discussion with the audience.

Keynotes:

Ruth Amossy, Tel-Aviv University, "Agreeing on the Reasonable: A Discursive Cultural Approach to Arguments". An approach to arguments allowing for a "thick" description of their discursive and communicative aspects, as well as their constitutive dialogism ...

Robert Pinto, University of Windsor, "Argumentation and the Force of Reasons". Argument viewed as offering or exchanging reasons, reasons having normative force as always either good or bad, and when good and justifying something, making it right.

David Zarefsky, Northwestern University. "What does an Argument Culture Look Like?". Argument conceived as process, method and human activity, embodying practices undergirded by norms, and characterized by such productive tensions as between commitment and contingency, partisanship and restraint, personal conviction and sensitivity to audience, reasonableness and subjectivity and decision and non-disclosure.

The topics were wide-ranging and no single theme emerged. Some were descriptive, some normative; some theoretical, some applied. Several papers reporting on research projects related to the theory of "strategic manoeuvring" of the Amsterdam Pragma-Dialectical school. Several took up the conference theme and addressed argument cultures in various senses. Papers examined the Internet as a new argument culture and as a source of arguments from authority. Medical and legal reasoning and argument, political argument, working class argument; visual argument, emotional argument, visceral argument; fallacies and fallacy theory-each received more than one treatment.

The Abstracts are still available at the OSSA 2009 conference website.

Andrei Moldovan's (Philosophy, Barcelona) "Pragmatic considerations in the interpretation of denying the antecedent" won the J.A. Blair Prize (500 dollars) for outstanding graduate student paper.

The OSSA 2009 Proceedings, edited by Yuho Ritola (Turku, Finland) will be available on a CD in August or September (check the CRRAR website).

Hans V. Hansen, Christopher W. Tindale, J. Anthony Blair, Ralph H. Johnson
Centre for Research in Reasoning, Argumentation & Rhetoric, Windsor

Aim of Belief, 11–13 June

The theme of the conference is how the generally accepted claim "Belief aims at truth" should be understood. The speakers were Timothy Chan, Pascal Engel, Kathrin Glüer-Pagin & Åsa Wikforss, Anandi Hattiangadi, Paul Horwich, David Papineau, Nishi Shah, Asbjørn Steglich-Petersen and Ralph Wedgwood. Responses were given (in corresponding order) by Jane Friedman, Douglas Edwards, Anders Nes, Daniel Whiting, Theodora Achourioti, Heine Holmen, J. Adam Carter, Timothy Williamson and Davide Fassio.

Engel opened proceedings by outlining two main approaches to the question, normative and teleological. The two camps disagree on the status of norms that enjoin us to form only beliefs that are true. On the teleologist view, any such norms derive from the value we attach to true beliefs, rather than the nature of belief. On the normative view that Engel endorses, by contrast, truth provides a fundamental standard of correctness for belief, which is necessary in understanding the irreducibly normative dimensions of the nature and contents of belief.

The normative view is further argued for in the papers by Wedgwood and Chan. Developing the position put forward in his previous work, Wedgwood spells out and argues for the theses that, first, beliefs are essentially regulated by certain standards of rationality, and, second, that these standards of rationality applying to belief are oriented towards the truth. Chan argues that truth is a constitutive norm of belief, in the sense that it defines an internal standard of success or correctness for belief as a kind of mental state. Horwich opens the case for the critique of normative accounts by distinguishing between different logical forms that a norm of truth governing belief can take, and suggest plausible sources of the value of true beliefs. Papineau goes further and argues that there are no *sui generis* norms attaching to beliefs, since no real prescription can possibly follow from any such putative norms constitutive of the attitude of belief. Hattiangadi also argues that no prescription concerning what agents *ought to do* follows from any plausible formulation of the truth-norms supposedly constitutive of belief; at most what we have are statements of "ought-to-be", which have no prescriptive force.

Addressing the question "What is belief?", Glüer-Pagin & Wikforss develop an account in terms of the functional roles of belief in action explanation, which distinguishes belief from attitudes such as assuming or imagining without appealing to norms of belief.

Finally, Steglich-Petersen defends the claim that truth is the aim of epistemic justification against objections in the literature, objections that face both normative and teleological versions of this claim. In both his response to Steglich-Petersen and discussion with Horwich, Williamson defend the claim that it is knowledge rather than truth which is the fundamental norm of belief.

Podcasts of all the talks of the conference will be made freely available in stages here, where you can also subscribe to the RSS feeds and be alerted as new podcasts are uploaded. An anthology of papers based on the conference is also being planned.

Timothy Chan
CSMN, University of Oslo

Arché Scepticism Conference, 13–14 June

The Arché Scepticism Conference took place on 13-14 June, 2009. The conference was part of the AHRC-funded Basic Knowledge Project. Next year this project will move from the University of St Andrews to the Northern Institute of Philosophy at the University of Aberdeen, and will continue there for three more years.

The conference had eight presentations by researchers of their work in progress related to scepticism. I found all the talks to be very interesting. Here are brief summaries:

DAY 1 (Saturday, 13 June)

Stewart Cohen, "Bootstrapping and defeasible reasoning". Cohen argued that responses to scepticism that reject (1) 'One can know things by perception only if one antecedently knows that perception is reliable' and those that reject (2) 'One can know that perception is reliable only by knowing things via perception' have more in common than is usually supposed. He also discussed the bootstrapping objection to denying (1).

Brian Weatherson, "Probabilistic arguments for scepticism". Weatherson discussed a certain argument for 'It's impossible to know anything that is inferred ampliatively from one's evidence'. He proposes a way of denying this conclusion by adopting an interest-relative view of belief.

Aidan McGlynn, "On epistemic alchemy". McGlynn argued that in order to avoid the problem of epistemic alchemy, wherein one's non-evidential entitlements can be alchemically transformed into evidentially justified beliefs, one must deny that entitlement is closed under known disjunction introduction.

Ernest Sosa, "Descartes, scepticism, and virtue epistemology". Sosa presented a puzzle for interpreting the project of Descartes' *Meditations*, which he argued can be resolved if we read Descartes' *certain knowledge* as requiring a kind of superlative aptness in judgment.

DAY 2 (Sunday, 14 June)

Jonathan Vogel, "Explanation and the external world". Vogel argued that our external world beliefs can explain the data of experience via necessary truths like 'No object exists in multiple regions of space', and skeptical hypotheses can't. He argued that therefore our experiences confirm our external world beliefs over the sceptical hypotheses.

Anthony Brueckner, "~K~SK". Brueckner discussed arguments for and against the claim that 'I don't know I'm not a handless brain in a vat'. In particular, he argued that it's unclear how to get an argument against this claim out of dogmatist theories of perceptual knowledge and justification, and argued against certain attempts to argue for this claim.

Roger White, "Defeasibility and scepticism". White criticized certain sorts of views of perceptual evidence, which claim that evidence is often more than appearances. He argued that supporters of such views will have to say implausible things about how one's credences ought to change in certain scenarios.

Crispin Wright, "Entitlement: Pascal, Reichenbach and the sceptical point of view". Wright discussed his 'Entitlement Programme', according to which it's rational to take it for granted that certain 'hinge propositions' are true without evidence. This Programme should start with the idea that the hinges are presuppositions of a cognitive project, and

that it's part of rationality to be engaged in cognitive projects.

Dylan Dodd
Philosophy, University of St Andrews

Non-Classical Mathematics, 18–22 June

The 20th century has witnessed several attempts to build parts of mathematics on grounds other than classical logic. The original intuitionist renderings of set theory, arithmetic, analysis, etc. were later accompanied by those based on relevant, paraconsistent, contraction-free, modal, and other non-classical logics. The subject studying such theories can be called non-classical mathematics (NCM), which we formally understand as the study of any part of mathematics that is, or can in principle be, formalized in some logic other than classical.

The first conference on Non-Classical Mathematics was held on 18-22 June 2009 in Hejnice, Czech Republic. The conference brought together 28 researchers and fulfilled its three aims: to introduce particular fields of NCM to researchers from other branches; to present recent advances in those fields; and to identify common problems and methods and foster the exchange of ideas between researchers from separate fields. The success of the last aim was witnessed by long discussions—some quite passionate—on such issues as: classical vs non-classical metamathematics, the split of notions due to the use of a weaker logic, motivation for particular NCMs, parallels between results in one or other area, and the question whether non-standard foundations over classical logic already count as NCM.

There were four invited speakers: Giovanni Sambin gave a tutorial on constructive mathematics, with a distinctive meta-theoretical perspective of pluralism of levels of abstraction. Greg Restall introduced the notion of a bitheory, which treats truth and falsity in parallel, and argued for its usefulness for NCMs involving truth value gaps or gluts. Kazushige Terui in his tutorial demonstrated a deep duality between cut-elimination results in the sequent calculi for substructural logics and completion results in the corresponding algebras. Chris Mortensen gave a tutorial on results in non-classical logics for representing negation and inconsistency and the analysis of the way that certain visual representations have inconsistent content. Out of the 13 contributed talks we select: Shunsuke Yatabe discussed the omega-inconsistency of Peano Arithmetic in Lukasiewicz's infinitely valued logic and argued that this may be a virtue and not a flaw. Petr Hajek studied weak arithmetic theories in the context of fuzzy logics and showed their quite distinctive non-classical behaviour, despite the standard incompleteness result. Libor Behounek treated the notion of an infinitesimal as a fuzzy property of standard numbers. Arnon Avron presented a weak theory of sets inspired by taking predicativity very seriously, in a classical background theory. A special issue of Logic Journal of the IGPL is planned with an open call for papers.

Robert K. Meyer had submitted a paper, but he died before the conference was held. We remembered him with a minute of silence at the start of the meeting, and his mark was on many of the discussions as we talked of his results and some of his infectious

enthusiasm for using non-classical logic to illuminate important mathematical issues lived on in our meeting.

Petr Cintula
Institute of Computer Science, Academy of Sciences of the Czech Republic

Greg Restall
Philosophy, University of Melbourne

Consciousness and the Self, 25 June

On 25th June 2009, the Department of Philosophy at the University of Liverpool held a conference on 'Consciousness and the Self', featuring Tim Crane (UCL), Galen Strawson (Reading), Howard Robinson (CEU) and Barry Dainton (Liverpool). The event was organized by Daniel Hill, of the Department's 'Metaphysics, Language, and Mind' research group.

Tim Crane opened proceedings with a paper discussing 'Consciousness in the etymological sense'. Noting that we speak both of conscious *experiences* and conscious *beliefs*, Crane wondered whether a unified account could be provided to explain why the same word could be applied to both beliefs and experiences. With a nod to the etymological root of the word 'conscious' ("*conscious* f. L. *con-* together + *scire* to know" (OED 2nd edition 1989)), Crane proposed that an understanding of the relationship between consciousness and *knowledge* could provide such an account. In particular, while beliefs, unlike experiences, cannot themselves appear as *events* in the stream of consciousness, they can nevertheless be brought under the gaze of the stream of consciousness. Through introspection, we can come to know the content of our beliefs in the same privileged way that we can come to know our experiences.

Galen Strawson's paper, 'Eye and I', tackled the question of whether the 'I' can turn inwards to attend to itself as the subject of its awareness. Against the 'old claim' that the 'I', like the eye, is unable to look at itself, Strawson argued that present-moment self-awareness *is* possible, in a substantial, 'thetic' sense—that is, that the 'I' *can* hold itself as the focus of its attention. While the 'I' does not see itself as it sees other objects of experience, it can nevertheless know itself by acquaintance, by attending to itself as the subject of awareness. In the process of presenting this argument, Strawson laid out elements of his 'real materialism', including his 'thin' notion of the subject of experience as being, essentially, identical to the neural activity that constitutes that experience.

Howard Robinson argued for three claims: (1) that no physical objects, *as standardly conceived*, could be the subject of conscious states (assuming that no 'seriously reductive' account of mental states, such as behaviourism, is viable); (2) that no physical object, *as 'deviantly' conceived by neutral monists*, can be the subject of conscious states; and (3) that a bundle of co-consciously related states cannot be the subject of conscious states. Claims (2) and (3) set Robinson against the views of Strawson and Dainton respectively, and he presented detailed considerations against both.

Barry Dainton closed proceedings with a presentation of the neo-Lockean account of the self defended in his recent book, *The Phenomenal Self* (Oxford: 2008). Aiming for a balance between intuitive appeal and metaphysical defensibility, Dainton argued that the persistence of the self resides in *phenomenal*, rather than *psychological*, continuity.

The conference was well attended, by academic philosophers, students, and members of the public.

Mary Leng and Stephen McLeod
Department of Philosophy, University of Liverpool

Strategies-I, 26 June

The first workshop on Logics and Strategies, titled Strategies-I was organized on June 26, 2009 at the Department of Artificial Intelligence, University of Groningen. The workshop was considered as the kick-off meeting of the project "Strategies in Multi-agent Systems: From implicit to implementable", conceived by Johan van Benthem from the Institute for Logic, Language and Computation (ILLC), Amsterdam, and Rineke Verbrugge and Sujata Ghosh from the University of Groningen.

The speakers and the participants of the workshop were not restricted to Amsterdam and Groningen only. They came from all over Netherlands and also from abroad. To start the proceedings, Wiebe van der Hoek from the University of Liverpool gave a talk on logics with explicit and specific strategies. First he presented an extension of Alternating Time Temporal Logic, incorporating explicit strategies in the framework by means of strategy-commitment functions. Then he gave an account of Cooperative Boolean Games, where a strategy for a player is much more specific, setting values to the propositions that are considered to be under her control. Complexities of computing solution concepts of such cooperative games were discussed.

Jonathan Zvesper (ILLC) generalised a result on the equivalence of $m + 1$ rounds of iterated domination of non-optimal strategies with rationality and m-th order mutual belief in rationality, where the natural number m gets replaced by transfinite numbers. Following that was an inspiring talk by Johan van Benthem, who provided food for thought regarding various aspects involving logics, games and strategies. Starting with strategy constructs in Hintikka's evaluation games, he discussed functional and relational notions of strategies. Turning implicit strategies into explicit ones by means of suitably expressive logics was the main point of focus—be it in dynamic logics, in modal μ-calculus or in linear logic game semantics.

The afternoon session commenced with Olivier Roy (Groningen) who argued that an intuitive notion of "informational support for an intention" is not sufficient for the agents to achieve some goal in co-ordination games. The concept of rationality and a meaningful setting of mutual beliefs need to be considered. Cédric Dégremont (ILLC) showed that any doxastic temporal model satisfying certain intuitive properties which capture the belief revising behavior of agents, can be generated from some doxastic plausibility models, connecting theses notions with beliefs about strategies. Following this was an insightful talk by Yde Venema (ILLC) on infinite satisfiability games. He

presented a brief but comprehensive survey of infinite games on graphs and automata, and showed how they are intrinsically related to logic.

After introducing probabilistic semantics for logics and games of imperfect information, Pietro Galliani (ILLC) showed some of its drawbacks which can be handled with a slight modification to the existing semantics resulting in multi-player multi-valued game semantics. To conclude, Sujata Ghosh presented a nice survey of the existing logics that reason about and explicitly mention strategies in their frameworks. She also highlighted the broad goals of the project. It was indeed a fruitful day of talks and discussions.

Soumya Paul
IMSc, Chennai

Multiplicity and Unification in Statistics and Probability, 25–26 June

The Centre for Reasoning at the University of Kent and Virginia Tech jointly held a conference on Multiplicity and Unification in Statistics and Probability. The aim of the conference was to explore methodological, evidential and metaphysical aspects of multiplicity of interpretation and justification in statistics and probability. The conference also explored the extent to which such multiplicities call for unification. Although it is hard to give a unified account of the variety of papers presented at the conference, they certainly all made a rigorous attempt at addressing the core issues at hand.

A first group of talks discussed multiplicity and unification of interpretations of frequentist and Bayesian statistics. Deborah Mayo and Aris Spanos (Virginia Tech) offered a strong defence of the frequentist interpretation of probability. Deborah Mayo argued that learning from the work of D. R. Cox serves to explicate the multiplicity of frequentist methods and goals, and identify the unification of principles that direct their valid use in scientific inquiries. Aris Spanos argued that several charges against the frequentist interpretation of probability are misguided. In particular, he outlined how the Strong Law of Large Numbers can be used in order to show that the so-called 'circularity charge' does not hold. Jon Williamson (University of Kent) offered a contrasting view and presented a bridge between frequentist statistics and objective Bayesian epistemology, arguing that frequentist statistics plugs into the objective Bayesian approach.

David Corfield and John Mingers (University of Kent) addressed the issue of multiplicity and unification focusing on particular fields. David Corfield considered justification in machine learning and introduced a typology containing four kinds of justification. John Mingers engaged statistical and quantitative modelling domination in management science. Putting a strong emphasis on the limits he sees in quantitative modelling he gave an account of the critical realist approach, and argued for a multimethodological framework taking into consideration other sources of knowledge.

Other talks addressed evidential aspects of multiplicity and unification. Nancy Cartwright (LSE) made a general case against evidence-based policy on the ground that statistical results are invariant under conditions that are never met. She argued that social scientists should establish 'tendency claims'. George Gaskell (LSE) described the disconnection between the sources of evidence that influence the adoption of genet-

ically modified food products and those affecting their regulation. John Worall (LSE) argued that there are two distinct kinds of empirical support for a theory and offered a unifying view stating that real evidence for a theory is accounted for by that theory and is inconsistent with other rivals to that theory.

The conference was a highly stimulating event during which a large number of key epistemological issues were discussed. In conclusion potential advantages and disadvantages of unification were summarized. Overall, this conference set a clear agenda for future work. One can find some of the papers presented as well as more information about forthcoming meetings on the website.

Sami Stouli
Cemmap and Economics, UCL

Knowledge Discovery from Uncertain Data, 28 June

The importance of uncertain data is growing quickly in many essential applications such as environmental surveillance, mobile object tracking and data integration. Recently, storing, collecting, processing, and analyzing uncertain data has attracted increasing attention from both academia and industry.

The goal of the First ACM SIGKDD Workshop on Knowledge Discovery from Uncertain Data (U'09) was to discuss in depth the challenges, opportunities and techniques on the topic of analyzing and mining uncertain data. The theme of this workshop was to make connections among the research areas of uncertain databases, probabilistic reasoning, and data mining, as well as to build bridges among the aspects of models, data, applications, novel mining tasks and effective solutions. By making connections among different communities, we aim at understanding each other in terms of scientific foundation as well as commonality and differences in research methodology.

The workshop program was very stimulating and exciting. We were pleased to feature two invited talks by pioneers in mining uncertain data. Christoper Jermaine gave an invited talk titled "Managing and Mining Uncertain Data: What Might We Do Better?" Matthias Renz addressed the topic "Querying and Mining Uncertain Data: Methods, Applications, and Challenges".

Moreover, 8 accepted papers in 4 full presentations and 4 concise presentations covered a bunch of interesting topics and on-going research projects about uncertain data mining. In the first session, two presentations, "Efficient Algorithms for Mining Constrained Frequent Patterns from Uncertain Data" and "Exploiting Contexts to Deal with Uncertainty in Classification", discussed the frequent pattern mining problem and the classification problem on uncertain data; while the other two presentations, "Identifying Graphs from Noisy and Incomplete Data" and "On Perturbation Theory and an Algorithm for Maximal Clique Enumeration in Uncertain and Noisy Graphs", focused on uncertain graph mining and addressed several important issues in handling uncertain and noisy graphs.

The second session focused on classification and prediction on uncertain and probabilistic data. The problem of learning from uncertain data was discussed extensively

in two presentations, "Learning from Data with Uncertain Labels by Boosting Credal Classifiers" and "Lazy Naive Credal Calssifier". The other two presentations, "Using Uncertain Chemical and Thermal Data to Predict Product Quality in a Casting Process" and "Decision Support and Profit Prediction for Online Auction Sellers", discussed how to apply data mining and machine learning techniques to make high quality predictions based on uncertain and imprecise data. The presentations triggered deep discussions.

Ming Hua
Computing Science, Simon Fraser University

Two Streams in the Philosophy of Mathematics: Rival Conceptions of Mathematical Proof, 1–3 July

This conference attracted mathematicians, philosophers and computer scientists from Europe and North America (USA, Belgium, Canada, France, Finland, Germany, NL). There were sixteen talks. Some were historical (such as Madeline Muntersbjorn on Poincaré and Dirk Schlimm on Pasch and Klein). Some contributors (such as Alison Pease and Peter Koepke) discussed mathematics and machines. Others (such as Yehuda Rav, Jody Azzouni and Alexander Paseau) debated the relation between formal logic and mathematical proof. All the talks (including those not mentioned here) were of a high standard. Perhaps the most exciting development was an unexpected overlap between the presentations given by Alexandre Borovik, Ivor Grattan-Guinness, David Corfield and Michael Harris.

Grattan-Guinness identified what he called 'notions', which play a structuring and connecting role in mathematics. Typical notions in his sense are: linearity, generalisation, convexity, (in)equality, ordering, partitioning, approximation, invariance, duality, boundary, recursion, operators, combinations, bilinear/quadratic forms, dispersion/location, regression/correlation, nesting, mathematical induction, proof by contradiction, superposition, structure and axiomatisation. He arrived at this list through an examination of the history of mechanics and applied mathematics.

Corfield structured his talk using Ernst Cassirer's thesis that there are principles underlying scientific thought. These principles play a structuring and directing role. Corfield identified the following principle-candidates in the mathematics of the last century or so: symmetry, obstructions, completions, extensions/lifts, descent, local-global relations, dimension, representation, duality/reciprocity, cohomology, nonabelian counterparts, infinite dimensional 'quantum' mathematics, structure/pseudorandomness, everything is a set. Corfield went on to note the kinship of these Cassirean principles with the mathematical ideas (in a Platonic sense) of Albert Lautman. In the discussion, Grattan-Guinness pointed out that the term 'principles' suggests that these elements must be propositions, when in fact many are not. Delegates wondered whether such mathematical notions are permanent features of mathematics (once they have been discovered) or whether they might lose their status. Corfield suggested that 'Everything is a set' may have had its day. One might add Aristotle's denial of infinite regresses and Peacock's principle of the permanence of form to the list of possibly deceased notions.

In the final talk, Michael Harris presented Grothendieck's 'principles' or 'motifs'. These are the 'common reason' that underlies the cohomological invariants attached to an algebraic variety. From this source, Harris developed the thought that such 'common reasons' present themselves as 'avatars' (Grothendieck's term), rather as a musical motif can appear in different modes, keys, rhythms and arrangements, all the while recognizable as a single musical thought. This connected with Alexandre Borovik's discussion of 'phantoms', which we might call 'failed avatars'—avatars that cannot manifest themselves in a certain domain because the domain's structure prevents it.

The notions, principles and motifs introduced in these talks are not quite the same—an avatar in the sense of Grothendieck is a manifestation of a deeper (and perhaps as yet undeveloped) piece of mathematics, whereas notions such as duality resist mathematical treatment. For example, there can be duality between vector spaces, between polyhedra and between natural numbers (quadratic reciprocity). It is unlikely that these various dualities will reduce to a single mathematical theory of duality. Nevertheless, these talks have in common the claim that mathematical thought has structuring and directing elements which, though they may leave no trace in mathematical textbooks, are an essential part of mathematics. Future research may ask systematic questions about these elements: how common are they? Do they form families? What is their metaphysical status? Do they belong solely to the context of discovery?

Brendan Larvor
Philosophy, University of Hertfordshire

European Epistemology Network, 4–5 July

The 2009 meeting of the European Epistemology Network, which was hosted by the *Formal Epistemology Project* at *University of Leuven* and the *Royal Flemish Academy of Belgium for Science and the Arts*, was held in Brussels on July 4 and 5. The two major events at the meeting were a general epistemology conference and a workshop on a simulation programme for social epistemology called *Laputa*, which is to be released in the autumn of this year.

The workshop consisted of two talks one by Erik Olsson (Univerity of Lund) and the other by Klemens Kappel (University of Copenhagen). Olsson's talk 'On the Veristic Value of Social Practices: A Simulation Approach' introduces *Laputa*. It is a programme which allows the user to set up a network of inquiring agents, specify a number of parameters relating to the agents as inquirers and the links between agents, and computes the veritistic value of social practices. In the next talk Some Cases for Simulation Studies in Social Epistemology Klemens Kappel devises some interesting applications for Laputa such as to put to the test various possible practices of transmitting information from experts to laypeople.

In the first session of the epistemology conference Igal Kvart (Hebrew University of Jerusalem) presented a paper entitled 'Counterfactuals and Knowledge' which was commented on by Richard Dietz (University of Leuven). Kvart aims to improve on the unclarity in counterfactual conditions for knowledge defended in the work of various

epistemologists by developing a precise probabilistic account of counterfactuals. He argues that, with this account of counterfactuals in play, Nozick's sensitivity condition for knowledge is demonstrably false.

Christoph Kelp's (University of Leuven) ensuing talk 'In Defence of Virtue Epistemology' discusses a recent objection against virtue epistemology by Duncan Pritchard and a response to Pritchard due to John Greco. Kelp argues that while Greco's response to Pritchard is less than fully satisfactory, Pritchard's objection is ultimately unconvincing as the crucial analogy on which the argument rests breaks down.

The conference's second day was started by Erik Olsson's paper 'What is the Generality Problem?' which argues that there is an easy solution to the generality problem for reliabilism provided reliabilists take themselves to be stating (part of) a definition of knowledge rather than a providing a criterion for individuating belief-forming processes. However, Olsson also addresses the latter problem by drawing on work in empirical psychology on how to identify the cognitively most satisfactory level of classification in a given taxonomy.

In 'Is Epistemic Expressivism Incoherent?' Klemens Kappel addresses an incoherence objection to epistemic expressivism which has recently been raised in various guises by Terence Cuneo, Jonathan Kvanvig and Michael Lynch. Kappel argues that neither of the commentators succeeds in making a decisive case against epistemic expressivism.

Igor Douven's (University of Leuven) 'Proper Bootstrapping' proposes a solution to the problem of easy knowledge. Drawing on an older discussion in the philosophy of science, Douven shows that placing some relatively modest restrictions on the type of reasoning at issue in the problem cases suffices to solve the problem.

The conference's last paper 'Contextualism, Fallibility, and the Value of Knowing' was delivered by Jonathan Adler (City University New York) with a response by Pascal Engel (University of Geneva). Adler argues that an invariantist account of contextualist cases is preferable to contextualist or pragmatic encroachment accounts. The subject's denial of knowledge in the high-stakes cases is a better explained as a consequence of unavoidable fallibilist policies of prudence and a natural distinction between belief and confidence than along the lines envisaged by the contextualist.

Christoph Kelp
Institute of Philosophy, University of Leuven

Beyond Classical Bayesian Estimation Theory, 6–9 July

The 12th International Conference on Information Fusion (FUSION) was held at the Grand Hyatt Hotel in Seattle at 6-9 July 2009. Here, the Special Session "Beyond Classical Bayesian Estimation Theory" was chaired by Prof. Uwe D. Hanebeck and Vesa Klumpp from the Intelligent Sensor-Actuator Systems Laboratory (ISAS) at the Universität Karlsruhe (TH) in Germany.

Topics of the special session included generalization of Bayesian state estimation and multiple model approaches. It was focused on the combination of Bayesian state es-

timation with imprecise probabilities, the representation of ignorance, and cases where Bayesian estimation theory fails or is diffcult to apply. The special session was organized to lay out new foundations and ideas to estimation theory and tracking, and to build new, interesting, and fruitful relations between both fields. About 50 participants followed the talks held by the authors, which showed high interest in these topics and confirmed the success of this special session. The following invited papers were presented.

Alessio Benavoli, Marco Zaffalon, and Enrique Miranda, "Reliable Hidden Markov Model Filtering through Coherent Lower Previsions." After an introduction to the theory of coherent lower previsions, the authors presented an application to Hidden Markov Models with continuous variables. Based on this, a Bayesian state estimator was derived as special case of this general theory. The proposed approach has been shown to be more robust than the usually applied Kalman filter.

In Benjamin Noack, Vesa Klumpp, and Uwe Hanebeck, "State Estimation with Sets of Densities Considering Stochastic and Systematic Errors," the combination of stochastic and systematic uncertainties within state estimation was considered. This combination leads to sets of probability density functions. As a result, a simple to implement set-valued extended Kalman filter was presented, which allows processing of both kinds of uncertainties with little additional efford compared to the standard extended Kalman filter.

Vesa Klumpp and Uwe Hanebeck, "Bayesian Estimation with Uncertain Parameters of Probability Density Functions" presented a formal framework for the processing of partially unknown densities in a Bayesian estimator. Here, the densities are described by stochastically distributed parameters, i.e., a hierarchical model. The presented approach has the advantage compared to the usual processing of hierarchical densities that the problem can be effciently decomposed into a state space and parameter space part, allowing decoupled solution.

In Alessandro Antonucci, Alessio Benavoli, Marco Zaffalon, Gert de Cooman and Filip Hermans, "Multiple Model Tracking by Imprecise Markov Trees," an application of an algorithm for processing graphical models, i.e., credal networks, which was presented at the ISIPTA'09 conference, to multiple model tracking was shown. A result was that bad estimation quality, or low confidence, leads to multiple possible models, which allows the indication of estimation confidence.

In addition to the main topics of the special session, Lennard Svensson presented his work "Evaluating the Bayesian Cramér-Rao Bound for Multiple Model Filtering," which received the 2nd Best Paper Award. Here, an algorithm for numerical computation of the Bayesian Cramér-Rao Bound for multiple model filtering was presented.

Vesa Klumpp and we D. Hanebeck
Institut für Anthropomatik, Universität Karlsruhe

Converging Technologies, Changing Societies, 7–10 July

This summer, the University of Twente (the Netherlands) hosted the 16th conference of the Society of Philosophy and Technology (SPT). The conference theme 'Converging Technologies, Changing Societies' seemed to be well chosen: for four consecutive days, 250 philosophers, sociologists and engineers debated the increasing convergence of information technology, biotechnology, nanotechnology, and cognitive technologies (also called NBIC technologies), and the implications of this convergence for society. Examples of NBIC technologies are brain-computer interfaces, lab-on-a-chip technologies, nanotechnologies for regenerative medicine, human enhancement, cyborg technologies, and ambient intelligence. In the opening speech, Philip Brey introduced the meaning, significance and scope of the conference theme.

In her presidential address, Diane Michelfelder added to this introduction by picking out some key features of NBIC technologies. The scope of the promises and lively speculations of the technologies and hyper-acceleration of the developments induced by the combination of knowledge and insights were central in her talk.

In the opening panel, Nick Bostrom and Ellen Moors explored with the engineers Peter Apers, Maarten IJzerman, and David Blank the promises of the current and near future NBIC technologies by focussing on several concrete applications that are currently being developed in their laboratories.

Nick Bostrom, the first of the three keynote speakers, placed these developments in the broader picture of evolution and the history of the world to explain that the likely far future of humanity will be post-human. He argued that the converging technologies will alter our bodily and mental capacities to such a huge extent that we will no longer be (biologically speaking) human.

Andrew Feenberg presented ten paradoxes of contemporary technologies, warning us that the implementation of future new technologies will most likely not be a straight forward process. One of the most thought provoking paradoxes was that current values will become the facts of the future: what we now consider to be good or desirable becomes embedded in the design of the technologies, which will then be presented as simple facts in the future.

Jean-Pierre Dupuy critically discussed synthetic biology and human enhancement. He argued that we strive to improve our surrounding world and ourselves by redesigning them, while actually there is no such thing as a design of the world. Since history has shown that redesigning something as contingent as nature is dangerous, we should learn to appreciate the contingent characteristics of human life.

The closing plenary panel—organized by the Rathenau Institute—focussed on the multiple gaps in knowledge, power and effectiveness between the earliest developments of technologies and the philosophical and social reflections on them. Of course, next to contributions related to the conference theme, SPT 2009 welcomed a wide variety of presentations for its plenary and parallel sessions that focussed on contemporary philosophy and technology. Two eye catching new trends were 1) the revived interaction between philosophy of technology and environmental philosophy, and 2) the re-enforced

exchange between philosophy of technology and philosophy of IT.

Katinka Waelbers
Philosophy, University of Twente

Imprecise Probability: Theories and Applications, 14–18 July

The 6th International Symposium on Imprecise Probability: Theories and Applications (ISIPTA'09), held in Durham from 14-18 July 2009, has been a great success. About 75 participants, from all over the world and with many different research backgrounds, discussed the latest advances in imprecise probability, in a pleasant and relaxed atmosphere. 47 papers were presented by a short talk and poster presentation, and 19 poster-only contributions were discussed.

Particular scientific highlights during the conference included further generalizations and weakenings of laws of large numbers, new advances in dynamical systems (including Markov chains and Markov decision processes with imprecision), and differential equations with severe uncertainty about parameter values. A new very efficient algorithm for dealing with imprecise Markov trees was presented. Many other theoretical advances in statistics, inference, reliability, and decision making were discussed. Kurt Weichselberger (Ludwig-Maximilians-University, Munich) reported on some recent developments and applications of his "Symmetric Theory of Probability".

We were also grateful to Teddy Seidenfeld (Carnegie Mellon University, USA) and Thomas Augustin (Ludwig-Maximilians-University, Munich) for organizing special sessions in honour of two of our colleagues who are no longer with us, but whose ideas are still very much alive within the SIPTA community. Teddy Seidenfeld chaired a special session in honour of Henry Kyburg, which was introduced by an inspiring talk by Isaac Levi (Columbia University, USA), entitled "Busting Bayes: Learning from Henry Kyburg". Thomas Augustin introduced a special session in honour of Pauline Coolen-Schrijner, after which three of her students reported research results on Markov chains and nonparametric predictive inference.

Besides talks and posters, four tutorials in various fields of imprecise probability were presented, on the topics of inference, reliability, decision making, and graphical models. These tutorials coincided with the main themes of the conference, and were well received by all participants and were particularly useful for starting PhD students and newer members of our community.

The success of the conference proves that in the 10 years since the first ISIPTA (Gent, 1999), imprecise probability has found a solid place in research on uncertainty quantification. Participants found the meeting pleasant, informative, and beneficial. We hope that the ISIPTA conferences continue to provide a good platform to present and discuss work, and continue to lead to new ideas and collaborations.

ISIPTA'09 was organized by the Society for Imprecise Probability: Theories and Applications (SIPTA), whose aim is to promote the research on imprecise probability, to stimulate applications of imprecise probabilistic methods in increasingly many areas,

and to ensure that new developments and successes are efficiently reported.

Matthias Troffaes and Frank Coolen
Mathematical Sciences, Durham University

Calls for Papers

Essay prize: To the winning paper on philosophy of mind and action, *Philosophical Explorations*, deadline 30 August.
Is Logic Universal?: Special issue of *Logica Universalis*, deadline 31 August.
Robot Ethics and Human Ethics: Special issue of *Ethics and Information Technology*, deadline 1 September.
Logic and Social Interaction: Special issue of *Synthese KRA*, deadline 1 September.
New Worlds of Computation: Special issue of *International Journal of Unconventional Computing*, deadline 1 September.
Psychology and Psychologies: which Epistemology?: Special issue of *Humana.Mente*, deadline 5 September.
Normative Multiagent Systems: Special issue of *Journal of Algorithms in Cognition, Informatics and Logic*, deadline 15 September.
Non-Classical Mathematics: Special issue of *Logic Journal of the IGPL*, deadline 30 November.
Philosophy of Life: An edited volume of unpublished articles, deadline 1 June 2010.
Experimental Philosophy: Forthcoming issue of *The Monist*, deadline April 2011.

§4
What's Hot in ...

We are looking for columnists willing to write pieces of 100-1000 words on what's hot in particular areas of research related to reasoning, inference or method, broadly construed (e.g., Bayesian statistical inference, legal reasoning, scientific methodology). Columns should alert readers to one or two topics in the particular area that are hot that month (featuring in blog discussion, new publications, conferences etc.). If you wish to write a "What's hot in ...?" column, either on a monthly or a one-off basis, just send an email to features@thereasoner.org with a sample first column.

...Logic and Rational Interaction

This Month on Logic and Rational Interaction (`loriweb.org`)

Summertime is conference- and workshop-time, also on `loriweb.org`. In the last week we posted a record number of seven workshop reports. Two of them were joint publications with *The Reasoner*: a report on the Decisions, Games and Logic (DGL) workshop held in Lausanne on June 15–17, and a report written by Dylan Dodd on the Arché Sceptisicm Conference on June 13-14 in St Andrews.

Catarina Dutilh Novaes, Lena Kuzten and Jakub Szymanik have respectively reported on the first three meetings of Amsterdam-based reading group "Bringing Logic to the Lab," where they have discussed papers by A. Pietarinen, A.Weber and L.Flobbe et al., and M. van Lambalgen.

Still in Amsterdam, Lena Kurzen and Fernando Velazquez have written a report of their season-closing Mini-Workshop of the Dynamics Seminar, where phd students, postdocs and visitors of the ILLC have presented recent work.

Finally, in connection with the DGL workshop already mentioned, we posted a special report of the P. van Emde Boas Swap Session, where participant were paired and asked to present each other's work! On the announcement side, we were pleased to release the first call for proposals of two summer schools: ESSLLI'10 in Copenhagen and the revival in 2010 of its North-American counterpart, NASSLLI, to be held in Bloomington next year.

Summer traveling is no excuse not to stay in touch with `loriweb.org`: you can register to the newsletter, or to our RSS feed. Please visit the website for more details. I finally remind you that we welcome any contributions relevant to our theme, and that we are also constantly looking for new collaborators. If you would like to join the team, of if you have information to share with the broader research community, please do not hesitate to contact our web manager, Rasmus Rendsvig.

Olivier Roy
Philosophy, Groningen

§5
Introducing . . .

In this section we introduce a selection of key terms, texts and authors connected with reasoning. Entries will be collected in a volume *Key Terms in Logic*, to be published by Continuum. If you would like to contribute, please click here for more information. If you have feedback concerning any of the items printed here, please email features@thereasoner.org with your comments.

Chrysippus

The Greek philosopher Chrysippus of Soli (280–206 B.C.) was one of the founders of Stoicism. A pioneer of propositional logic, he has been credited with the first account of disjunction.

Although Chrysippus was a prolific author, none of his works survive: his views must be reconstructed from commentary by his critics. His lasting memorial may be 'Chrysippus's Dog', a thought experiment concerning the logical capacities of animals. Imagine a dog tracing a scent to a crossroads, sniffing all but one of the exits, and then proceeding down the last without further examination. According to Sextus Empiricus, Chrysippus argued that the dog effectively employs disjunctive syllogism, concluding

that since the quarry left no trace on the other paths, it must have taken the last. The story has been retold many times, with at least four different morals:

1. dogs use logic, so they are as clever as humans;
2. dogs use logic, so using logic is nothing special;
3. dogs reason well enough without logic;
4. dogs reason better for not having logic.

The third position is perhaps Chrysippus's own. A legend of Chrysippus's death continues the animal theme: he is said to have died laughing as a drunken donkey tried to eat figs.

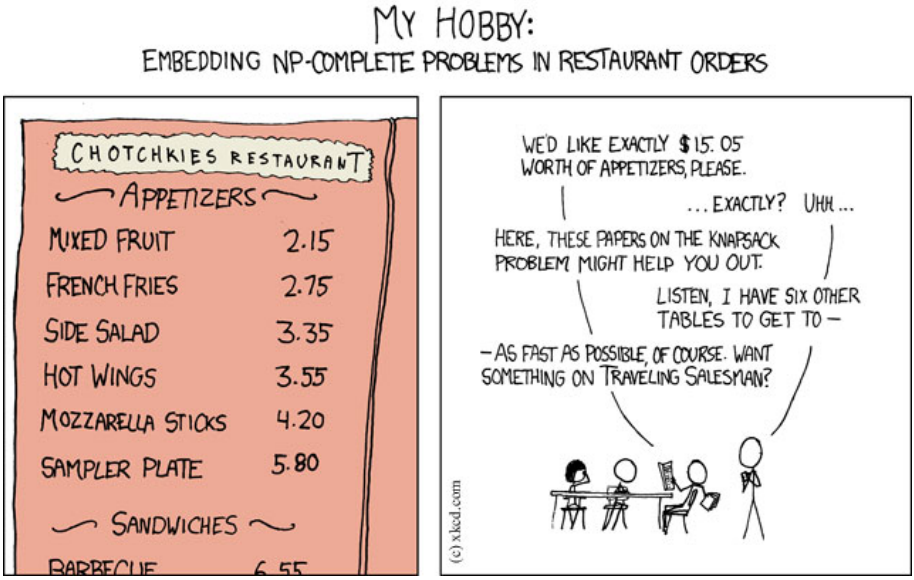
Andrew Aberdein
Department of Humanities and Communication, Florida Institute of Technology

Logical Foundations of Probability, Rudolf Carnap

This book presents Carnap's views on confirmation, induction and the concepts of logical and frequentist probability. Its central tenets are that all inductive inference is probabilistic, that the required concept of probability derives from logical relations between evidence and hypotheses, and that inductive inferences are therefore analytic. The book laid the groundwork for quantitative inductive logic in the second half of the 20th century.

The book starts with a description of the problem, and of Carnap's philosophical methodology of concept explication. Then two distinct notions of probability are introduced, logical probability pertaining to confirmation, and factual probability pertaining to long-run relative frequency. Subsequently the language systems of deductive logic are introduced to furnish inductive logical systems, and a general characterisation of the problem of inductive logic is given. This leads to the development of regular c-functions, which express the confirmation of hypotheses by evidence as a partial entailment, in analogy to deductive entailment, and the measure r, which expresses relevance relations between evidence and hypotheses. The functions c and r are shown to capture a pre-theoretical notion of comparative and qualitative confirmation. The book then deals with the class of symmetric c-functions, which are invariant under permutations of terms in the language. Finally, c-functions are shown to perform the same function as estimators in classical statistics. An appendix introduces to the confirmation function c^*, which forms the basis for much of the later work in inductive logic.

Carnap wrote a separate treatise on quantitative inductive systems like c^* (1952: *The Continuum of Inductive Methods*). An influential but contentious criticism of Carnap's programme was mounted by Goodman (1955: *Fact, Fiction, and Forecast*). An



overview of the inductive logic initiated by Carnap is *Studies in Inductive Logic and Probability*, by Carnap and Jeffrey (1980).

Jan-Willem Romeijn
Philosophy, Groningen

§6
Events

August

Naturalism and Hume's Philosophy: Hume's Contribution to the Development of Modern Science, Halifax, Nova Scotia, Canada, 2–6 August.
CADE-22: 22nd International Conference on Automated Deduction, McGill University, Montreal, 2–7 August.
Logic and Mathematics: University of York, 3–7 August.
Mathematical Sciences & Philosophy in the Mediterranean & the East: Symposium in Honor of Prof. Chikara Sasaki, Kamena Vourla, Greece, 4–8 August.
Science in Society: University of Cambridge, UK, 5–7 August.
The Skeptic's Toolbox: The Scientific Method: Annual Conference of the Committee for Skeptical Inquiry, University of Oregon, 6–9 August.
The Effect of Causality: State of the Art, Open Problems, and Future Directions: KNAW Colloquium on Causality, Amsterdam, 7–8 August.

Meaning, Understanding and Knowledge: 5th Symposium of Cognition, Logic and Communication, Riga, Latvia, 7–9 August.
ICAINN: International Conference on Artificial Intelligence and Neural Networks, Beijing, China, 8–11 August.
Model Theory: The Banach Center, Bedlewo, Poland, 9–14 August.
Language and World: 32nd International Wittgenstein Symposium, Kirchberg am Wechsel, Lower Austria, 9–15 August.
LCC: 10th International Workshop on Logic and Computational Complexity, Los Angeles, 10 August.
LICS: Logic in Computer Science, Los Angeles, 11–14 August.
ISPC: International Society for Philosophy of Chemistry Summer Symposium, Philadelphia, 13-15 August.
Probability and Stochastic Processes: Isfahan University of Technology, Iran, 14–15 August.
Constructivism in Practical Philosophy: University of Sheffield, 14–16 August.
FSKD: 6th International Conference on Fuzzy Systems and Knowledge Discovery, Tianjin, China, 14–16 August.
ICNC: The 5th International Conference on Natural Computation, Tianjin, China, 14–16 August.
Responsible Belief in the Face of Disagreement: VU University Amsterdam, the Netherlands, 18–20 August.
CCA: 6th International Conference on Computability and Complexity in Analysis, Ljubljana, Slovenia, 18–22 August.
ASAI: X Argentine Symposium on Artificial Intelligence, Mar del Plata, Argentina, 24–25 August.
Concept Types and Frames in Language, Cognition, and Science: Universität Düsseldorf, Germany, 24–26 August.
Mal'tsev Meeting: International conference on algebra, mathematical logic, and applications, Novosibirsk, Russia, 24–28 August.
ICSO: Issues in Contemporary Semantics and Ontology, Buenos Aires, 26–28 August.
LGS6: Logic, Game Theory, and Social Choice 6, Tsukuba Center for Institutes, Japan, 26–29 August.
ABC:MI: 6th Workshop on Agent Based Computing: from Model to Implementation, Patras, Greece, 27–29 August.
EANN: Artificial Neural Networks in Engineering, University of East London, 27–29 August.
Networks, Markets and Organizations: University of Groningen, The Netherlands, 27–29 August.
PASR: Philosophical Aspects of Symbolic Reasoning in Early Modern Science and Mathematics, Ghent, Belgium, 27–29 August.
ESPP: 17th Annual Meeting of the European Society for Philosophy and Psychology, Central European University, Budapest, 27–30 August.
Practice-based Philosophy of Logic and Mathematics: ILLC, Amsterdam, 31 August–2 September.

Systems Research: Lessons from the Past - Progress for the Future: St Anne's College, Oxford University, UK, 1–2 September.
Foundations of Uncertainty: Probability and Its Rivals, Villa Lanna, Prague, Czech Republic, 1–4 September.
Trends in Logic VII: Trends in the Philosophy of Mathematics, Goethe-University Frankfurt, 1–4 September.
NZSA: New Zealand Statistical Association Conference 2009, Victoria University of Wellington, 2–3 September.
WNPDE: Workshop in Nonlinear Elliptic PDEs, Université Libre de Bruxelles, Belgium, 2–4 September.
SOPHA: Triannual congress of the SoPhA, the Société de Philosophie Analytique, University of Geneva, 2–5 September.
The Berlin Group: Knowledge, Probability, Interdisciplinarity: Paderborn, Germany, 3–5 September.
CMM: Centre for Metaphysics and Mind Graduate Conference, University of Leeds, 4 September.
Conditionals and Conditionalization: Centre for Logic and Analytic Philosophy, Institute of Philosophy, University of Leuven, Belgium, 4–6 September.
Mathematics, Physics and Philosophy: in the Interpretations of Relativity Theory, Budapest, 4–6 September.
Naturalism and the Mind: Kazimierz Dolny, Poland, 4–8 September.
Agency and Control: Psychological and Philosophical Perspectives: Behavioural Science Institute, Radboud University Nijmegen, 7 September.
CSL: 18th EACSL Annual Conference on Computer Science Logic, Coimbra, Portugal, 7–11 September.
MALLOW: Multi-Agent Logics, Languages, and Organisations Federated Workshops, Torino, Italy, 7–11 September.
Statistics in a Changing Society: RSS Annual Conference, Edinburgh, 7–11 September.
UC: 8th International Conference on Unconventional Computation, Ponta Delgada, Portugal, 7-11 September.
OR51 Annual Conference: University Warwick, 8–10 September.
CLIMA: 10th International Workshop on Computational Logic in Multi-Agent Systems, Hamburg, Germany, 9–10 September.

Mechanisms and Causality in the Sciences

University of Kent, Canterbury, UK, 9–11 September

Phloxshop II: Humboldt-Universität, Berlin, 9–11 September.
MATES: Seventh German Conference on Multi-Agent System Technologies, Hamburg, Germany, 9–11 September.
Ecos de Darwin: São Leopoldo, state of Rio Grande do Sul, Brazil, 9–12 September.
Darwin's Impact on Science, Society and Culture: Braga, Portugal, 10–12 September.
MOCA: 5th International Workshop on Modelling of Objects, Components, and Agents, Hamburg, Germany, 11 September.

METACOGNITION, BELIEF CHANGE AND CONDITIONALS: Department of Philosophy and Institute for Advanced Studies, University of Bristol, 11–12 September.
FICS: 6th Workshop on Fixed Points in Computer Science, Coimbra, Portugal, 12–13 September.
MoS: Grand Finale Conference of the Metaphysics of Science AHRC Project, Nottingham, 12–14 September.
INCARNATION: PERSPECTIVES FROM THE PHILOSOPHY OF MIND: University of Oxford, 14–16 September.
S.Co.: Complex Data Modeling and Computationally Intensive Statistical Methods for Estimation and Prediction, Politecnico di Milano, Italy, 14–16 September.
THE NEW ONTOLOGY OF THE MENTAL CAUSATION DEBATE: Old Shire Hall, Durham University, 14–16 September.
GAP.7: 7th International Conference of the Society for Analytic Philosophy, Bremen, 14–17 September.
ISMIS: The Eighteenth International Symposium on Methodologies for Intelligent Systems, University of Economics, Prague, Czech Republic, 14–17 September.
ESSA: 6th European Social Simulation Association Conference, University of Surrey, Guildford, 14–18 September.
LPNMR: 10th International Conference on Logic Programming and Nonmonotonic Reasoning, Potsdam, Germany, 14–18 September.
SASO: 3rd IEEE International Conference on Self-Adaptive and Self-Organizing Systems, San Francisco, California, 14–18 September.
KI: 32nd Annual Conference on Artificial Intelligence, Paderborn, Germany, 15–18 September.
WI-IAT: IEEE/WIC/ACM International Conferences on Web Intelligence (WI'09) and Intelligent Agent Technology (IAT'09), Milano, Italy, 15–18 September.
COMPLEX SYSTEMS AND CHANGES: Darwin and Evolution: Nature-Culture Interfaces, Sant Feliu de Guixols, Spain, 15–20 September.
ARTIFICIAL BY NATURE: 4th International Plessner Conference, Erasmus University, Rotterdam, 16–18 September.
FROCOS: Frontiers of Combining Systems, Trento, Italy, 16–18 September.
HISTORY OF STATISTICS AND PROBABILITY: Santiago de Compostela, Galicia, Spain, 17–18 September.

PROGIC

4th Workshop on Combining Probability and Logic, special focus: new approaches to rationality in decision making,
Groningen, The Netherlands, 17–18 September

REDUCTIONISM, EXPLANATION AND METAPHORS IN THE PHILOSOPHY OF MIND: Universität Bremen, 17–18 September.
FORECASTING & TIME SERIES PREDICTIONS WITH ARTIFICIAL NEURAL NETWORKS: Wallenberg Centre, Institute of Advanced Study Stellenbosch University, South Africa, 17–19 September.
LOGIC, LANGUAGE, MATHEMATICS: A Philosophy Conference in Memory of Imre Ruzsa, Budapest, 17–19 September.

Evolution, Cooperation and Rationality: Bristol, 18–20 September.
ICAPS: 19th International Conference on Automated Planning and Scheduling, Thessaloniki, Greece, 19–23 September.
Applied Statistics: Ribno (Bled), Slovenia, 20–23 September.
The Social Self: Summer School in Neuroscience and Philosophy of Mind, Alghero, Sardinia, Italy, 20–27 September.
ECCS: European Conference on Complex Systems, University of Warwick, 21–25 September.
Philosophy of Probability Mini Conference: Faculty of Philosophy, University of Oxford, 24–25 September.
International Darwin Conference: Norcroft Centre, University of Bradford, 24–26 September.
Humanities and Technology Annual Conference: Special Topic: Technology, Democracy, and Citizenship, University of Virginia, 24–26 September.
Conversations on Method in Practical Philosophy: University of Bern, 25–26 September.
LACSI: The Logic and Cognitive Science Initiative Conference on Ontology, North Carolina State University, 25–26 September.
SYNASC: 11th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, Timisoara, Romania, 26–29 September.
Cognitive Approaches to Philosophy of Science and Technology: NFWT Workshop, Ravenstein, The Netherlands, 28–29 September.
ICTCS: 11th Italian Conference on Theoretical Computer Science, Cremona, Italy, 28–30 September.
KES: Knowledge-Based and Intelligent Information & Engineering Systems, Santiago, Chile, 28–30 September.
Philosophy for Science in Use: Scandic Linköping Väst, Sweden, 28 September – 2 October.
ASCS: The 9th conference of the Australasian Society for Cognitive Science, Macquarie University, Sydney, 30 September – 2 October.

October

Amsterdam Graduate Philosophy Conference: Universiteit van Amsterdam, 1–3 October.
Joint Attention: Developments in Developmental and Comparative Psychology, Philosophy of Mind, and Social Neuroscience, Bentley University, Greater Boston, 1–4 October.
Buffalo All X-Phi Weekend: University at Buffalo, 2–3 October.
Paradigms of Model Choice: 3rd Young European Statisticians Workshop, Eindhoven, NL, 5–7 October.
IC3K: International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, Madeira, Portugal, 6–8 October.
The Normativity of Belief and Epistemic Agency: Instituto de Investigaciones Filosóficas, UNAM, México City, 8–9 October.

A Priori Workshop: University of Nottingham, 9 October.
Hugh MacColl Centenary: Boulogne sur Mer, 9–10 October.
Boulder Conference on the History and Philosophy of Science: University of Colorado at Boulder, 9–11 October.
MWPMW 10: 10th annual Midwest PhilMath Workshop, University of Notre Dame, 10–11 October.
EPIA: 14th Portuguese Conference on Artificial Intelligence, Universidade de Aveiro, Portugal, 12–15 October.
Linguistic Intuitions Workshop: Oslo, 15–16 October.
Case Studies of Bayesian Statistics and Machine Learning: Carnegie Mellon University, Pittsburgh, PA, 16–17 October.
The Background of Institutional Reality: Inaugural Meeting of the European Network on Social Ontology, University of Constance, Germany, 16–17 October.
Philosophy of Medicine Roundtable: EIPE, Erasmus University Rotterdam, The Netherlands, 19–20 October.
Breaking Down Barriers: Blackwell Compass Interdisciplinary Virtual Conference, 19–30 October.
P-NPMW: Paris-Nancy PhilMath Workshop, Nancy, 21–22 October.
EPSA: 2nd Conference of the European Philosophy of Science Association, 21–24 October.
Understanding Mental Disorders: 12th International Conference for Philosophy and Psychiatry, Lisbon, Portugal, 22–24 October.
Judgement and Truth in Early Analytic Philosophy and Phenomenology: University of Zürich, 23–25 October.
RR: Third International Conference on Web Reasoning and Rule Systems, Chantilly, Virginia, USA, 25–26 October.
Law and Neuroscience: Acquafredda di Maratea, Italy, 26–31 October.
Constructive Mathematics: Workshop and AMS Special Session, Florida Atlantic University, 28 October - 1 November.
Computing & Statistics: Cyprus, 29–31 October.
Darwin Conference: Chicago, Illinois, 29–31 October.
Knowledge and Performance in the Perception of Objects and Living Beings: ZiF, Bielefeld, Germany, 29–31 October.
Language, Epistemology and History: 2nd SIFA Graduate Conference, Bologna, Italy, 29–31 October.

November

Darwin in the 21st Century: Nature, Humanity, and God: University of Notre Dame, Indiana, USA, 1–3 November.
ACML: 1st Asian Conference on Machine Learning, Nanjing, China, 2–4 November.
ICMI-MLMI: 11th International Conference on Multimodal Interfaces and Workshop on Machine Learning for Multi-modal Interaction, Boston, 2–6 November.
Logic, Epistemology, and Philosophy of Science: Universidad de los Andes, Bogotá, Colombia, 4–6 November.

AAAI: Fall Symposium on Complex Adaptive Systems, Arlington, VA, 5–7 November.
RuleML: 3rd International Symposium on Rules, Applications and Interoperability, Las Vegas, Nevada, USA, 5–7 November.
AICI: Artificial Intelligence and Computational Intelligence, Shanghai, China, 7–8 November.
Arché Graduate Conference: CSMN, University of St Andrews, 7–8 November.
Epistemology, Context, and Formalism: Université Nancy 2, France, 12–14 November.
SPS: Science and Decision, Third Biennial Congress of the Societe de Philosophie des Sciences, Paris, 12–14 November.
M4M-6: 6th Workshop on Methods for Modalities, Copenhagen, Denmark, 12–14 November.
ICITE: International Conference on Information Theory and Engineering, Kota Kinabalu, Malaysia, 13–15 November.
VI Conference: Spanish Society for Logic, Methodology and Philosophy of Science, Valencia, Spain, 18–21 November.
LENLS: Logic and Engineering of Natural Language Semantics,Campus Innovation Center Tokyo, Minato-ku, Tokyo, 19–20.
Extended Mind: ZiF, University of Bielefeld, 23–25 November.
Knowledge, Value, Evolution: An international conference on cross-pollination between life sciences and philosophy, Prague, 23–25 Novermber.
NDNS+: Statistics and the Life Sciences: High-dimensional inference and complex data, Groningen, 23–25 November.
Spatial and Network Analysis in Qualitative Research: European University Cyprus, Nicosia, 25–27 November.
Cognitive Systems and the Extended Mind: Institute of Cognitive Science, University of Osnabrueck, 26 November.
ISKE: The 4th International Conference on Intelligent Systems & Knowledge Engineering, Hasselt, Belgium, 27–28 November.

December

Human Nature, Artificial Nature: Genoa, Italy, 3–4 December.
(Dis)Entangling Darwin:Cross-Disciplinary Reflections on the Man and his Legacy: University of Porto, Portugal, 4–5 December.
MindGrad: Graduate Conference in the Philosophy of Mind, University of Warwick, 5–6 December.
ICDM: The 9th IEEE International Conference on Data Mining, Miami, 6–9 December.
Interpretation and Sense-Making: University of Rouen, France, 9–11 December.
NaBIC: World Congress on Nature and Biologically Inspired Computing, Coimbatore, India, 9–11 December.
Emergence and Reduction in the Sciences: 2nd Pittsburgh-Paris Workshop, Center for Philosophy of Science, University of Pittsburgh, 11–12 December.
Subjective Bayes: CRiSM, University of Warwick, 14–16 December.
FIT: International Conference on Frontiers of Information Technology, Abbottabad, Pakistan, 16–18 December.

Seventeenth Amsterdam Colloquium: University of Amsterdam, 16–18 December.
MBR: Abduction, Logic, and Computational Discovery, Campinas, Brazil, 17–19 December.

§7
Courses and Programmes

Courses

Analysis of Causal Effects with EffectLite, LISREL and/or Mplus: KNAW Masterclass on Causal Modelling, Amsterdam, 5–6 August.
USMS: Utrecht Summer School in Mathematical Sciences on Dynamical Systems and their Applications, University of Utrecht, 17–28 August.
ACAI: Advanced Course in Artificial Intelligence, School of Computing and Mathematics, University of Ulster, Northern Ireland, 23–29 August.
Fourth Cologne Summer School: Reliabilism and Social Epistemology: Problems and Prospects, Cologne, 24–28 August.
Small Area Estimation: Department of Statistics, Waikato University, NZ, 28 August.
EASSS: European Agent Systems Summer School, University of Torino, Italy, 31 August – 4 September.
Quantifying and Evaluating Forensic Evidence: Postgraduate Statistics Centre, Lancaster University, 24–25 September.
Statistical Learning and Data Mining III: Danube University Krems - Audimax, Krems / Donau, Austria, 25–26 September.
Small Area Estimation: Southampton Statistical Sciences Research Institute, 12–14 October.
Cluster Randomised Trials: University of Auckland, New Zealand, 25–26 November.
ISLA: 3rd Indian School on Logic and its Applications, University of Hyderabad, Gachibowli, India, 18–29 January.
Advanced Small Area Estimation: Southampton Statistical Sciences Research Institute, 15–16 February.

Programmes

HPSM: MA in the History and Philosophy of Science and Medicine, Durham University.
Master Programme: Philosophy of Science, Technology and Society, Enschede, the Netherlands.
MA in Metaphysics, Language, and Mind: Department of Philosophy, University of Liverpool.
MA in Rhetoric: School of Journalism, Media and Communication, University of Central Lancashire.
MSc in Mathematical Logic and the Theory of Computation: Mathematics, University of Manchester.

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

MA in Reasoning

An interdisciplinary programme at the University of Kent, Canterbury, UK. Core modules on logical, causal, probabilistic, scientific, mathematical and machine reasoning and further modules from Philosophy, Psychology, Computing, Statistics, Social Policy and Law.

MSc in Cognitive & Decision Sciences: Psychology, University College London.
MSc in Cognitive Science: University of Osnabrück, Germany.
MSc in Philosophy of Science, Technology and Society: University of Twente, The Netherlands.
Master of Science: Logic, Amsterdam.
APTS: Academy for PhD Training in Statistics, University of Warwick.

§8
Jobs and Studentships

Jobs

Post-doc position: in Philosophy of Science and Epistemology, University of Vienna, deadline 2 August.
Post-doc position: within the AHRC "Culture and the Mind" project, Philosophy, University of Sheffield, deadline 7 August.
Full Professorship: in Theoretical Philosophy, Eberhard-Karls-Universität Tübingen, Germany, deadline 9 August.
Readership: in Mathematical Logic, Mathematical Institute, University of Oxford, deadline 17 August.
Two Post-doc positions: to work on "Epistemology of the Large Hadron Collider", University of Wuppertal, Germany, deadline 1 September.
Assistant Professor: AOS: Epistemology and Philosophy of Logic, AOC: Philosophy of Language, Old Dominion University, Virginia, deadline 15 September.
Visiting International Fellowship: Department of Sociology, University of Surrey, Guildford, deadline 30 September.
Post-doc positions: Instituto de Investigaciones Filosóficas, UNAM, Mexico, deadline 10 October.
Hans Rausing Professorship: of History and Philosophy of Science, University of Cambridge, deadline 30 October.
Templeton Research Fellowship: for the year 2010–2011, Oxford University, deadline 19 November.

Studentships

PhD Studentship: 3-year AHRC studentship in the Foundations of Logical Consequence project, University of St Andrews, until filled.

PhD Studentships: in Complexity Science, EPSRC Complexity Science Doctoral Training Centre, University of Warwick.
PhD Scholarship: in Computer Science and Economics, to work on the project "Epistemic states, trust and responsibility of economical agents: from theoretical aspects to experimental studies", Toulouse.
Assistant/Pre-Doc position: in Philosophy of Science and Epistemology, University of Vienna, deadline 2 August.
PhD position: for research on "A Pragmatic Theory of Scientific Explanation", Ghent University, Belgium, deadline 20 August.
PhD Studentship: "Online Statistical Monitoring and Anomaly Detection in Social Networks", Department of Mathematics, Imperial College London, deadline 28 August.
PhD Studentship: "Coherence-based Reasoning in Medical Diagnosis", Medical Decision Making & Informatics Research Group, King's College London, 31 August.
Two PhD Studentships: in the areas of Perception and Philosophy of Mind, within the AHRC project "The Nature of Phenomenal Qualities", University of Hertfordshire, deadline 4 September.
PhD Studentship: in the Vidi project "A formal analysis of social procedures", Department of Philosophy and Tilburg Center for Logic and Philosophy of Sciences, deadline 15 October.