THE REASONER

CONTENTS

§1
EDITORIAL

For most readers of *The Reasoner*, it is indisputable that philosophy has to do above all with arguing, with elaborating and tackling problems, and that it bears a strong connection with logic. Of course, *Reasoner*'s readers know that this conception of philosophical undertaking has not been dominant always and everywhere, but most often readers will have not have experienced much opposition of styles in philosophizing. Such oppositions, however, have been and still are very vivid in France. For this reason, when Federica and Jon asked me to prepare an interview for *The Reasoner*, I thought that it would be a good idea to focus on this issue and to ask Jacques Dubucs how things were in this respect when he started philosophy, and how the situation then compares with the situation now. Indeed, Jacques Dubucs received a traditional French education in the 1970s, and has become an analytic philosopher. Also (if I may) he is the one that really got me interested in philosophy and in doing a PhD—under his supervision. I am always happy to talk with him, but it has been difficult lately because he has been very busy. So thanks, *The Reasoner*, for this meeting! Before turning to the interview, let me just mention that we did it in French, and that I translated it afterwards, with Federica's kind help.

Isabelle Drouet
IHPST, Paris I

Interview with Jacques Dubucs

Jacques Dubucs is a senior researcher of the CNRS at the IHPST, Paris. His work focuses on logic, maths and cognitive sciences. He has led the IHPST for eight years, ending last month. For one year, he has been scientific director of the department "Human and Social Sciences" at the Ministry of Higher Education and Research.

Isabelle Drouet: Good evening Jacques. And thanks a lot for having agreed to be interviewed for *The Reasoner*. Can you first tell us what initially brought you into philosophy, and more specifically into the kind of philosophy that you are doing?

Jacques Dubucs: Let me first take up the former question, the second one being far more difficult.
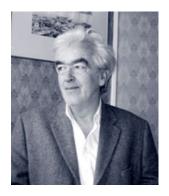
ID: So, are there problems, books, or people that led you to study philosophy, or to work as a philosopher?

JD: Well, for as long as I can remember, this is what I wanted to do. I used to read books, when I was still very young, in particular Koyré's *Études galiléennes*. I was 14 or 15.

ID: Ok. And what made you choose the kind of philosophy you actually chose, I mean analytic philosophy?

JD: When I was in *khâgne* [this is the kind of class you can go to after high school which prepares you to take French Grandes Écoles entrance exams], I realized that the dominant way to put philosophical questions in French academia was historical—or, more precisely, Hegelian. The canonical exercise, called *dissertation*, was (and still remains) almost explicitly ternary: you construct a position, then you destroy it, and finally comes the *Aufhebung*, the moment when you find the initial position back, but at a superior level. I can remember having strongly felt the vanity of this approach when I was preparing the *agrégation* [this is the exam you have to take in France

formally to be able to teach in high school], on the occasion of someone presenting a lesson on induction following this canon. And there was this obsession with contextualization. Whatever the question you considered, you wanted to know in which historical context it was produced; any attempt to answer it seriously, to make it an object of knowledge, was taken as naivety. Take Foucault, for instance. He has spread the idea that it is impossible to make sense of a problem outside a certain *épistémè*, and this is conceived as a theoretical platform that is incommensurable with other theoretical platforms. If you think about philosophers who have made room for historical considerations, think of Aristotle for instance, you can see that their inquiry *starts* with a review of existing opinions. But what you find in France today is that this historical inquiry is not followed by a systematic and analytic inquiry: people consider that the historical inquiry alone does the job. I think that another of the reasons why I opposed this approach has to do with the fact that I have done other things than philosophy, especially maths.

ID: Can we go back to more specific considerations? If I remember correctly, you studied with Jean-Toussaint Desanti?

JD: Not initially. As most of the logicians and analytic philosophers of maths of my generation, I was trained by Roger Martin. He ran a seminar in logic in the 1970s. The kind of approaches we favoured were really a minority: during that period philosophy became political. And in this group there was Jean van Heijenoort, who had been Trotsky's bodyguard and secretary. He then converted to philosophy, critical rationalism and logic. He encouraged me to work on Herbrand. But Herbrand's work is very difficult and I decided not to conduct the kind of critical edition work to which he encouraged us, but to work on Hilbert's program. The atmosphere of this seminar was very peculiar, very isolated, evoking the isolation you have in monastic life. It was like on the pediment of this seminar were written "Mathematicians must be able to agree with everything you say". This is an absolutely unquestionable principle, but people ended up thinking it was a sufficient condition, with consequences such as modal logic, and more generally philosophical logic, not having currency in a university like Paris 1. It was only when I came back from Morocco [where he taught maths at the *École Normale Supérieure* in Rabat], in 1985, that I introduced modal logic into the degree. And, to come back to your question on Desanti, he did not supervise my *thèse de troisième cycle* [today's PhD], but only my *doctorat d'État* [the doctorate that people presented after the *thèse de troisiéme cycle* until the mid 1980s], and this only after Roger Martin's death.

ID: And can you tell me a bit more about the recent situation of logic in France?

JD: It is very particular, but not very sound. First there was bad luck, this is well-known, Herbrand [who died accidentally in 1931 at the age of 23], Cavaillès [who was shot in 1944 at the age of 40] .... But there is also the fact that in no other place in the world is the division between maths, artificial intelligence and philosophy as strict as it is in France. We should try to

go towards something like the ILLC in Amsterdam.

ID: And, still concerning the opposition between different ways of doing philosophy, especially in France, would you say that things are now going better than when you started in the academic world?

JD: No, definitely not, it got worse. For 15 years now, we have witnessed a growing, and now nearly finished, process of literaturization of the philosophical undertaking. The only people that have been exempt from this are the young generation which has somehow been trained on the international scene and/or in contact with other traditions. The strength and impact of the process I am talking about have several explanations. Very roughly, firstly is the persistence of the reference to the *maîtres du soupçon*, those who ask where you talk from, rather than whether what you say is true. Secondly there are institutional circumstances, unfortunate but also extremely enduring and efficient. Specifically, there is the grouping together, in one and the same section of the CNRS [National Center for Scientific Research] of people in literature and in philosophy. This has had disastrous consequences, based on the following syllogism: 1) literature within the CNRS can only be *history* of literature, 2) since it is in the same panel, philosophy has to follow the same kind of functioning and methodology as literature, therefore 3) philosophy becomes a mere question of historical "textualities".

ID: In this context, what do you tell people who would like to engage into a PhD? In particular, what kind of questions would you, if at all, recommend them?

JD: I never encourage students to engage into PhDs, specifically in philosophy. Some reasons have to do with employment considerations, the others I take to be as almost ethical. I agree with Quine on the ravages of opulence: living and, in a certain sense, authentic philosophy tends to develop over a background of austerity and extreme motivation. For those who are extremely motivated and who actually engage in PhDs, I very strongly encourage working on the ridge between formal methods on the one hand and conceptual thinking and/or empirical data on the other hand. In sensible academic configurations, philosophers thus oriented should play an immense role in the perspective of reconciling what they (inadequately) call "the two cultures", humanities and sciences. To me, it is very important both to have the capacity to continue conceptual thinking with formal means and to keep an eye on what formalisms formalize, to be able to refer in a fresh way to the nature of what formalization aims at describing. In this perspective, I think that works on economics, interaction, cooperation, or in decision theory, are very promising. To my mind, such topics should occupy the foreground of the philosophical scene. And, obviously, to fully develop, works on these topics should preferably take place in a pluri-disciplinary academic context. I often dream of the vibrant atmosphere of Twar-

dowski's seminar in Poland at the beginning of the 20th century, when philosophers, mathematicians, philologists were working in close collaboration—in fact, I can say now that it has been my inner model and guideline all the time I led the IHPST.

Did Euler's '2' refer to ZFC's {∅, {∅}}?

Mainstream mathematics is usually given a foundation of Zermelo-Fraenkel set theory with an axiom of Choice (ZFC), within which '2' usually refers primarily to {∅, {∅}}. So arithmetic is usually reduced in that way to set theory, not least by those who don't want their ontology to include *sui generis* natural numbers, as well as sets. Could such reductionists take most mathematicians, past and present, to have been referring to ZFC's {∅, {∅}} with their '2's? Although I think not, as follows, the answer is 'yes' according to Alexander Paseau (2009: 'Reducing Arithmetic to Set Theory,' in Otávio Bueno and Øystein Linnebo, *New Waves in Philosophy of Mathematics*, Palgrave Macmillan, pp. 35–55). In support of the answer 'yes' we were given the following analogy by Paseau (2009: p. 42): 'When the ancient Greeks spoke about the sun, they spoke, unknowingly, about a hydrogen-helium star that generates its energy by nuclear fusion.'

By contrast, anyone taking 'say, a carrot to be the referent of "2" in Euler's mouth' should, according to Paseau (2009: p. 43), 'be an error theorist about Euler's claims involving "2".' Now, that would mean taking too many of Euler's words to be untrue, according to Hartry Field (2001: *Truth and the Absence of Fact*, Clarendon Press, p. 214). But our 'less eccentric reductionists need not interpret Euler's arithmetical claims error-theoretically and may respect his intended truth-values,' according to Paseau (2009: p. 43). Indeed, such reductionists could take that view even if '2' referring to ZFC's {∅, {∅}} was not so much a discovery about 2 as a technical convention, according to Paseau (2009: p. 38). But suppose, for another analogy, that some chromatographers took 'orange' to refer to wavelengths of light within some definite range, in order to avoid vagueness and because such a stipulation was sufficient for their scientific needs. They would surely need further reasons to take us to be referring to such wavelengths with *our* uses of 'orange'. So I think that, similarly, if our less eccentric reductionists have not so much discovered the referent of '2' as accepted a technical convention, then they should not be taking our '2's—nor Euler's— to be referring to ZFC's {∅, {∅}}.

For a more eccentric analogy, let a family of cooks be introduced to the meaning of 'orange' by means of some carrots imported into their rather dull country. And suppose those cooks want to refer only to ordinary objects, not to such things as properties, which seem to them hardly things at all. So they reduce talk of orange

things to talk of carrots. They would of course be wrong to take us to be referring to their carrots with our uses of 'orange'. Indeed, we aren't even referring rigidly to the colour of their carrots, which might turn yellow.

In view of the way things are—e.g., the cells of the human retina—it would clearly be more realistic to reduce the secondary colour orange to the two primary colours red and yellow. And to do something similar for the referent of '2' would take us, not to ZFC, but to psychology. So, what do most of us—what did Euler—mean by '2'? Well, surely the primary definition is 2 = 1 + 1, because we all learnt the meaning of '2' by being shown pairs of things. Similarly, we learnt the meaning of 'orange' by being shown various orange things. So it seems that, much as shapes and colours are properties of ordinary objects, the natural numbers are basically properties of finite collections. (And what is *sui generis* is not so much the natural numbers as the logical possibility of an additional logical object.)

The obvious question is could such properties of collections be collections? Well, there is a philosophical tradition of reducing properties (e.g., orange) to collections (the class of all orange things). But there is also a well-known problem with reducing 2 to the class of all pairs. Set-theoretic paradoxes show that such classes are indefinitely extensible. So, there being no set of all pairs to reduce 2 to, our reductionists reduce 2 to a particular pair. And not being eccentric, they don't reduce it to a pair of carrots, but to something more abstract.

However, it is not so much a discovery as a convenience to use ZFC's $\{\emptyset, \{\emptyset\}\}$. That another possible reduction was to $\{\{\emptyset\}\}$ was famously noted by Paul Benacerraf (1965: 'What Numbers Could Not Be,' *Philosophical Review*, 74, pp. 4773). And while there are mathematical reasons for preferring $\{\emptyset, \{\emptyset\}\}$ to $\{\{\emptyset\}\}$—e.g., see Eric Steinhart (2002: 'Why Numbers Are Sets,' *Synthese*, 133, pp. 343–361)—there are also mathematical reasons for adding an axiom of Determinacy to ZFC, e.g. see Peter Koellner (2009: 'Truth in Mathematics: The Question of Pluralism,' in Bueno and Linnebo, *New Waves in Philosophy of Mathematics*, pp. 80–116). And if adding that axiom would give us a better set theory then, precisely insofar as Euler's '2' could have referred to ZFC's $\{\emptyset, \{\emptyset\}\}$, surely it should instead have referred to that better set $\{\emptyset, \{\emptyset\}\}$. So the choice to use ZFC's $\{\emptyset, \{\emptyset\}\}$ is to some extent an arbitrary one, at least at present. And so by analogy with the fictional chromatographers above, Euler should not be taken to have been referring to ZFC's $\{\emptyset, \{\emptyset\}\}$ with his '2's.

Martin Cooke

§3
NEWS

Probabilistic Graphical Models, 13–15 September

The European Workshop on Probabilistic Graphical Models (PGM) is a biannual workshop that brings together researchers interested in all aspects of graphical models for probabilistic reasoning, decision making, and learning. The fifth PGM was held in downtown Helsinki, Finland, on September 13-15. The programme co-chairs were Petri Myllymäki (University of Helsinki), Teemu Roos (Helsinki Institute for Information Technology HIIT), and Tommi Jaakkola (MIT). The workshop was co-located with the 12th European Conference on Logics and Artificial Intelligence (JELIA-2010).

The workshop was hosted by the Department of Computer Science of the University of Helsinki and HIIT, and sponsored by the Federation of Finnish Learned Societies, the Finnish Cultural Foundation (through the Studia Stemmatologica project), the Pascal Network of Excellence, and Microsoft Research. The proceedings of the workshop can be downloaded from the workshop web site.

The PGM programme consisted of three invited talks, 36 contributed talks, and three poster sessions. Each accepted paper was presented both as a short talk and a poster, an arrangement that allowed on the one hand each speaker to address the whole audience, and on the other hand each participant to present question and comments in person. One of the poster sessions featured students from the Helsinki Graduate School of Computer in Computer Science and Engineering with their posters in addition to the PGM posters. The technical programme was complemented with a reception offered by the Rector of the University of Helsinki and a banquet dinner.

The programme was organized according to the main research themes in probabilistic graphical models. Three of the main themes are (i) knowledge representation using PGMs, (ii) learning, and (iii) inference, i.e., reasoning in PGMs. Each of these themes was the topic of one or two sessions. In addition, special sessions were dedicated to influence diagrams, sensitivity and uncertainty, causality, and applications.

Of the three invited talks, the first one was presented by Adnan Darwiche (UCLA). The talk "Relax, Compensate and then Recover: A Theory of Anytime Approximate Inference" was shared with the JELIA conference. Prof. Darwiche presented a framework where the fundamental notion of approximation is that of "relaxing" constraints for the purpose of decomposing a problem into smaller, easily solvable pieces. "Compen-

sation", then, calls for imposing weaker notions of constraints to compensate for the relaxed constraints. The third fundamental notion of the framework is that of "recovery" where some of the relaxed constraints are recovered, based on assessing their impact on the quality of the approximation. The work reported in the talk has been applied by Prof. Darwice together with Arthur Choi (also UCLA) in the recent UAI Approximate Inference Challenge, being the winning entry in two of the nine categories.

The second invited talk was given by Christopher Howe (University of Cambridge) under the intriguing title "What do genes, medieval manuscripts, languages, musical instruments, factories and Persian carpets have in common?" The answer, provided by the speaker, revolves around an evolution-like process of copying with the incorporation of changes. This suggests that phylogenetic methods, i.e., methods for inferring evolutionary trees, might be applicable outside the realm of evolutionary biology. The examples presented in the talk, covering topics mentioned in its title, were very convincing in persuading the audience in sharing this view. Representation of the models as bifurcating trees, or more general networks, made it a very appealing domain for the PGM community, and hopefully some of the newly presented methods will find their way into successful applications in the areas listed by Prof. Howe.

The last but not the least talk of the workshop was given by the third invited speaker, Thore Graepel (Microsoft Research) who described three practical applications of graphical model inference in Microsoft's online services. First, TrueSkill is a ranking system used in XBox Live for ensuring that gamers have balanced and exciting matches with equally skilled opponents. The ranking problem it addresses is not unlike the problem of ranking chess players by the well-known Elo system. Second, AdPredictor is used in Microsoft's search engine Bing for estimating click-through rates for ad selection and pricing. Third, Matchbox is a Bayesian recommender system that combines aspects of collaborative filtering and content-based recommendation. The basic principles behind these applications are factor graphs and approximate Bayesian inference. The special feature of all the presented systems is their very large scale: millions of gamers, billions of ad impressions, etc. In addition to solid theoretical arguments familiar to the PGM community, the talk involved some less frequent material such as demonstrations of the "Halo: Reach" video game, released on the previous day.

As a means to improve networking, exchange and collaboration between different units working on probabilistic graphical models, Stijn Meganck (Vrije Universiteit Brussel) presented the BN@work—European Society for Researchers on Probabilistic Graphical Models. More information on the society can be currently found here.

Based on the positive feedback during the workshop and the increased number of submissions received for this year's PGM, the European Workshop on Probabilistic Graphical Models seems to be doing well. It was decided that the next workshop, to be held in 2012, will take place in Granada, Spain.

Teemu Roos
Helsinki Institute for Information Technology HIIT

Petri Myllymäki
Computer Science, University of Helsinki

Tommi Jaakkola
Computer Science and AI Lab, MIT

Words and Concepts, 20–21 September

Words and Concepts, an interdisciplinary workshop on philosophy, psychology and linguistics, took place on the 20th and 21st of September of 2010 at the University of Granada, and was organized by research project FFI2008-06421-C02, with the support of Philosophy Department I of the University of Granada, Ministry of Science and Innovation of Spain, and Department of Economy, Innovation and Science of the Andalusian Government. During these two days we could attend talks from different disciplines that face in some aspect the complicated relation between concepts and words. The first day was opened by Vyvyan Evans (Bangor University), who defended that meanings arise from the interaction between two different systems: the conceptual system (experiential meaning) and the linguistic system (linguistic meaning). Gabriella Vigliocco (UC London) based on psychological research, maintained the working hypothesis that word meanings are shaped by the joint contribution of experiential and linguistic information. Words' meanings are dynamic and depend not only on language but on experience, like sensory-motor information or affects. Fernando Martínez Manrique (University of Granada) and Agustín Vicente (University of the Basque Country) gave arguments for a negative answer to the question whether a language can be the vehicle of thoughts. However, they suggested that it is still possible that a language is a partial vehicle of thoughts, inasmuch as it could be shown that language plays a necessary role to token certain thoughts. Emma Borg (University of Reading) defended a minimalist position concerning word meanings using organizational lexical semantics and an externalist strategy. Begoña Vicente (University of the Basque Country) and Marjolein Groefsema (University of Hert-

fordshire) proposed unarticulated constituents as structurally constrained, rather than free, arguing that the standard notion of compositionality is what makes theorists see unarticulated constituents as a result of free enrichment. A new perspective on compositionality could show us these elements as a result of a combination of structural constraints and pragmatic inference. Stavros Assimakopoulos (University of Granada) presented a problem for Relevance Theory due to its reliance on Fodorian semantics for warranting publicity. Alternatively, he proposed to psychologize the world.

The session of the 21st was opened by Daniel Weiskopf (Georgia State University), who rethought the problem of mapping concepts to lexical items, showing that naming is a different process from categorization and that any influence of language in conceptual categorization is not due to properties proper to language. Eric Margolis (University of British Columbia) argued that language is not central to number acquisition and addressed some objections to this thesis. Elisabetta Lalumera (University of Milano-Bicocca) defended that the possession of concepts of numbers is ability-based and does not require linguistic mechanisms, except in expert uses of the concepts. Numerals are neither sufficient nor necessary for counting. Louise McNally (University of Pompeu Fabra) applied distributional semantics—in which the concept of a word is extrapolated from the distribution of other words that co-occur with it—to specify in which cases concepts do or do not correspond to contents of words. Josè Luis Liñán (University of Granada) and Miguel Ángel Pérez (Pontificia Universidad Javeriana) located concept application in communicative interaction. Against a representational theory, they offered a view of concepts as recurring topics in anaphoric chains, what would preserve stability in inference and reasoning. To finish, Daniel Casasanto (Max Planck Institute Nijmegen) defended a variety of linguistic relativity by means of experimental research that shows how linguistic, cultural and motor-perceptual experiences influence the concepts subjects of a community have.

José Manuel Palma Muñoz
University of Granada

Logic, Reasoning and Rationality, 20–22 September

From September 20th till 22nd, the Centre for Logic & Philosophy of Science at Ghent University (Belgium) organized LRR10, a conference on Logic, Reasoning and Rationality. This conference included seven plenary speakers.

In the opening lecture of the first day, Graham Priest took logic to be a full-fledged science with validity as its subject, arguing that logic can be evaluated along empirical lines, just like any other science. In this way, an informed choice can be made between different logics, using criteria for rational theory choice traditionally proposed by philosophers of science. In an attempt to bring order in the jungle of "maximally" paraconsistent logics, Arnon Avron introduced his own notion of maximal paraconsistency, and illustrated the workings of this notion within matrices of existing three- and more-valued paraconsistent logics.

The second day was opened by Thomas Nickles, who compared the Ghent research program in logic and philosophy of science to the evolutionary epistemology of Donald Campbell, concluding that both projects are similar in spirit, although they differ in style. In her talk, Giovanna Corsi proposed a new box operator for epistemic logic that enables one not only to quantify over knowledge contents, but also over knowledge holders. Nancy Nersessian presented a case study from neuro-engineering to illustrate some of her points about constructing models in science.

At the start of the third day, Andrzej Wisniewski approached problem-solving as an internal goal-directed process. To attain this, he presented an erotetic logic or "question-logic" that tries to formally capture the proper dynamics of internal question processing. LRR10 served as an excellent opportunity for Diderik Batens—at the verge of his retirement—to look back on his long and distinguished academic career and clarify to the audience his personal views. Among other things, Batens helped shape paraconsistent logic and was a pioneer within the field of adaptive logic.

Apart from these plenary lectures, parallel sessions on diverse topics within logic and philosophy of science were organized. Within the field of logic, lectures were given on subjects as inconsistency adaptive logic (Rafal Urbaniak), adaptive deontic logic (Mathieu Beirlaen, Joke Meheus, Christian Straßer, Frederik Van De Putte), 'fuzzy' adaptive logic (Stephan van der Waart van Gulik), heuristic adaptive logic (Dagmar Provijn, Peter Verdée), relevant adaptive logic (Hans Lycke), computational logic (Liesbeth De Mol) and paraconsistent logic (Stefan Wintein, Itala D'Ottaviano, Marek Nasieniewski). The Philosophy of Science lectures dealt with topics such as mathematics (Jean Paul van Bendegem), justification (Dunja Seselja), inconsistency (Erik Weber), abduction (Andres Rivadulla), contextualism (Merel Lefevere), scientific change (Rogier de Langhe), explanation (Raoul Gervais), rationality (Tim de Mey, Werner Callebaut), history of science (Albrecht Heeffer, Steffen Ducheyne), paradoxes (David Etlin), artificial intelligence (Antonio Lieto), modeling (Jan Willem Wieland) and many more.

On a personal note, we would like to express our gratitude for our most beloved Ghent logician through the words of Thomas Nickles: "If I had a glass of wine,

I would toast Diderik Batens, not only to congratulate him on his magnificent career and his wonderful personality, but also to hope and expect that he will continue to live forward!"

Mathieu Beirlaen
Centre for Logic and Philosophy of Science,
Ghent University

Tjerk Gauderis
Centre for Logic and Philosophy of Science,
Ghent University

Raoul Gervais
Centre for Logic and Philosophy of Science,
Ghent University

Laszlo Kosolosky
Centre for Logic and Philosophy of Science,
Ghent University

Causality in the Biomedical and Social Sciences, 6–8 October

This year's conference in the Causality in the Sciences series was held in Rotterdam and brought together philosophers and scientists to discuss the epistemic, metaphysical, and semantic questions faced when reasoning about causality in the biomedical and social sciences. The five invited talks (by William Bechtel, Nancy Cartwright, Kevin Hoover, Harold Kincaid and Peter Menzies), and twenty contributed talks covered a broad spectrum of work in this area, from the representation of social mechanisms to inference in biomedical data to causal evidence for public health policy.

The conference opened with a talk by Peter Menzies on the concept of modularity of mechanisms, and the relationship between mechanistic explanation and interventions. He proposed using structural equations to represent mechanisms, allowing modularity to be defined relative to particular interventions and their effect on the set of equations, thus avoiding the problem of modularity conditions frequently being violated in general. While concepts of mechanisms generally consider operations to occur in sequence, many practical cases involve feedback and cycles and may change dynamically over time. William Bechtel's keynote illustrated the importance of timing for mechanistic explanation in biology using the example of circadian rhythms, which lead to different normal values for measurements such as heart rate at different times of day. He argued for uniting mechanisms with dynamics to provide richer explanations. One of the primary themes that emerged

during the conference was the use of mechanisms as evidence for causality in both biomedical and social sciences. During his invited talk Harold Kincaid discussed integrating mechanisms into the multiple regression methods found in the social sciences, so that this structure could be used to find both causal effects and effect sizes.

The final day of the conference began with Kevin Hoover's talk on levels of explanation, where he challenged the idea that more detail is always better, showing that in fact Simpson's paradox may not always be problematic. The central thesis was that different levels of detail are useful in different situations. For policy purposes we may wish to look at a population in aggregate, as we may not be able to intervene on subpopulations, and thus the lower level model is not intrinsically superior to the higher level one. In her closing talk, Nancy Cartwright returned to a central topic of the first day, the use of randomized controlled trials, and examined how we can get from "it works somewhere" to "it works in general" and "it will work for us". She argued that RCTs can only support "it works somewhere" and that these three types of claims require different types of evidence and lead to different predictions of the effectiveness of a policy.

The conference talks were joined by eight poster presentations during afternoon sessions that allowed for extended informal discussions. Next year's conference in the series will be "Causality and Explanation in the Sciences", held in Ghent.

Samantha Kleinberg
Computer Science, Columbia University

Bayesian Argumentation, 22–23 October

Jointly funded by the Swedish Research Council and the Wenner Gren Foundations, this workshop took place on October 22–23 at the Department of Philosophy, University of Lund, Sweden. 15 participants came from Austria, Denmark, Germany, Sweden, Italy, The Netherlands, the United Kingdom, and the USA. They were joined by an equal number of visitors. Speakers came from philosophy (7), (social) psychology (4) and (computational) law (3); most pursued a modeling approach. Psychologists and lawyers contributed important empirical results as well as real-world examples; philosopher's mostly focused on the logical reconstruction and evaluation of arguments.

In order, Matthias Grabmair (Pittsburgh) presented the Carneades model, a computer based tool for argument reconstruction. Tomoji Shogenji (Rhode Island) forwarded a formal vindication of non-vicious circularity. Erik Olsson (Lund) related results on the threshold of assertion obtained in a computational simulation

of multi agent exchange. Claudio Mazolla (Cagliari) argued against a logical dependence between Reichenbach's screening-off condition and deterministic causation. Jonny Blamey (London) explained the preface paradox by making the differential believability of conjunctions *vis à vis* their conjuncts a function of the respective stake size. Mike Oaksford (London) presented empirical evidence obtained in applying Bayes' theorem to pro/con argument and the argument from ignorance. Erich Witte (Hamburg) reported on group interaction research, (reasoning) biases, and tensions between ideally-rational and evolutionary accounts (ultimate vs satisficing perspective). Ulrike Hahn (Cardiff) started the second day with empirical results demonstrating participants striking ability at accurately combining source and message characteristics. Amit Pundik (Cambridge) discussed a recent legal case which suggests that statistical reasoning is still alien to judges. Together with Kevin Ashley, Matthias Grabmair (Pittsburgh) gave an overview of legal uncertainties and how to respect these in a computer model. Gregor Betz (Karlsruhe) provided an account of degrees of justification based on dialectical structures. Niki Pfeifer (Salzburg) presented a probabilistic logical approach to argument strength and fallacies. Robert van Rooij (Amsterdam) contributed an application of game theory, particularly persuasion games, within a bounded rationality view. Frank Zenker (Lund) demonstrated challenges arising in the application of the Bayesian approach to deliberative contexts.

The workshop provided strong evidence for the claim that the Bayesian approach to natural language argument is likely to advance as an interdisciplinary project. It also revealed a need for a common language and the explicit formulation of discipline-specific assumptions. Next to technical details, recurring themes were the interpretation of "weights," logics for defeasible reasoning, and the formal specification of "coherence". Equally important was the descriptive vs normative issue, as evidenced by a recent re-orientation in social psychology. What 25 or so years ago became known as "errors of (statistical) reasoning" could soon be vindicated within a "cognitive miser" view of human reasoning and argumentation. Generally, *vis à vis* its informal alternative, the Bayesian approach continues to recommend itself for its precise expressions. These naturally connect to developments in artificial intelligence and formal epistemology.

Proceedings are expected in 2011. Abstracts and presentations remain available here.

<div align="right">

Frank Zenker
Philosophy and Cognitive Science, Lund

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Calls for Papers

§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

The Second International Workshop on Automated Reasoning about Context and Ontology Evolution (ARCOE-10) took place in August in Lisbon, Portugal. The main theme of ARCOE-10 was how to automate the evolution of ontologies and how to get a grasp on

the role of contexts in ontology evolution. A *report* on ARCOE-10 appeared on LORIWEB.

Anyone who has information to share or announcements to make about topics related to the area of Logic and Rational Interaction should not hesitate to contact Rasmus Rendsvig, our web manager or to write to the loriweb address. We will be happy to publish your news on LORIWEB.

Ben Rodenhäuser
Philosophy, Groningen

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§5
LETTERS

Dear Reasoners,

In my article "Algebraic, abstract algebraic and behavioral approaches to logical systems. Part II" (*The Reasoner*, 4(9)), I considered, among other things, Behavioral Abstract Algebraic Logic (BAAL). Many different algebraically oriented logicians participated in the development of this paradigm of logic. In my opinion, special attention should be paid to the works of Carlos Caleiro, Ricardo Gonçalves and Manuel M. Martins.

Readers who want to deepen their knowledge should especially consult the following articles: C. Caleiro and R. Gonçalves, "On algebraization of many-sorted logics, in J. Fiadeiro and P.-Y. Schobbens (eds.), *Recent Trends in Algebraic Development Technique—Selected Papers*, vol. 4409, *Lecture Notes in Computer Science*, Springer-Verlag, 2007, pp. 21-36; Manuel M. Martins, "Closure properties for the class of behavioral models", *Theoretical Computer Science*, 379, 2007, pp. 53-83; C. Caleiro, R. Gonçalves and M. Martins, "Behavioral Algebraization of Logics", *Studia Logica*, 91/1, 2009, pp. 63-11.

It should be noticed that the above references cannot be neglected in order to fully understood BAAL.

Piotr Wilczeck
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EVENTS

NOVEMBER

ICMSC: IEEE International Conference on Modeling, Simulation and Control, Cairo, Egypt, 2–4 November.

LogKCA: International Workshop on Logic and Philosophy of Knowledge, Communication and Action, Donostia, San Sebastián, Spain, 3–5 November.

MINDNETWORK: 2nd meeting of the Mind Network, a network for Philosophy of Mind & Cognitive Science, King's College, Cambridge, 6 November.

MICAI: 9th Mexican International Conference on Artificial Intelligence, Pachuca (near Mexico City), Mexico, 8–12 November.

CAUSATION, COHERENCE, AND CONCEPTS. THEMES FROM THE PHILOSOPHY OF WOLFGANG SPOHN: Konstanz, 11–13 November.

EPISTEMOLOGY IN THE EARLY ANALYTIC TRADITION: Carleton University, Ottawa, 12–13 November.

P-NPMW: 2nd Paris-Nancy PhilMath Workshop, Paris, 17–19 November.

AMBN: 1st International Workshop on Advanced Methodologies for Bayesian Networks, Tokyo, Japan, 18–19 November.

LENLS: Logic and Engineering of Natural Language Semantics, Tokyo, 18–19 November.

PHILOSOPHY OF INFORMATION: Brussels, 18–19 November.

TAAI: Conference on Technologies and Applications of Artificial Intelligence, Hsinchu, Taiwan, 18–20 November.

INTERACTING MINDS: AN INTERDISCIPLINARY APPROACH TO SOCIAL COGNITION: Center for Integrative Life Sciences, Humboldt University Berlin, 19 November.

FORMAL SEMANTICS AND PRAGMATICS: DISCOURSE, CONTEXT, AND MODELS: Riga, Latvia, 19–21 November.

IBSMAS: Interface Between Statistics, Mathematics and Allied Sciences, Almora, Uttarakhand, India, 20–22 November.

EPISTEMOLOGY & EXTENDED COGNITION WORKSHOP: University of Edinburgh, 24 November.

DUTCH-FLEMISH GRADUATE CONFERENCE ON PHILOSOPHY OF SCIENCE AND/OR TECHNOLOGY: Ghent, 25–26 November.

KICS: 5th International Conference on Knowledge, Information and Creativity Support Systems, Chiang Mai, Thailand, 25–27 November.

ISDA: International Conference on Intelligent Systems Design and Applications, Cairo, Egypt, 29 November - 1 December.

WORKSHOP IN PROBABILITY THEORY AND MATHEMATICAL STATISTICS: Victoria University of Wellington, NZ, 30 November - 1 December.

AI*IA: 11th Symposium on Artificial Intelligence of the Italian Association for Artificial Intelligence, Brescia, Italy, 1–3 December.

SEMANTICS FOR ROBOTS: UTOPIAN AND DYSTOPIAN VISIONS IN THE AGE OF THE 'LANGUAGE MACHINE': Chicago, Illinois, USA, 2–4 December.

MINDGRAD: Warwick Graduate Conference in the Philosophy of Mind, University of Warwick, UK, 4–5 December.

CACS: International Congress on Computer Applications and Computational Science, Singapore, 4–6 December.

NIPS: 24th Annual Conference on Neural Information Processing Systems, Vancouver, B.C., Canada, 6–11 December.

FROM COGNITIVE SCIENCE AND PSYCHOLOGY TO AN EMPIRICALLY-INFORMED PHILOSOPHY OF LOGIC: Amsterdam, 7–8 December.

MIWAI: 4th Mahasarakham International Workshop on Artificial Intelligence, Mahasarakham, Thailand, 9–10 December.

APMP: 1st International Meeting of the Association for the Philosophy of Mathematical Practice, Brussels, 9–11 December.

ICDM: International Conference on Data Mining, Sydney, Australia, 14–17 December.

SILFS: International Conference of the Italian Society for Logic and Philosophy of Sciences, University of Bergamo, Italy, 15–17 December.

SCEPTICISM AND JUSTIFICATION: COGITO Research Centre in Philosophy, Bologna, 17–18 December.

INTERNATIONAL CONFERENCE ON RECENT ADVANCES IN COGNITIVE SCIENCE: Varanasi, India, 18–20 December.

LogICCC MEETS INDIA: Delhi University, India, 7–8 January.

ICCMS: 3rd International Conference on Computer Modeling and Simulation, Mumbai, India, 7–9 January.

ICLA: 4th Indian Conference on logic and its Applications, New Delhi, India, 9–11 January.

GRADUATE CONFERENCE IN EPISTEMOLOGY: Miami, FL, 13–15 January.

PHILOSOPHY OF SCIENCE COLLOQUIUM: Durban, SA, 18 January.

THE NOTION OF FORM IN 19TH AND EARLY 20TH CENTURY LOGIC AND MATHEMATICS: International graduate workshop, Vrije Universiteit Amsterdam, 20–21 January.

GRADUATE CONFERENCE ON THE PHILOSOPHY OF LOGIC AND MATHEMATICS: Cambridge, 22–23 January.

SODA11: ACM-SIAM Symposium on Discrete Algorithms, San Francisco, California, USA, 23–25 January.

ICISD: International Conference on Intelligent Systems & Data Processing, Vallabh Vidyanagar, Gujarat, India, 24–25 January.

ICICN: International Conference on Information and Computer Networks, Guiyang, China, 26–28 January.

ICAART: 3rd International Conference on Agents and Artificial Intelligence, Rome, Italy, 28–30 January.

CCA: Computability and Complexity in Analysis, Cape Town, South Africa, 31 January - 4 February.

AIA: 11th International Conference on Artificial Intelligence and Applications, Innsbruck, Austria, 14–16 February.

PHDS IN LOGIC: Graduate Conference and Winter School, Brussels, 17–18 February.

CICLING: 12th International Conference on Intelligent Text Processing and Computational Linguistics, Tokyo, Japan, 20–26 February.

ICLICC: International Conference on Logic, Information, Control and Computation, Gandhigram, Tamil Nadu, India, 25–26 February.

NOVEL PPREDICTIONS: Heinrich-Heine Universitaet Duesseldorf, Germany, 25–26 February.

ICMLC: 3rd International Conference on Machine Learning and Computing, Singapore, 26–28 February.

CRAZY PHENOMENON	IF IT WORKED, COMPANIES WOULD BE USING IT TO MAKE A KILLING IN...	ARE THEY?
REMOTE VIEWING	OIL PROSPECTING	
DOWSING		
AURAS	HEALTH CARE COST REDUCTION	
HOMEOPATHY		
REMOTE PRAYER		
ASTROLOGY	FINANCIAL/BUSINESS PLANNING	
TAROT		
CRYSTAL ENERGY	REGULAR ENERGY	
CURSES, HEXES	THE MILITARY	
RELATIVITY	GPS DEVICES	✓
QUANTUM ELECTRODYNAMICS	SEMICONDUCTOR CIRCUIT DESIGN	✓

EVENTUALLY, ARGUING THAT THESE THINGS WORK MEANS ARGUING THAT MODERN CAPITALISM ISN'T *THAT* RUTHLESSLY PROFIT-FOCUSED.

xkcd.com

MARCH

THEORY-LADENNESS OF EXPERIENCE: Heinrich-Heine Universitaet Duesseldorf, Germany, 10–11 March.

SOUTHERN SOCIETY FOR PHILOSOPHY AND PSYCHOLOGY: New Orleans, Louisiana, 10–12 March.

STACS: 28th International Symposium on Theoretical Aspects of Computer Science, Dortmund, Germany, 10–12 March.

MODEL UNCERTAINTY AND SELECTION IN COMPLEX MODELS: University of Groningen, The Netherlands, 14–16 March.

EDINBURGH GRADUATE CONFERENCE IN EPISTEMOLOGY: University of Edinburgh, 18-19 March.

NAFIPS: 30th North American Fuzzy Information Processing Society Annual Conference, El Paso, Texas, USA, 18–20 March.

AI AND HEALTH COMMUNICATION: Stanford University, California, 21–23 March.

DISCOVERY IN THE SOCIAL SCIENCES: TOWARDS AN EMPIRICALLY-INFORMED PHILOSOPHY OF SOCIAL SCIENCE: University of Leuven, Belgium, 22–23 March.

THE PROBLEM OF RELATIVISM IN THE SOCIOLOGY OF (SCIENTIFIC) KNOWLEDGE: University of Siegen, 22–23 March.

TRUTH BE TOLD: WORKSHOP ON PHILOSOPHICAL AND FORMAL THEORIES OF TRUTH: Department of Philosophy, Institute for Logic, Language and Computation, Universiteit van Amsterdam, 23–25 March.

SOCIAL COMPUTING, BEHAVIORAL-CULTURAL MODELING, & PREDICTION: College Park, Maryland, United States, 29–31 March.

APRIL

RESEARCH STUDENT CONFERENCE IN PROBABILITY AND STATISTICS: Cambridge, 4–7 April.

SPRINGSIM: Spring Simulation Multi-conference, Boston, MA, USA, 4–9 April.

THE AUTHORITY OF SCIENCE: University of Sydney, Australia, 8–10 April.

AIML: ICGST International Conference on Artificial Intelligence and Machine Learning, Dubai United Arab Emirates, 11–14 April.

ICANNGA: International Conference on Adaptive and Natural Computing Algorithms, Ljubljana, Slovenia, 14–16 April.

AICS: 22nd Midwest Artificial Intelligence and Cognitive Science Conference, Cincinnati, Ohio, USA, 16–17 April.

NFM: 3rd NASA Formal Methods Symposium, Pasadena, California, USA, 18–20 April.

MAY

AAMAS: 10th International Conference on Autonomous Agents and Multiagent Systems, Taipei, Taiwan, 2–6 May.

ICCS: 4th International Conference of Cognitive Science, Tehran, Iran, 10–12 May.

PHILANG: 2nd International Conference on Philosophy of Language and Linguistics, University of Lodz, Poland, 12–14 May.

METAPHYSICS & THE PHILOSOPHY OF SCIENCE: University of Toronto, 13–15 May.

LPNMR: 11th International Conference on Logic Programming and Nonmonotonic Reasoning, Vancouver, BC, Canada, 16–19 May.

ARGUMENTATION: COGNITION & COMMUNITY: Ontario Society for the Study of Argumentation (OSSA), University of Windsor, 18–21 May.

PHILOSOPHY AND ORDINARY LANGUAGE: Louvain, 19–20 May.

RECENT ADVANCES IN STATISTICS AND PROBABILITY: Hasselt University, Diepenbeek, Belgium, 19–20 May.

PAKDD: 15th Pacific-Asia Conference on Knowledge Discovery and Data Mining, Shenzhen, China, 24–27 May.

NORMATIVITY OF MEANING: SELLERSIAN PERSPECTIVES: Department of Logic, Institute of Philosophy, Prague, Czech Republic, 25–27 May.

§7
COURSES AND PROGRAMMES

Courses

SELLC: Sino-European Winter School in Logic, Language and Computation, Guangzhou, China, 3–18 December.

LOGIC SUMMER SCHOOL: Canberra, Australia, 6–17 December.

Programmes

DOCTORAL PROGRAMME IN PHILOSOPHY: Language, Mind and Practice, Department of Philosophy, University of Zurich, Switzerland.

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

MASTER PROGRAMME: Philosophy of Science, Technology and Society, Enschede, the Netherlands.

MA IN COGNITIVE SCIENCE: School of Politics, International Studies and Philosophy, Queen's University Belfast.

MA IN LOGIC AND THE PHILOSOPHY OF MATHEMATICS: Department of Philosophy, University of Bristol.

MA IN METAPHYSICS, LANGUAGE, AND MIND: Department of Philosophy, University of Liverpool.

MA IN MIND, BRAIN AND LEARNING: Westminster Institute of Education, Oxford Brookes University.

MA IN PHILOSOPHY: by research, Tilburg University.

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

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

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

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

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

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, Law, Biosciences and History.

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

MSc in Cognitive Science: University of Osnabrück, Germany.

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

MSc in Mathematical Logic and the Theory of Computation: Mathematics, University of Manchester.

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

Master of Science: Logic, Amsterdam.

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

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Jobs and Studentships

Jobs

Senior position: Open AOS, with a preference for philosophy of mind, cognitive science, neuroscience, and language, Department of Philosophy, University of California, San Diego, until filled.

Assistant Professor: AOC: Epistemology and Metaphysics, Department of Philosophy, Samford University, Alabama, deadline 1 November.

Tenure-track position: AOS: philosophy of science, Department of Philosophy, Concordia University, Montreal, Quebec, deadline 1 November.

Tenure-track Assistant Professor position: AOS: Metaphysics, Epistemology, or Philosophy of Mind, Department of Philosophy, Stanford University, deadline 1 November.

Three tenure-track positions: in philosophy, Department of Philosophy, University of Tennessee, Knoxville, deadline 1 November.

Tenure-track position: AOS: Philosophy of science, philosophy of language, epistemology, or metaphysics, Department of Philosophy: DePauw University, deadline 8 November.

Professor/Reader: in Cognitive Robotics, Intelligent Systems Research Centre, University of Ulster, deadline 12 November.

Reader: in Computational Neuroscience, Intelligent Systems Research Centre, University of Ulster, deadline 12 November.

Wagner Risk Fellowship: Center for Philosophy of Science, University of Pittsburgh, deadline 15 November.

Assistant Professor: AOS: Empirically-informed Philosophy of Mind, AOC: Metaphysics, Epistemology, Philosophy of Science, or Philosophy of Cognitive Science, Georgia State University, opens 15 November, until filled.

Assistant Professor: in Neurophilosophy, Department of Philosophy, Universiteit van Amsterdam, deadline 17 November.

A.W. Mellon Postdoctoral Fellowships: for research in the semantics or pragmatics of natural languages from the perspective of linguistics, philosophy, logic or computer science, Carnegie Mellon University, deadline 19 November.

Assistant Professor: AOS: Metaphysics or Philosophy of Language, Department of Philosophy, University of Wisconsin, Madison, deadline 20 November.

5 year Lectureship: Department of Philosophy, University of Tokyo, deadline 30 November.

Assistant Professor: AOS: Philosophy of Science or History of Philosophy, Lawrence University, Appleton, WI, deadline 1 December.

Assistant Professor: AOS: Formal Philosophy, Department of Philosophy, University of Utah, deadline 1 December.

Visiting Assistant Professor: AOS: Epistemology, Metaphysics, Mind, Language, or Philosophy Science, Department of Philosophy, Lafayette College, Easton, PA, deadline 1 December.

Herbert Simon Fellowship in Scientific Philosophy: for research in logic or philosophy of mathematics, Department of Philosophy, Carnegie Mellon University, deadline 1 December.

Research Associate: to work within the project RECOGNITION ("Relevance and cognition for self-awareness in a content-centric Internet"), Faculty of Computer Science & Technology, University of Cambridge, deadline 10 December.

Studentships

D.Phil Studentship: in Knowledge Representation and Reasoning, Computing Laboratory, Oxford University, available immediately.

10 PhD student positions: within the doctoral program "Mathematical Logic in Computer Science", Vienna University of Technology (TU Wien), until filled.

PhD Studentship: "Hyper-heuristics for Grouping Problems", School of Computer Science, University of Nottingham, until filled.

Doctoral Studentships: Computing Laboratory, University of Oxford, first deadline 19 November.

Fully Funded Doctoral Studentship: Knowledge Representation and Reasoning, University of Oxford, deadline 31 December.

PhD position: in analytic epistemology, Department of Philosophy, University of Geneva, deadline 31 December.

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