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### §1

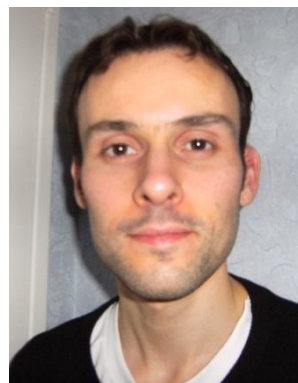
#### EDITORIAL

Isabelle Drouet rightly noticed in the preceding issue of *The Reasoner* that philosophy is closely related to logic, if not to reasoning in general. But which reasoning are we talking about? There is no polemical answer to this in the following lines. Just a friendly interview with a friendly analytic philosopher, the German philosopher of logic and epistemologist, Heinrich Wansing.

Before moving to the University of Bochum, Heinrich taught for many years at the Technical University of Dresden and I've had the great opportunity to begin my postdoctoral project under his supervision. About

logic and philosophy, of course. Or logic in philosophy, more precisely. But which sort of logic did we talk about, exactly? (There can be several ways of doing logic. In particular, mathematical logic covers some foundational topics that hardly overlap with philosophical logic.) Philosophical logic was the main point of our discussions. I see this area of logic as the application of logical tools to some philosophical problems, including the famous exercise of "solving" paradoxes through formalization and conceptual analysis.

Which logical tools do we need in order to solve a paradox, and which paradoxes should we focus on in philosophy? It cannot be denied that professional philosophy moves with the times and experiences the famous law of supply and demand: a large literature in the formal school of analytic philosophy is stimulated by the supply of logical paradoxes: Fitch's Paradox, the Prisoner's dilemma, the Paradox of the Knower, and many others. However influential this supply may be on the fashionable logical tools of philosophical logic, my one year's work with Heinrich did not touch on these paradoxes, but rather on the most famous paradox in the history of logic: the Liar Paradox. The latter occasioned a thorough exploration of the land of non-classical logics, and several years ago Heinrich initiated a corresponding



project on a generalized theory of truth-values with the Ukrainian logician Yaroslav Shramko. Here is a somewhat exotic topic: neither a possible-world semantics, nor an extension of the popular dynamic epistemic logics but, rather, a set-theoretical reflection about logical consequence starting from the basic concept of a truth-value.

Between Polish logics (Grzegorz Malinowski's many-valued inferences, Roman Suszko's reduction thesis) and non-classical matrices (Miller's dual intuitionistic logic, Belnap & Dunn's First Degree Entailment), I took advantage of my postdoctoral stay to interview Heinrich about his general profile. All of that in the heart of this marvellous city of Dresden, a.k.a. the "Florence on the Elbe". Enjoy this new issue!

FABIEN SCHANG

LHSP Henri Poincaré, Nancy

## §2

### FEATURES

#### Interview with Heinrich Wansing

[Heinrich Wansing](#) is Professor of Logic and Epistemology at the Ruhr University Bochum (Germany). He is the author of many works on philosophical logic, negation, structural proof theory, and generalized truth-values. He is also a member of the editorial boards of several journals including *Studia Logica* and an editor of more than a dozen books.

Fabien Schang: Can you describe your personal philosophical profile?

Heinrich Wansing: I am a philosopher who is interested in non-classical logic, epistemology, and philosophy of language. My interests range from problems in the philosophy of natural language and Categorical Grammar to structural proof theory, formal epistemology, negation, constructive logic, and modal logic broadly conceived. Moreover, I have a clear conception of what I am definitely not. Let me put it sort of positively: I am an anti-psychologist with respect to logic and an anti-irrationist with respect to philosophy in general.



FS: How would you depict the import of philosophical logic in philosophy?

HW: In my view, philosophical logic is both a central part and a firm basis of philosophy. Philosophical logic is indispensable for conceptual explications (in Carnap's sense) and conceptual analyses. The various suggestions for a conceptual analysis of the notion of knowability provide an illuminative example.

FS: Your current project (with Yaroslav Shramko) deals with *generalized truth-values*. It's all the more interesting that such a project relates to the area of many-valued logics, whereas the mainstream area of philosophical logic has much more to do with the AGM tradition (belief revision) and possible-worlds semantics. Therefore, how would you defend the relevance of many-valuedness, given such a research context?

HW: First, I have to admit that it seems to me that my research interests are quite unaffected by what is or is not a mainstream area. The existence of mainstream areas may, of course, indicate the particular relevance of certain research topics, and not all current trends in logic are equally important. On the other hand, the various areas within philosophical logic, including the areas you are mentioning, are interrelated. There is, for example, the research program of many-valued modal logic. AGM-style belief revision is not so intimately conjoined with multiple-valued logic, but nevertheless there exists interconnections. The sixteen-valued logics in which Shramko and I are interested contain paraconsistent negations, and paraconsistency handling is an issue in belief revision. Indeed, the recent work on generalized truth-values ties up with many themes and problems from philosophical logic such as constructiveness, information processing, indeterministic interpretations of the logical operations, the notion of contradictoriness, and the very notion of a logical system. I do not perceive many-valued logic, modal logic broadly conceived, and belief revision theory as competing paradigms but as mutually influencing and mutually inspiring research programs

FS: A good deal of your work concerns logical *negation*. Why have you focused many of your papers upon this concept?

HW: Well, to some extent it just happened. After my DPhil supervisor, David Pearce, had engaged my interest in the strong, constructive negation used in David Nelson's constructive logics with strong negation, I soon realized that logical negation is a rich and very important topic. In the literature, unary operations with quite different properties have been considered as negations, and once it is acknowledged that there is nothing like the one and only pre-theoretic concept of negation, it is just revealing to investigate the multiplicity of negations. In particular, contrary-forming negation operations have a special appeal. Also, there are many applications of strong negation ranging from

logic programming to falsificationism in the philosophy of science.

FS: You are equally concerned with different representation procedures like lattice theory and sequent calculus. Now both seem to assume crucially different views of truth: the former orders some given truth-values from the outset, while the latter considers a truth-value as the final result of a finite proof. Hence, where do you find your personal preference in this respect, as a philosopher?

HW: I believe that truth and falsity are two fundamental categories of semantical evaluation. It is important to recognize that they are equally relevant and that they should be treated on a par. When it comes to information processing, which is quite different from belief processing, semantical evaluation does not remain two-valued. Information states may or may not support the truth of a given proposition and they may or may not support the falsity of a given proposition. In this way, we end up with four values the proposition may receive with respect to a given information state. These are, essentially, Belnap's four truth-values: N (no support), F (support of falsity), T (support of truth), and B (support of both truth and falsity). But this is just the beginning, because we may take into account that for each of these four values, a state may or may not support the assignment of this value. As a philosopher, I am not compelled to prefer this approach to the proof-theoretic, anti-realistic perspective on truth alluded to in your question, or vice versa. A classical sequent has two positions, one for truth and one for the absence of truth, i.e., for classical falsity. An  $n$ -sided sequent has  $n$  positions  $1, \dots, n$  for  $n$  values. In the case of a sound sequent calculus, a proof of a proposition at position  $k$  establishes that the proposition always (in every model, at every information state) takes the value  $k$ . I see no conflict between starting with a lattice-ordered set of truth-values on the one hand and a proof-theoretic framework on the other hand. In the end I want both, even as a philosopher. Moreover, semantical values regarded as information values are neither metaphysical nor epistemological. You may associate these values with an anti-realistic understanding of meaning as well, although it is not derived from the concept of language use.

FS: A last word about *consequence*. How would you assess the relevance of many-valued inference within the realm of philosophy of logic, including the issue of information?

HW: "Many-valued inference" could just mean inference in some many-valued logic. Since there are many-valued logics which are important in philosophical logic, I would assess many-valued inference in this sense as highly relevant. In particular, intuitionistic logic as an infinite-valued logic and Nelson's not simply truth-functional, constructive four-valued logic are rather important with respect to information processing.

If "many-valued inference" refers to a multiplicity of inference relations, this multiplicity is highly relevant for the philosophy of logic. One fundamental conception of valid inference views valid inference as the preservation of a certain value (or membership in a certain set of values) from the premises to the conclusions, or vice versa. Truth is a fundamental but not the only semantical value, and if there are several equally important semantical values around, then, in addition to a formal language, a logical system may comprise (an encoding) of several syntactical inference relations and semantical consequence relations.

## Numbers Are not Sets!

Martin Cooke in *The Reasoner* 4 (11), 162-163, tries to show that Euler's '2' (and by implication any other numeral used by a pre-twentieth century mathematician) does not refer to the standard corresponding element in von Neumann's designated set-theoretic omega series. But there is a much more forceful argument showing that no natural number is a set of any kind.

The set-theoretic tradition has, in this connection, been most concerned with finding elements that satisfy the Dedekind-Peano axioms. But there is more to numbers than that, as Hume's Principle (from which these axioms can be derived) shows. For (see, e.g. my 2007: 'Neo-Fregean Unnatural Numbers' *The Reasoner* 1 (8), 7-8) it is also the case that the number of Fs is the number of Gs if and only if the Fs and the Gs can be put into one-to-one correspondence. So there is also the grammar of the referring phrase 'the number of Fs' to be attended to. To illustrate the point, consider the identification that is commonly made that the number zero is the empty set. For, from the required grammar of the situation, it is *the number of elements in the empty set* that is zero, not the empty set itself. A grammatical confusion is therefore involved if it is taken that the set itself is the number, since what is grammatically more generally is that it is  $N(S) = n$ , not  $S = n$ , where 'N' is the function 'the number of members of'. We count by putting the members of some set into a one to one correlation with the numerals starting from '1', so that, if the last member counted corresponds to 'n' then the number of the members is n, because the numerals name the numbers. If the number of members of a set S is n, and that number of members was the set of non-zero numerals up to 'n' (for instance, but also any other n-membered set) then the numeral 'n' would not name *what is common between S and those numerals* (or other set), namely their number.

Other loose forms of expression can be involved in this area, since Zermelo, for example, in fact merely claimed that his preferred omega sequence 'can take the place of the numerals', saying this was just a matter of convention (J. van Heijenoort (ed.) 1967: *From Frege*

to Gödel, Harvard University Press, Cambridge MA, p. 205). And *that* is certainly true, since what the numerals are is a matter of convention. But the numerals are not the numbers, and what the numbers are is not a matter of convention, but accurate, factual definition.

Again, there was great relief in the early twentieth century when it was seemingly found how to ‘define’ an ordered set in terms of an ordinary, unordered set. It was even said at that time that ordered sets *were* a kind of ordinary set—although there was seemingly some choice as to which ordinary set one might take to be the ordered set in question. But an ordered set is a set with a relation on it, and so is not a set pure and simple of *any kind*. Certainly one might be able to replace ‘a is the first member of  $\langle a, b \rangle$ ’ with ‘a is [a certain function] of [a certain ordinary set]’, and so seemingly do away with ordered sets in one’s ontology. But the ontological reduction in this one limited case does not mean that the ordered set *is* the chosen ordinary set, in the sense that one can replace mentions of the one with mentions of the other wherever they occur. Indeed even in the case just given there is no identity since the function of the ordinary set that identifies the first member of the ordered set is not the function ‘the first member of’ in ‘a is the first member of  $\langle a, b \rangle$ ’, since the latter is simply a matter of which of ‘a’ and ‘b’ is mentioned first in the symbol ‘ $\langle a, b \rangle$ ’.

And that fact points to another major error of the same general kind in the area, for instance when it is said that binary relations are sets of ordered pairs. This was appealing to a past generation of theorists who hoped to avoid mention of properties, relations etc., through reduction of them to sets of one kind or another. But from the above we immediately see that there is no reduction of sets of ordered sets to sets of ordinary sets. And so there is no chance of a reduction of relations to sets of ordinary sets. What is collected in the set associated with a binary relation are things that are not sets pure and simple, and so the preferred ontology of ordinary sets cannot include them, and must be expanded to get anywhere close to what a relation is. But of course, the set of ordered pairs in question is only *associated with* the relation and is not itself identical with it, so there is no chance that one can avoid reference to the relation and deal only with the associated set. The relation of being less than, amongst numbers, for instance, is expressed by the symbol ‘ $<$ ’, i.e. ‘is less than’, and denoted by the referential phrase ‘being less than’, while the set of pairs of numbers between which this relation holds is denoted by a quite different symbol—a set expression. But if this set expression was a replacement for the phrase referring to the relation, ‘being less than’, then the set expression would need somehow to have an item associated with it that did not denote the set, but which, instead, ‘expressed the set’. Yet there is no such thing as expressing a set: ‘being less than’ is

the nominalisation of a verb, and set expressions aren’t nominalisations of verbs.

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## A Note on Adams Conditionals

Roughly, an intensional disjunction is a disjunction whose components have a meaning connection. For example,

- (1) Spain won the FIFA World Cup 2010 or The Netherlands did it.

would be intensional, whereas

- (2) Goldbach’s conjecture is true or Laika died seven hours after launching.

would not, for seemingly Laika’s death has nothing to do with the truth value of Goldbach’s conjecture. According to Anderson and Belnap (1975: *Entailment*, Princeton-London: Princeton University Press, pp. 163-177), an intensional disjunction which admits disjunctive syllogism always can be converted into a subjunctive conditional. It has been uncritically assumed that Adams conditionals constitute genuine counterexamples to that thesis of Anderson and Belnap (see E. Adams 1970: *Subjunctive and Indicative Conditionals*, *Foundations of Language*, pp. 89-94). However, we think there is a flaw in passing from the intensional disjunction to the corresponding subjunctive conditional in those alleged counterexamples.

Consider the following Adams pair:

- (ID1) Oswald killed Kennedy or someone else did it.
- (ASC) If Oswald had not killed Kennedy someone else would have.

It is clear that (ID1) implies

- (a) Someone killed Kennedy.

but it does not say a word about whether that someone is Oswald or not, that is, (ID1) does not imply

- (b) Oswald killed Kennedy.

(a) should be implied also by the corresponding subjunctive conditional. (ASC) implies it but it also seems to imply much more, namely (b). Moreover, unlike (ID1), (ASC) involves a kind of fatalism, for it seems to imply

- (c) Necessarily, someone would have killed Kennedy (for if Oswald had not, someone else would have).

These are usually considered the reasons why an intensional disjunction in general does not imply a subjunctive conditional. However, for us they constitute evidence for disregarding (ASC) as the subjunctive conditional corresponding to (ID1). Thus, the conclusion from those arguments should be rather that (ASC) is not the subjunctive conditional corresponding to (ID1), not that there is no trusty subjunctive conditional associated to (ID1).

Roughly, the flaw is the following one. The counterfactual situation is not about Kennedy's death, but about who killed him. Nonetheless, (ASC) makes the counterfactual about Kennedy's death, which gives the feeling that the conditional subjunctive entails a sort of fatalism that it is not in (ID1). The subjunctive conditional corresponding to (ID1) seems to be

(SC1) If Oswald had not killed Kennedy, someone else would have been the person who killed him.

This seems reasonable and the problems vanish (for now, at least: philosophy is in the business of continuously killing and reviving ideas). Clearly, (SC1) does not imply (c). What (SC1) would imply is

(d) Kennedy was killed.

and at most

(e) Given that Kennedy was killed, necessarily someone killed him.

which are very different to (c).

(SC1), like (ID1), implies (a) but not (b). Indeed, (b) is not implied by (ASC), either. It is commonly thought that the antecedent of a subjunctive conditional is not true (in this world, at least). In our example, this would mean that (ASC) as well as (SC1) would imply that Oswald actually killed Kennedy, that is, (b), for the actual world, from which we are departing by the subjunctive clause, is still one in which Oswald did kill Kennedy. But this is not right. In general, subjunctive conditionals need not to be counterfactuals, i.e. their antecedents need not to be false. Consider for example

(f) If the butler had been the murderer, detectives would have found just the clues which they in fact found.

Here a conditional is presented as evidence for the truth of its antecedent. The conditional cannot be counterfactual, since it would be self-defeating to presuppose false what one is trying to show true. Consider now

(g) If John had taken arsenic, he would have shown just exactly those symptoms which he does in fact show.

A typical place to use such a subjunctive conditional would be in the course of an argument trying to bolster the hypothesis that John did in fact take arsenic. But then again it would be self-defeating to presuppose that the hypothesis is false.

Analyses of subjunctive and counterfactual conditionals like Stalnaker's (1968: *A theory of conditionals*, *Studies in Logical Theory*) or David Lewis' (1973: *Counterfactuals*, Oxford: Basil Blackwell) seem to support the idea that intensional disjunctions in general do not imply subjunctive conditionals. In the semantics of their theories it can be given a model where "A or B" is true in the actual world and "If A were not the case then B would hold" is false, since the disjunction might be false in other possible worlds. For the sake of simplicity, let us restrict the discussion to Stalnaker's theory. In it, a model can be obtained from the following assumptions: (i) In the actual world A holds but B does not; (ii) in the possible world closest to the actual one such that A does not hold, B does not hold either. By (i), (ID1) would be true; by (ii) the corresponding subjunctive conditional would be false. Then, intensional disjunctions in general do not imply the corresponding subjunctive conditional. Thus, Stalnaker's models seem to show that no matter what the associated subjunctive conditional to (ID1) is, in general the disjunction might be true and the conditional false.

Things are not so simple, though. A world where neither Oswald nor someone else killed Kennedy is a world where Kennedy was not killed. But then such a world is not a proper (counter)model of (SC1), for it is not even a model of, say, (d). These considerations make us think there is room yet for a happy marriage between intensional disjunctions and subjunctive conditionals, not to be dissolved by Adams pairs.

Thanks for useful comments to Cristian Gutiérrez, Bihui Li and referees.

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## The Right to Life and Two Controversial Social/Political Policies

Can a person consistently believe that (1) human beings have a right to life, and that (2) universal health care and a livable income (an income above the poverty level and where life is sustainable) are not programs that should be implemented to save lives that would otherwise be lost? This is an important question because many of our politicians and social pundits, including Sarah Palin, John McCain, Ken Buck, and Mike Huckabee, not to mention many common citizens, seem to hold these two



beliefs. Because we should be held accountable for our beliefs, philosophers ought to engage in analyzing public discourse. Engaging in analyzing public discourse continues the work of Socrates by exposing what Hope May refers to as ‘inconsistency ignorance’ and ‘definitional ignorance’ by holding public figures accountable for what they claim (May 2000: *Socrates*, Wadsworth, Belmont (CA), p. 69). It is important that our beliefs be consistent if we are to have well thought out public discussions that can result in policies and programs that address the important social issues that we face.

Let us assume that innocent human beings have a right to life. Let us also assume that this is a positive right so there are things that other people must do for, or refrain from doing to, the right-holder, regardless of who they are or where they are located. Minimally, this right entails that we should not cause an innocent human life to be lost if we can save it. I am using the notion of ‘causation’ to mean that an action, either one of commission or one of omission, is (part of) the cause of  $x$  if the explanation of why  $x$  happened includes the action under question as part of the explanation such that if the action under question had not happened,  $x$  would not have happened. This being the case, person  $S$  can cause the death of person  $S'$  by either killing  $S'$  or letting  $S'$  die where  $S$  could have saved  $S'$ .

Believing both (1) and (2) is an example of inconsistency ignorance. The question of inconsistency concerns the rationality of believing both that people have a right to life and the belief that implementing universal health care and a livable wage is not necessary to ensure that what this right requires of us is instantiated in practice. I stated that the right to life entails that we should not cause an innocent life to be lost that we can save. Consider the following argument:

1. Human beings have a right to life. (True by stipulation.)
2. If human beings have a right to life, then we have the moral obligation to save those lives that can be saved.
3. If we have the moral obligation to save those lives that can be saved, then we have the moral responsibility to implement those practices necessary in order to save the lives that can be saved.
4. Therefore, we have the moral responsibility to implement those practices necessary in order to save the lives that can be saved.

We can easily determine that universal health insurance and a livable wage are practices that need to be implemented in order to save lives that would otherwise be lost. For example, in regards to universal health care, the September 23, 2009 edition of the New York

Times had an [article](#) citing a Harvard Medical School study claiming that about 45000 people died because they lacked health insurance. Relative to the plight of not having a livable wage, Peter Singer states, “according to UNICEF, nearly 10 million children under five years old die each year from causes related to poverty” (Singer 2009: *The Life You Can Save*, Random House, New York, p. 4). It seems clear that if all human beings had universal health care and a livable wage, lives that would be otherwise lost would be saved. Therefore if we do not extend universal health care and a livable wage to all innocent human beings we are causing lives to be lost that could be saved. The argument runs thusly:

1. We have the moral obligation to implement practices necessary to save those lives that can be saved.
2. Universal health care and a livable wage are necessary in order to save lives that can be saved.
3. Therefore, we have a moral obligation to implement universal health care and a livable wage. QED

I have not argued that innocent people have a right to life, or that there should be universal health care or a livable wage for all innocent human beings. I have not argued for anything remotely original, nor have I relied on controversial normative concepts and theories. I simply asked the question regarding the consistency between believing that innocent human beings have an absolutist basic right to life and not endorsing universal health care and a livable wage for all innocent human beings. If we believe that innocent human beings have a right to life then we, if we are to be rational, must also believe that it is necessary to implement universal health care and a livable wage for all innocent human beings. To believe otherwise is to endorse an inconsistency and that is not rational. If we want to be rational then we either have to endorse the thesis that if all human beings have a right to life then we must implement universal health care and a livable wage or cease believing that human beings have a right to life.

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### §3 NEWS

#### **Development and Learning, 18–21 August**

This annual conference attracts mostly psychologists and roboticists interested in understanding autonomous

mental development. Developmental psychologists and computational modelers are often interested in testing their theories and models in an embodied system interacting with a dynamic environment in real time. Developmental roboticists are interested in starting robots off with some of the important characteristics of human infants and allowing them to learn and develop by socializing with humans and other robots. This is a summary of some of the important talks from the Conference.

In a keynote address, Susan Gelman (U. Michigan) asked when and how children generalize the language they are acquiring. Because young children seem to be working out the meanings of about 1600 new words at any moment, they use *fast-mapping* to rapidly acquire a placeholder for initial meaning on the basis of rather minimal information, as the rest of the meaning gets established over the next several months. Her evidence suggests that generalization does not arise solely from associative learning but rather is the child's default assumption. Evidence for default status comes from finding that generic interpretations are not linguistically marked and they appear early in development, as in *I like grapefruit* (2 years, 4 months) and *I hate babies that cry, and you're a baby that cries* (3 years, 10 months). A fundamental notion of kind seems critical to children's fast mapping of words to meanings.

In an invited talk, Gianluca Baldassarre (Institute of Cognitive Sciences and Technologies, Rome) described the large-scale IM-CLeVeR project to design robots that accumulate new skills through autonomous development based on intrinsic motivation, and then reuse these skills for complex, assigned tasks. The idea is to have robots behave like children at play and learn by flexibly re-using, composing, and readapting previously acquired skills. Investigation of three fundamental scientific and technological issues is required: mechanisms for abstracting sensory information; mechanisms underlying curiosity drives that focus attention on *zones of proximal development*; and hierarchical recursive architectures permitting cumulative learning. These studies use reverse-engineering to simulate the results of empirical experiments done with monkeys and with human children and adults.

To give a flavor of the technical content of the conference, we describe four highly-rated papers that were presented.

Kevin Gold and Allison Petrosino (Wellesley College) explained how to use information gain to build meaningful decision forests for multi-label classification. A new heuristic called *gain-based separation* modifies multi-class decision-tree learning to produce forests that describe an example with multiple classifications. When the information gain at a node would be higher if all examples of a particular classification were removed, those examples are reserved for another tree. Classes are mutually exclusive within trees but not

across trees. The algorithm was tested on humans' descriptions of the color, size, and distance of objects to a robot. The method outperforms several other techniques.

Ian Fasel et al. (U. Arizona) described a method of intrinsically-motivated information foraging. They treat information gathering as a partially observable Markov decision process in which the goal is to maximize an accumulated intrinsic reward at each time step based on the negative entropy of an agent's beliefs about the world. They show that such information-foraging agents discover exploration policies that take into account the long-term effects of sensory and motor actions, while automatically adapting to variations in sensor noise and amounts of prior information and limited memory.

Derrick Asher et al. (U. California, Irvine) examined the effect of neuromodulation on performance in a competitive game. By predicting rewards and costs, the neuromodulators dopamine and serotonin, respectively, affect how organisms learn and compete for resources. The authors developed and tested a neural-network model of these neuromodulators in Hawk-Dove games. The neural agent became Dove-like when its ability to predict payoffs was compromised due to damaging the dopaminergic system, allowing the serotonergic system to become dominant. It became Hawk-like when its ability to assess risk was compromised by damaging the serotonergic system, allowing the dopaminergic system to become dominant.

Nicholas Butko and Javier Movellan (U. California, San Diego) explained how agents with access to only their own sensory-motor experiences can learn to look at visual targets. They show that learning to look at visual targets has a deep and rich problem structure, interrelating sensory experience, motor experience, and development. They show how a Bayesian agent should trade off different sources of uncertainty in order to discover how their sensors and actuators inter-relate. Two very different robots are shown to quickly learn reliable intentional looking without access to anything beyond their own experiences.

Visit the conference [website](#) for additional information.

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## **Interacting Minds: An Interdisciplinary Approach to Social Cognition, 9 November**

Imagine you are stopped at a pedestrian crossing talking. A stranger steps out onto the road, and, without noticing the light is still red, you follow, only to be

struck by a car. Almost all of this happened to Jens Krause (Humboldt Universität zu Berlin), amusingly enough at the end of a study to discover the conditions under which one individual crossing the road can trigger another to do the same; an example of collective decision making. At the interdisciplinary symposium “Interacting Minds” organized by the Centre of Integrative Life Sciences, Krause demonstrated how an apparently informed individual can take the lead of entire groups by following 3 surprisingly simple rules specifying how to move in relation to conspecifics.

According to Hanne de Jaegher (University of the Basque Country) these group behaviours may meet only some of the criteria for social cognition. Whilst the individuals are clearly ‘coupled’, are they ‘mutually regulating’? In this case no, the stranger may not even notice you following them, there would be no effect of your action on their mind. For de Jaegher this additional criterion, mutual regulation, is needed as it allows for *interactions* to be understood as potentially constitutive of social cognition. Some may reject an extended metaphysics of cognition and still accept the claim that the study of social cognition can move beyond the study of reactions to social stimuli and focus on interaction proper.

In line with rules modelling collective decision making, Giorgia Comitteri (Gabriele d’Annunzio University) argues that many forms of social interaction are dependent on an individual’s capacity to represent the space in which they and their fellows are located. With this Comitteri takes us away from the interaction itself, back into the individual agents and their representations of space. Comitteri divides space into reachable and non-reachable space and finds that not only the space around the individual, but also the space around others is also represented in this way. This raises an interesting possibility that our representations of others involve not only representing their mental states but basic facts of their embodied agency.

Natalie Sebanz (Radboud University) makes great strides toward understanding this with a focus on what she calls ‘shared action representations’, which represent both one’s own and one’s partner’s contributions to an action. This class of representation may contribute strongly to explanations of how we cognise and perform actions involving more than one agent. In particular that shared representations are predictive will contribute significantly to explanations of real time coordination.

Excitingly, Marcel Brass provides evidence for a role of this kind of representation in social cognition beyond joint action. Those with suffering autism have severe difficulties with social cognition. Whilst they appear to have no problems in *forming* shared representations there is evidence of a specific difficulty in *controlling* their use.

Tania Singer’s (Max Planck Institute for Human Cog-

nitve and Brain Sciences) work also contributes to deeper understanding of what we need to represent about others to be successful social cognisers. Her focus being on what we represent about other’s emotional states and in particular what is shared in empathy. Empathy, Singer suggests, involves two important forms of representation, the representation of an emotional state, but also a bodily self-representation, which is used to identify the origin of the emotion as either one’s own or another’s.

Wayne Christensen (Konrad Lorenz Institute for Evolution and Cognition Research) offers an account of moral cognition that allows for the subject’s lack of insight into their moral thinking whilst preserving the rationality of moral claims. He suggests reconceiving of individuals as moral expert and imports insights from expertise research to explain moral cognition. In particular ‘situation models’ which have very rich and detailed content, but which are highly organised allowing for fast responses.

Even from very basic interactions between agents, important insights into social cognition have been generated. Most of the workshop focused on what an individual needs to represent and how this is done in order to successfully engage in a social interaction. However, we also saw a need to push outside of individual agents to the metaphysics of interaction itself. This took us from a group decision to cross a road to the capacity for skilled moral decision making. Many thanks to all our speakers and participants!

GLENN CARRUTHERS  
STEFAN GUTWINSKI  
ANNA KUHLEN  
STEFFEN LANDGRAF  
DAR MESHİ  
ROSA STEIMKE  
BERNHARD VOELKL

CILS, Humboldt Universität zu Berlin

## Formal Semantics and Pragmatics, 19–21 November

The conference “Formal Semantics and Pragmatics: Discourse, Context, and Models” was held from 19–21 November 2010, in Riga, at the University of Latvia.

The main organisers were Jurgis Šķilters of the University of Latvia, Barbara Partee, professor emerita at the University of Massachusetts at Amherst, and Michael Glanzberg, professor at the University of California at Davis, in partnership with the Department of Philosophy at Kansas State University and with support from the University of Latvia. Assistance was provided by Kristīne Ante, the head of the local organizing team, which consisted of Signe Mežinska, Katrīna Smoļska, Jānis Pencis and Linda Apse.



As well as keynote talks from Barbara Partee and Michael Glanzberg, there were talks from invited speakers in plenary session and contributed talks in parallel session. The invited speakers were Paul Dekker, Kai von Fintel, Nirit Kadmon, Manfred Krifka, Fred Landman, Jeff Pelletier, Jaroslav Peregrin, Craige Roberts, Maribel Romero, Susan Rothstein, Philippe Schlenker, Martin Stokhof, Anna Szabolcsi and Zoltán Gendler Szabó. This report summarises all talks by invited speakers and some of the contributed talks.

Some sub-topics emerged within the general theme of the conference, including the mass/count distinction; conditionals; presuppositions and focus; quantification; superlatives; anaphora; contextualism; and historical and philosophical questions about the object of study in linguistics and formal semantics.

Jeff Pelletier argued that nouns are unmarked for mass/count in the lexicon, that each noun denotes the union of stuff and a set of individuals, and count or mass features are added in the syntax.

Susan Rothstein claimed that classifier phrases are ambiguous between counting and individuating readings with different syntactic structures and (correspondingly) different compositional semantics, supporting her analysis with data showing that the distinction affects pluralisation, much/many agreement and reciprocals. In complementary work, Fred Landman proposed an additional distinction between *neat* and *mess*, so that there are four possibilities, three of them lexically realised: +Count, +Neat, e.g. *chair*, -C, -N, e.g. *salt*, -C, +N e.g. *furniture*.

Kai von Fintel presented a puzzle about conditionals: how can we reconcile Jackson's compelling intuition that the probability of *If p then q* is the conditional probability of q, given p, with the observation that sentential anaphors can pick up conditional sentences as antecedents.

Ariel Cohen argued that conditionals are illocutionary operators. Nicholas Allott claimed that apparently non-monotonic reasoning with conditionals is compatible with a classical, monotonic semantics. Itamar Francez showed that some conditionals are ambiguous between biscuit conditionals and ordinary indicatives, for example, "There are no guards if you enter the museum from the south".

Craige Roberts used a detailed review of the semantics and pragmatics of 'only' to introduce her project of understanding projection facts in terms of what is 'at issue'. Nirit Kadmon and Aldo Sevi urged the elimination of the notion of focus from the grammar, arguing that pitch-accent indicates what is new in that it is unpredictable from context and prior discourse, and that the data show that operators such as 'only' are not focus-sensitive. Marta Abrusan discussed the triggers of verbal presuppositions.

Anna Szabolcsi argued that scope interactions be-

tween 'raising'-verbs and their subjects indicate that these verbs quantify over time or world arguments.

Maribel Romero claimed that sentences with comparative superlatives such as 'fewest possible' are ambiguous, using the data to argue for a two-place lexical entry for '-est' comparatives. Manfred Krifka and Ariel Cohen argued that 'at most' superlatives should be given a meta-speech-act analysis: 'there are at most five' refuses to grant that there are six, that there are seven etc.

Philippe Schlenker argued that data from American Sign Language and French Sign Language shed light on context shift in indirect speech and favour a dynamic account of donkey anaphora over (syntactic) E-type accounts.

Zoltán Szabó presented a contextualist account of sentences with *know*, arguing that their truth-conditions are sensitive to the contextually salient question the sentence addresses, while Gunnar Björnsson argued that assessments of utterances are assessments whether conditions that the speaker wanted to convey are satisfied.

In Barbara Partee's keynote opening lecture she gave an overview of the history, aims and methods of formal semantics. Martin Stokhof claimed that linguistics illegitimately studies an idealisation of its subject matter, in contrast to genuine sciences which make legitimate abstractions. According to Jaroslav Peregrin, language is an institution (and not a mental capacity) and must be studied as such. Paul Dekker examined the reasons why work in formal semantics should (and does) focus on truth-conditions.

Michael Glanzberg closed the conference with a talk examining possible relations between concepts and lexical meanings.

NICHOLAS ALLOTT  
CSMN, University of Oslo

## Calls for Papers

**SOCIAL COGNITION: MINDREADING AND ALTERNATIVES:** special issue of the *Review of Philosophy and Psychology*, deadline 1 December.

**SPACE AND TIME. PERSPECTIVES FROM PHILOSOPHY, MATHEMATICS AND PHYSICS:** special issue of the *Philosophia Scientiae*, deadline 1 December.

**STATISTICAL COMPUTING AND STATISTICAL GRAPHICS SECTIONS:** American Statistical Association, Student Paper Competition 2011, deadline 13 December.

**VISUAL REASONING WITH DIAGRAMS:** special issue of *Logica Universalis*, deadline 15 December.

**CLASSICAL LOGIC AND COMPUTATION:** special issue of *Annals of Pure and Applied Logic*, deadline 15 February.

**FROM PRACTICE TO RESULTS IN LOGIC AND MATHEMATICS:** special issue of *Philosophia Scientiae*, deadline 1 March.

**CUSHING MEMORIAL PRIZE:** to the best paper in the History and Philosophy of Physics, deadline 15 March.

**HILARY PUTNAM INTERNATIONAL YOUNG SCHOLARS CONTEST:** to the best two essays on any aspect of Hilary Putnam's latest views, deadline 15 April.

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

**C. L. HAMBLIN AND ARGUMENTATION THEORY:** special issue of *Informal Logic*, deadline 30 June.

**THE PROBLEM OF THE CRITERION:** special issue of *Philosophical Papers*, deadline 30 June.

**FORMAL AND INTENTIONAL SEMANTICS:** special issue of *The Monist*, deadline 30 April 2012.

We will be happy to publish your news on LORIWEB.

BEN RODENHÄUSER  
Philosophy, Groningen

#### INTRODUCING ...

If you would like to write one or more short introductions to concepts, topics, authors or books connected with reasoning, inference or method, or if you have an editorial project to collate such pieces and would like to print some of them here, please email [features@thereasoner.org](mailto:features@thereasoner.org) with your proposal.

## §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](mailto:features@thereasoner.org) with a sample first column.

### ... Logic and Rational Interaction

Several conference reports appeared last month on *LORIWEB*: on the *Logic and Knowledge Conference* which took place in Rome in June, on the *Amsterdam Graduate Philosophy Conference* held in October, and on the *CPH-NIP Formal Epistemology Workshop* that took place in Copenhagen in October.

A special issue of the *Journal of Philosophical Logic* is devoted to the *2009 Formal Epistemology Workshop* (FEW). The issue is already available *online*. Other new publications include the book *Approaches to Legal Rationality* that appeared with Springer, and two *new articles* on justification logic recently added to the *justification logic bibliography*.

Finally, the category Logic and Philosophy of Logic of the online repository PhilPapers needs an editor. Qualified volunteers may find more information on the PhilPapers *webpage*.

Information on topics relevant to the area of Logic and Rational Interaction can be submitted to [Rasmus Rendsvig](mailto:Rasmus.Rendsvig), our web manager or to the [loriweb](http://loriweb) address.

## §5 EVENTS

### DECEMBER

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

**MODALITIES: SEMANTICS & EPISTEMOLOGY:** Nancy, France, 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.

**RATIONAL TRUST:** University of Copenhagen, 9-10 December.

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

**CAUSATION IN EPIDEMIOLOGY:** Department of History and Philosophy of Science, University of Cambridge, 14 December.

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

**NEW TRENDS IN THE PHILOSOPHY OF THE SOCIAL SCIENCES:** UNED, Madrid, 15 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.

#### JANUARY

**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.

**THE NATURE OF INDETERMINACY**: University of Leeds, 21–22 January.

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

**SODA**: 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.

#### FEBRUARY

**SOCIAL NORMS IN SOCIAL SCIENCES**: Department of Philosophy, University of Bristol, 14 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.

**MORE TOO FUNKY CAUSATION**: Department of Philosophy and Moral Sciences, Ghent University, Belgium, 23–24 February.

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

**NOVEL PREDICTIONS**: Heinrich-Heine Universität Düsseldorf, Germany, 25–26 February.

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

#### MARCH

**ISHPS**: Israeli Society for History & Philosophy of Science, Bloomfield Science Museum, Jerusalem, 6 March.

**THEORY-LADENNESS OF EXPERIENCE**: Heinrich-Heine Universität Düsseldorf, 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.

**THINKING ABOUT ANIMAL COGNITION**: Institut für Philosophie, Ruhr-Universität Bochum, Germany, 17–18 March.

**EUROPEAN EPISTEMOLOGY NETWORK**: Lund, Sweden, 17–19 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.

**ICDDM**: International Conference on Database and Data Mining, Sanya, China, 25–27 March.

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

**HACKING'S STYLES OF THINKING**: University of Cape Town, 30–31 March.

#### APRIL

**EPISTEMOLOGY OF MODELING & SIMULATION: BUILDING RESEARCH BRIDGES BETWEEN THE PHILOSOPHICAL AND MOD-**

**ELING COMMUNITIES:** University of Pittsburgh, 1–3 April.  
**PARADOX AND LOGICAL REVISION WORKSHOP:** Arché Research Centre, St Andrews, Scotland, 2–3 April.  
**AISB:** UK Society for the Study of Artificial Intelligence and Simulation of Behaviour, University of York, York, 4–7 April.  
**RESEARCH STUDENT CONFERENCE IN PROBABILITY AND STATISTICS:** Cambridge, 4–7 April.  
**SPRINGSIM:** Spring Simulation Multi-conference, Boston, MA, USA, 4–9 April.  
**BIOLOGY AND SUBJECTIVITY:** University of Navarra, Pamplona, Spain, 6–8 April.  
**ICNCS:** International Conference on Network and Computer Science, Kanyakumari, India, 8–10 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.  
**MAICS:** 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.  
**EBL:** 16th Brazilian Logic Conference, Laboratório Nacional de Computação Científica, Petrópolis (RJ), Brazil, 9–13 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.  
**SYSTEMATICITY AND THE POST-CONNECTIONIST ERA: TAKING STOCK OF THE ARCHITECTURE OF COGNITION:** San Jose, Andalusia, Spain, 19–21 May.

**SLACRR:** St. Louis Annual Conference on Reasons and Rationality, St. Louis, MO, 22–24 May.  
**PAKDD:** 15th Pacific-Asia Conference on Knowledge Discovery and Data Mining, Shenzhen, China, 24–27 May.  
**AI:** 24th Canadian Conference on Artificial Intelligence, Saint John's, Newfoundland and Labrador, Canada, 25–27 May.  
**NORMATIVITY OF MEANING: SELLERSIAN PERSPECTIVES:** Department of Logic, Institute of Philosophy, Prague, Czech Republic, 25–27 May.  
**LATA:** 5th International Conference on Language and Automata Theory and Applications, Tarragona, Spain, 30 May - 3 June.

#### JUNE

**TICTTL:** 3rd International Congress on Tools for Teaching Logic, Salamanca, Spain, 1–4 June.  
**WSOM:** 8th Workshop on Self-organizing Maps, Espoo, Finland, 13–15 June.  
**BW7:** 7th Barcelona Workshop on Issues in the Theory of Reference, Special Topic: Paradoxes of Truth and Denotation, 14–16 June.  
**ICANN:** International Conference on Artificial Neural Networks, Espoo, Finland, 14–17 June.  
**LOGICISM TODAY:** Besse-en-Chandesse, France, 14–17 June.  
**CSR:** 6th International Computer Science Symposium in Russia, St. Petersburg, 14–18 June.  
**SPSP:** Society for Philosophy of Science in Practice, University of Exeter, Exeter, UK, 22–24 June.  
**EPISTEME:** ‘Social Epistemology meets Formal Epistemology: Recent developments and new trends’, Center for Formal Epistemology, Department of Philosophy, Carnegie Mellon University, 24–26 June.  
**EVOLUTION, COOPERATION AND RATIONALITY: PHILOSOPHICAL PERSPECTIVES:** University of Bristol, 27–29 June.  
**MODELS OF COMPUTATION IN CONTEXT:** Sofia, Bulgaria, 27 June- 02 July.  
**ICML:** 28th International Conference on Machine Learning, Bellevue, WA, USA, 28–29 June.  
**MODELS AND MECHANISMS IN COGNITIVE SCIENCE:** School of Philosophy, Psychology, and Language Sciences, University of Edinburgh, 29 June.  
**ECSQARU:** 11th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty, Belfast, Northern Ireland, UK, 29 June - 1 July.

#### JULY

**ICMC:** 2nd International Choice Modelling Conference, Leeds, UK, 4–6 July.  
**TABLEAUX:** Automated Reasoning with Analytic Tableaux and Related Methods, Bern, Switzerland, 4–8 July.



**LGS7:** 7th International Conference on “Logic, Games Theory and Social Choice”, National School of Political Studies and Administration, Bucharest, Romania, 6–9 July.

**ICLP:** 27th International Conference on Logic Programming, Lexington, Kentucky, USA, 6–10 July.

**IWSM:** 26th International Workshop on Statistical Modelling, Valencia, 11–15 July.

**TARK:** Theoretical Aspects of Rationality and Knowledge, Groningen, the Netherlands, 11–15 July.

**ICIAM:** 7th International Congress on Industrial and Applied Mathematics, Vancouver, British Columbia, Canada, 18–22 July.

**IJCAI:** 22nd International Joint Conference on Artificial Intelligence, Barcelona, Spain, 19–22 July.

**CLMPS:** 14th Congress of Logic, Methodology, and Philosophy of Science, Nancy, France, 19–26 July.

**SING:** 7th Spain-Italy-Netherlands Meeting on Game Theory, Paris, 18–20 July.

**ISIPTA:** 7th International Symposium on Imprecise Probability: Theories and Applications, University of Innsbruck, Austria, 25–28 July.

**CADE:** 23rd International Conference on Automated Deduction, Wroclaw, Poland, July 31- August 5.

## §6

### 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.

**SPRING SCHOOL ON BELIEF FUNCTIONS THEORY AND APPLICATIONS:** Autrans, France, 4–8 April.

**LOGIC SCHOOL:** Instituto de Matemática/UFF, Niterói (RJ), Brazil, 7–8 May.

**REASONING AND ARGUMENT: COMPUTER AND COGNITIVE SCIENCE PERSPECTIVES:** 2nd Summer Institute on Argumentation, Centre for Research on Reasoning, Argumentation and Rhetoric, University of Windsor, Ontario, Canada, 9–27 May.

#### 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 provided by Philosophy and further modules from 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 LOGIC:** Institute for Logic, Language and Computation, University of Amsterdam.

**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.

**MRES IN COGNITIVE SCIENCE AND HUMANITIES: LANGUAGE, COMMUNICATION AND ORGANIZATION:** Institute for Logic, Cognition, Language, and Information, University of the Basque Country (Donostia San Sebastian).

## §7

### 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:** 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:** 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.

**HERBERT SIMON FELLOWSHIP IN SCIENTIFIC PHILOSOPHY:** for research in logic or philosophy of mathematics, Department of Philosophy, Carnegie Mellon University, deadline 1 December.

**POSTDOCTORAL RESEARCH ASSOCIATE:** in Machine Learning, Department of Engineering, University of Cambridge, UK, deadline 1 December.

**VISITING ASSISTANT PROFESSOR:** AOS: Epistemology, Metaphysics, Mind, Language, or Philosophy Science, Department of Philosophy, Lafayette College, Easton, PA, deadline 1 December.

**POST-DOC RESEARCH FELLOWSHIPS:** “Pragmatic Foundations Project”, Centre for Time, University of Sydney, deadline 3 December.

**RESEARCH ASSOCIATE:** in 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.

**TENURE-TRACK POSITION:** AOS: Epistemology. AOC: Philosophy of Language, Philosophy of Mind, or Logic, Department of Philosophy & Religion at Western Kentucky University, review of applications begins 10 December.

**THREE-YEAR LECTURER:** Philosophy & Economics Programme, University of Bayreuth, deadline 10 December.

**PROFESSORSHIP:** AOS: preference to metaphysics, epistemology, history of philosophy, philosophy of science, philosophy of mind, and philosophy of language, ANU, Canberra, deadline 15 December.

**PROFESSORSHIP:** in Theoretical Philosophy, AOS: philosophy of mind, philosophy of science, philosophy of language, or epistemology, Department of Philosophy, Bielefeld University, deadline 31 December.

**ONE-YEAR POSITION:** in Philosophy of Science, San Francisco State University, review of applications begins in January.

## Studentships

**10 PhD STUDENT POSITIONS:** within the doctoral program “Mathematical Logic in Computer Science”, Vi-

enna University of Technology (TU Wien), until filled.

**PHD STUDENTSHIP:** “Hyper-heuristics for Grouping Problems”, School of Computer Science, University of Nottingham, until filled.

**PHD STUDENTSHIP:** “Dynamic Semantic Matchmaking for Stream Data and Knowledge”, University of Aberdeen, deadline 15 December.

**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.

**PHD POSITIONS:** Gatsby Computational Neuroscience Unit, UCL, London, deadline 7 January.

**LSE PHILOSOPHY SCHOLARSHIP:** Department of Philosophy, Logic and Scientific Method, London School of Economics, deadline 15 January.

**LAKATOS SCHOLARSHIP:** MSc in Philosophy of Science, Department of Philosophy, Logic and Scientific Method, LSE, deadline 15 February.