Logic of Conceivability *(virtual)* Conference

Monday, 7 June — Wednesday, 9 June, 2021

CEST	MONDAY	TUESDAY	WEDNESDAY
12:50-13:00	Welcome by Franz Berto		
13:00-14:00	Ruth Byrne	Peter Hawke	Sonja Smets
14:00-14:15		(break)	
14:15-15:15	Emiliano Lorini	Rineke Verbrugge	(talk cancelled)
15:15-15:30		(break)	
15:30-16:30	Tom Schoonen	Sonia Roca Royes	Anthia Solaki
16:30-16:45		(break)	
16:45-17:45	Aybüke Özgün	Karolina Krzyżanowska	Thomas Ferguson
17:45-18:00			
18:00-19:00	Graham Priest	(virtual drinks)	

Programme

Ruth Byrne
(Trinity College Dublin)

Title: How people understand and reason with counterpossible conditionals

Abstract: Do people think about counterpossibles, subjunctive conditionals with impossible antecedents, such as “if people were made of steel they would not bruise easily”, the same way as they think about counterfactuals, subjunctive conditionals about what once was possible but is so no longer, such as “if the car had turned, it would not have hit the cyclist”? I discuss recent experiments that examine how people understand counterpossibles, and how they reason with them. The experiments address the issue of whether counterpossibles can be considered non-vacuously true, and show that people judge some of them, such as “if lakes were made of bleach people would not swim in them” could be true whereas their counterparts with the

opposite consequent, “if lakes were made of bleach people would swim in them” could be false. They consider other counterpossibles vacuously true, that is, the counterpossible could be true and so too could its counterpart, and other counterpossibles could be vacuously false. The experiments also examine the conditional inferences people make from counterfactual and counterpossible conditionals. They show that people tend to make fewer inferences that endorse the impossible antecedent from counterpossibles, such as the affirmation of the consequent inference. I discuss the implications of the results of the experiments for alternative theories of reasoning based on mental models and on bayesian conditional probability calculations.

Thomas Ferguson
(University of Amsterdam)

Title: Syncategorematic Content

Abstract: One promissory note that William Parry left unfulfilled in his program of developing content was to explore the contribution of syncategorematic terms to the overall subject matter of a sentence. In the propositional case, most accounts of subject-matter assume that such terms, e.g., connectives like conjunction or conditionals, contribute nothing to a statement's content. I will discuss some directions in which such an exploration can be taken. In particular, I will examine reasons for distinguishing between intensional and extensional syncategorematic terms and adopting a thesis that content must reflect the structure of intensional connectives. Consequences of the thesis track several themes in relevant logics more broadly; e.g., the Ackermann property has a content-theoretic justification and depth relevance can be understood as a thesis about containment of subject matter. I will conclude by considering the matter of whether the converse Ackermann property--read as a content-theoretic constraint--should follow from such a thesis.

Peter Hawke
(Lingnan University)

Title: Transparency, Topicality, and the Foundations of Two-Component Semantics

Abstract: I defend the view that propositional content involves at least two irreducible components: truth conditions and topic. I start with a naive case for irreducibility and identify some objections. I then argue that if the basic logical connectives are `transparent' with respect to topic, then truth conditions do not determine topic, and topic does not determine truth conditions. Finally, I offer some reasons to accept the transparency thesis and respond to potential objections. Time permitting, I'll also suggest worries for a sophisticated variant: that topic can be reduced to truth-making conditions. This is largely based on joint work with Franz Berto and Levin Hornischer.

Karolina Krzyżanowska
(University of Amsterdam & University of St Andrews)

Title: Conditionals, inferential connections, and the contribution of "then"

Abstract: The oddity of missing-link conditionals, such as, "if sharks are carnivorous, then Amsterdam is a European city," has been traditionally explained away as a pragmatic phenomenon. Moreover, the requirement that the antecedent is a reason for, or an explanation of, the consequent has been analysed as the semantic contribution of the particle "then" rather than of the conditional itself. In my talk, I will present empirical evidence undermining this view. (Joint work with Peter Collins and Ulrike Hahn.)

Emiliano Lorini
(Université Paul Sabatier)

Title: Epistemic Attitudes of Resource-Bounded Agents

Abstract: I will present a logical theory of the static and dynamic aspects of epistemic attitudes of resource-bounded agents grounded on the notion of belief base. In the theory, the only primitive concept is explicit belief (i.e., a piece of information in an agent's belief base) whereas the concept of implicit belief, implicit graded belief and awareness are derived from it. I will present a variety of dynamic operations on belief bases in a multi-agent setting including multi-agent belief expansion, forgetting and revision. I will show how such operations indirectly affect implicit beliefs and awareness by inducing implicit belief change and awareness change.

Aybüke Özgün
(University of Amsterdam)

Title: Indicative Conditionals: Probabilities and Relevance

Abstract: We propose a new account of indicative conditionals, giving acceptability and logical closure conditions for them. We start from Adams' Thesis: the claim that the acceptability of a simple indicative equals the corresponding conditional probability. The Thesis is widely endorsed, but arguably false and refuted by empirical research. To fix it, we submit, we need a relevance constraint: we accept a simple conditional $\phi \rightarrow \psi$ to the extent that (i) the conditional probability $p(\psi|\phi)$ is high, provided that (ii) ϕ is relevant for ψ. How (i) should work is well-understood. It is (ii) that holds the key to improve our understanding of conditionals.
Our account has (i) a probabilistic component, using Popper functions; (ii) a relevance component, given via an algebraic structure of topics or subject matters. We present a probabilistic logic for simple indicatives, and argue that its (in)validities are both theoretically desirable and in line with empirical results on how people reason with conditionals.
(Joint work with Francesco Berto)

Graham Priest
(City University New York)

Title: A Model of the Conceivable Inconceivable

Abstract: To conceive of a state of affairs might mean a number of different things. For the sake of this paper, I shall take conceivable as meaning describable. The inconceivable in this sense is the ineffable. Many philosophers have held that there are states of affairs that are ineffable. However, many of the same philosophers argue that there are such things; and of course, in doing so, they describe them. One might be inclined to write off these philosophers views as incoherent on this ground. However, this would be too fast. Technically, at least, the view is perfectly coherent. In this paper I will give a simple arithmetic paraconsistent model to demonstrate this.

Sonia Roca Royes
(University of Stirling)

Title: Conceptual engineering and the epistemology of essence (about concreta)

Abstract: This will be an exploratory talk that builds on my inductive, non-rationalist epistemology of modality. I have distinguished in the past the knowability conditions of ordinary possibilities such as this climbing rope could break, from those of essential facts (and associated impossibilities), arguing that an account of the epistemology of essential facts ought to represent our knowledge of them as less securely grounded, and as thus open to more epistemic risk, than the inductive route provides for the less challenging possibilities, like the breakability of the climbing rope. Abduction—as an epistemology of essential facts about concreta—would fit the bill here. The lesser probative force of the envisioned abductive argument generates, however, a sceptical concern about its outputs. Conceptual engineering comes in at this dialectical moment, at which I will suggest the following normative decision: that our concepts should be so fashioned as to refer to the largest—in a sense to be explained—modally extended entities for whose existence we have direct evidence, regardless of whether, metaphysically, these entities are just proper parts of 'larger' ones our unruled concepts might have been onto. Once so fashioned, the sceptical concern disappears; and the greatest amount of knowable modal facts is enabled.

Tom Schoonen
(University of Amsterdam)

Title: Kinds and the Epistemology of Possibility

Abstract: I propose a novel similarity-based epistemology of non-actual possibilities: e.g., concerning the belief that my coffee cup could break. In particular, I propose to interpret `relevant similarity' in terms of kindhood. We are justified in believing the non-actual possibility that a could have had property P, just in case there is another member of the kind that a belongs to of which we know that it has (had) property P. In order for this argument to succeed as an explanation of how we gain justification for our beliefs in non-actual possibilities, it must be argued that we justifiably believe two of its main premises: (i) the projection from one member of a kind having a property to the claim that all of the objects of such a kind could have that property and (ii) the categorisation of two objects as being of the same kind.

However, there is a worry that there is an equivocation between the levels of categorisation required to justify (i) and (ii). In order to overcome this, I suggest that when going through this kind of similarity reasoning, people use a Placeholder Heuristic. That is, people reason as if the level of categorisation at which they make reliable inductive inference is the level at which one can validly extrapolate to all members.

Sonja Smets
(University of Amsterdam)

Title: Reasoning about the Epistemic Potential of Agents

Abstract: In this presentation I focus on the 'epistemic potential' of a group of agents, i.e. the knowledge (or beliefs) that the group may come to possess if all its members join their forces and share their individual information. Among the different notions of group knowledge studied in the literature, which one can give us a good measure of a group's epistemic potential? A first candidate is `distributed knowledge', which can in principle be converted into actual individual knowledge by means of simple inter-agent communication. However, in practice there are many factors which may prevent the full actualization of distributed knowledge. These factors include the group's dynamics, the structure of the social network, the individuals' different epistemic interests and agendas, etc. When we take these realistic conditions into account, a more accurate formalization of a group's potential knowledge can be developed. I show that in interrogative scenarios allowing inter-agent communication as the group's main knowledge-aggregation method, the group's true epistemic potential may well turn out to be very different from both distributed knowledge and from common knowledge (lying instead somewhere in between these extremes). The results reported on in this lecture are mainly based on my joint work with A. Baltag and R. Boddy in [1], but also touch upon the results in [2].

[1] A. Baltag, R. Boddy and S. Smets. Group Knowledge in interrogative Epistemology. Springer Series ' Outstanding Contributions to Logic', volume dedicated to J. Hintikka, 2018.

[2] A. Baltag and S. Smets, Learning what Others Know, in L. Kovacs and E. Albert (eds.), LPAR23 proceedings of the International Confernce on Logic for Programming AI and Reasoning, EPiC Series in Computing, Volume 73, pp 90-110, 2020

Anthia Solaki
(University of Amsterdam)

Title: Bounded-multi agent reasoning: inference, introspection, attribution

Abstract: Epistemic logic, seen as spin-off of normal modal logics, faces many challenges on its adequacy to model actual human reasoning, especially in light of empirical evidence on people's performance in reasoning tasks. It models agents as unlimited reasoners, who perform deductive inferences, introspect, and reason about others' reasoning, despite bounds of memory or time. We propose a logic for reasoning in a multi-agent setting, that is properly informed by empirically indicated bounds. We introduce (i) a resource-sensitive impossible worlds semantics, to account for the fallibility of real reasoners, and (ii) dynamic operators and model updates, inspired by Dynamic Epistemic Logic (DEL), to represent actions that, when affordable, can refine the zero- or higher- order epistemic state of agents. We unfold the framework through case-studies of multi-agent reasoning scenarios, along with several examples. Furthermore, we explore some technical properties of the system and, finally, we explain why this line of work makes for a suitable basis for the incorporation of more cognitive parameters into a logical model.

Rineke Verbrugge
(University of Groningen)

Title: Conceiving the conceptions of others

Abstract: In cognitive science, there has been comparatively much more attention for first-order attributions of others' mental states ("Bob knows that Alice will throw him a surprise party") than for second-order attributions of others' conceptions about mental states ("Alice does not believe that Bob knows that she will throw him a surprise party"). People can apply such `theory of mind' recursively, up to a point, but the literature about higher orders of theory of mind is rather scant. In this lecture, the tables will be turned: I will gloss over first-order theory of mind quickly and focus on second-order and even higher orders of theory of mind. I will discuss several strands of empirical research, logic, and computational cognitive models, in order to seek answers to difficult questions about people's conceptions about people's conceptions about people's mental states.