Truth and Semantics Kick-Off Workshop & Bristol Logic Meeting

Reception Room, Wills Memorial Building
University of Bristol

Friday, May 3 & Saturday, May 4, 2019

Programme

Friday, May 3, 2019

10h	Welcome and Coffee
10h15 - 11h15	Kevin Scharp (St Andrews): Deflationism and Creationism
11h30 - 12h30	Volker Halbach (Oxford): The Fourth Grade of Modal Involvement
12h30	Lunch break
14h00 - 15h00	Carlo Nicolai (KCL): The least of all evils.
15h15 - 16h15	Beau Mount (Oxford): Type-Free Truth for Ramsey-Prior-Williamson-Style Truth Theories: An Initial Report
16h15	Coffee break
16h45 - 17h45	Salvatore Florio (Birmingham): Lifting the veil of type distinctions (joint work with Øystein Linnebo)
19h00	Conference Dinner at River Cottage Canteen

Saturday, May 4, 2019

10h15 - 11h15	Walter Dean (Warwick): The liar and the sorites: towards a uniform arithmetical treatment
11h30 - 12h30	Catrin Campbell-Moore (Bristol): Precisifications in the Supervaluational Kripke Theory
12h30	Lunch break
14h00 - 15h00	Jack Woods (Leeds): Generic Validity
15h15 - 16h15	Laura Crosilla (Birmingham): Predicativity, Poincaré and constructive mathematics
16h15	Coffee break
16h45 - 17h45	Tim Button (Cambridge): Loving the Universe

Abstracts

- **Tim Button (Cambridge): Loving the Universe**

  I want to introduce you to a new set theory. (The theory is my own, but it builds on work by many other people.) According to this theory, the sets are arranged into well-ordered stages, but every set has an absolute complement. Since the absolute complement of the empty set is the universal set, this theory puts the empty set and the universal set on a par. Just how 'on a par' they are will emerge during the talk. But in the end, this theory has convinced me that the claim 'there is no universal set' is not just an unjustified dogma; it is a dogma without determinate content. The theory can be given an obvious semantics; but it is probably better to eschew semantics in favour of deductive higher-order logics; in that case, the theory is absolutely internally categorical.

- **Catrin Campbell-Moore (Bristol): Precisifications in the Supervaluational Kripke Theory**

  An influential account for the liar paradox is Kripke's construction. This talk focuses on the variant of Kripke's construction based on supervaluational logic. I will present the supervaluational Kripke construction by focusing directly on the precisifications and what each precisification recommends. This alternative presentation helps us understand what is happening in the supervaluational jump, where we also have to include "mutually supported members"; and allows us to directly apply the construction in a wider range of notions, for example in epistemology where the notion of an individual belief's recommendation is simply given to us by the scenario.

- **Laura Crosilla (Birmingham): Predicativity, Poincaré and constructive mathematics**

  Constructive mathematics is a form of mathematics which uses intuitionistic rather than classical logic. It is often also termed mathematics "Bishop-style", after (Bishop 1967). Constructive mathematics is gaining renewed attention in recent years due to its computational character. Foundational systems for constructive mathematics such as Martin-Löf type theory (MLTT) are also very general programming languages. The theory MLTT combines the use of intuitionistic logic with the adherence to a form of predicativity, often termed generalised predicativity. Predicativity relates to how we define mathematical entities. According to a well-known characterisation of predicativity, a definition is impredicative if it defines an entity by reference to (e.g. generalization over) a totality to which the entity itself belongs, and is predicative otherwise. Compliance with predicativity directly affects the concept of set, as it rules out all those sets that can only be defined impredicatively. The appeal of predicativity from a constructivist perspective is due to the thought that a predicative definition of a mathematical entity describes a step-by-step "construction" of the same. In this talk, l will look at the origins of predicativity in the writings of Poincaré and Russell, focusing especially on the late Poincaré (1909, 1912). An analysis of the early literature on predicativity highlights a number of characterisations of this notion. I shall discuss a proposal by Poincaré to

characterise predicativity in terms of a notion of invariance and argue that this is a more appropriate notion of predicativity in the constructive case.

- **Walter Dean (Warwick): The liar and the sorites: towards a uniform arithmetical treatment**

  The unification of the paradoxes of truth and vagueness has been a topic of recurrent philosophical interest (e.g. McGee 1990, Tappenden 1993, Field 2003/2008). I will present a sequence of observations which illustrate how the liar and sorites paradoxes are formally related, culminating in the observation that both give rise to similar sorts of mathematical incompleteness phenomena. A central tool will be the use of the arithmetized completeness theorem to provide interpretations of higher-order notions and vague predicates within the language of first-order arithmetic.

- **Salvatore Florio (Birmingham): Lifting the veil of type distinctions (joint work with Øystein Linnebo)**

  Despite their vexed history, type-theoretic approaches are making a comeback in areas such as semantics, metaphysics, and philosophy of mathematics. In this talk, we explore some of the technical and philosophical questions that arise when we attempt to lift "the veil" of syntactic type distinctions, reinterpreting these distinctions within an untyped framework. In particular, we discuss whether this can be done consistently and, if so, whether it has theoretical benefits. Our focus will be on an extensional interpretation of type theory by means of plural quantification. Towards the end of the talk, we broach some of the difficult issues facing attempts to lift the veil of type distinctions in intensional settings.

- **Volker Halbach (Oxford): The Fourth Grade of Modal Involvement**

  I provide an account of de re necessity conceived as a predicate applying to formulae and variable assignments. I demonstrate that operator and alternative predicate approaches fall short of capturing the full expressive power of de re necessity. A possible worlds semantics will be given for this predicate. I will then look at themes from modal metaphysics such as necessitism vs contingentism and ante rem vs in rebus conceptions of universals.

- **Beau Mount (Oxford): Type-Free Truth for Ramsey-Prior-Williamson-Style Truth Theories: An Initial Report**

- **Carlo Nicolai (KCL): The least of all evils**

  I present a theory—or better, a cluster of theories—of transparent consequence and truth. It is a nonclassical option, as it based on a restriction of initial sequents. However, it has unique properties that make it preferable to its nonclassical rivals. Unlike theories based on restrictions of Boolean connectives, it allows for a transparent treatment of both truth and consequence and admits cut elimination. Therefore, conservativeness and relative consistency proofs only require basic combinatorial resources. Unlike other substructural approaches, it has nice models and natural infinitary extensions.

- **Kevin Scharp (St Andrews): Deflationism and Creationism**

  Deflationism about truth is usually characterized as implying that truth plays no explanatory role at all. This consequence of deflationism is problematic, in part, because of truth-conditional semantics. Here I argue that any deflationary theory with this consequence is a non-starter because truth-conditional semantics has the status of a received view in one of the sciences. In this sense, deflationsim is similar to creationism, and should be rejected for roughly the same reason as pseudoscientific.

- **Jack Woods (Leeds): Generic Validity**

  Until 15 years ago, it would have been very difficult to deny that there was a most basic, foundational, or fundamental relation of logical consequence. These days, though, logical pluralism is on the rise (Beall and Restall 2005, Field 2009, Russell 2008) and some have even made the stronger claim that no notion of logical consequence holds across all contexts (Shapiro 2014, Russell 2018). Yet many of us still hold onto the thought that there really is one most basic, foundational, fundamental notion of logical consequence which underlies all the rest. I'll refer to this notion of logical consequence as generic in what follows, for reasons that will become clear below.

  Why think that there really is a notion of generic validity? There are a number of sophisticated considerations and one pugnacious one. The sophisticated ones range from the idea that there's a fixed domain of existing propositions which are logically related to each other, to the necessary use of logic in areas like abduction, the theory of credences, and belief revision, to the thought that no pluralist picture could do explain the uniformity of our judgments of what we're committed to by means of the beliefs and theories we adopt. Put these to the side, though I think they're individually compelling and jointly conclusive. The pugnacious reason is equally damning and far more fun. It's best thought of in the form of an obnoxious question to the pluralist. Which logic is your book written in?

  Of course, that's facile. The serious version goes like so: the books and papers defending logical pluralism contains arguments and those arguments are presumably meant to be taken seriously. That is, they're taken to be at least valid. We can thus fairly ask which notion of validity is employed in arguing for logical pluralism. As well as asking which logic is used in evaluating which logic is best for which purpose, which logic outlines connections between results in one domain and another, and which logic is used for the metatheory in which pluralism is usually defined. This is especially important since whether or not we can justify various claims made in defending particular pluralisms depends on which logic we use when evaluating those claims.

  The most natural and unified answer to these questions is that there's a single notion of validity that provides the standard of argument for pluralist claims. Moreover, the most charitable interpretation of their systematic lack of discussion of the pugnacious question is that they intend their interlocutors to use, when evaluating their arguments, a relation of logical consequence which is uniquely appropriate to the context of deciding about philosophical views like logical pluralism. My contention in this paper that this relation simply is the most basic, foundational, fundamental relation of logical consequence.

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