

# Bristol-München Conference on Truth and Rationality



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University of Bristol

10-12 June 2016



BIRTHA

BRISTOL INSTITUTE FOR RESEARCH  
IN THE HUMANITIES AND ARTS

**Friday 10th June - G5, 3/5 Woodland Road)**

**09:00-09:15**

Welcome

**09:15-10:15**

**Martin Fischer (München) Truth and Reflection in a partial setting**

**Abstract:** Recent work by Horsten and Leigh, generalizing results by Halbach, shows that it is possible to recover compositional axioms from reflection on simple Tarski biconditionals. In the talk I want to address the question whether something similar is possible in a partial setting, especially whether it is possible to obtain PKF by suitable reflection on simple truth introduction sequents. Not only will the answer be positive but I will also indicate that there is good reason to believe that also sufficient parts of transfinite induction can be recovered.

**10:15-10:30**

Break

**10:30-11:30**

**Kentaro Fujimoto (Bristol) Compositionality/Non-compositionality and Predicativity/Impredicativity**

**11:30-12:00**

Tea and Coffee (provided)

**12:00-13:00**

**Dora Achourioti (Amsterdam) Intensionality and Truth**

**Abstract:** We motivate and present a notion of truth that incorporates intensional features and we consider some limitative results.

**13:00-14:30**

Lunch

**14:30-15:30**

**Carlo Nicolai (München) Capturing classical truth in De Morgan logics**

**Abstract:** In the talk I focus on a fairly detailed proof of one single result. Halbach and Horsten (2006) showed that (a variant of) the axiomatization of Kripke's theory of truth in De Morgan logics, known as PKF, can define any Tarskian truth predicate with index below  $\omega^\omega$  and no more. This phenomenon is at the root of the mismatch between what PKF and its close relative formulated in classical logic, KF, prove true. I show that if PKF is augmented with a rule of transfinite induction up to  $\epsilon_0$ , the resulting theory PKF+ will define any Tarskian truth predicate indexed by ordinals below  $\epsilon_0$ . As a consequence, what PKF+ proves true coincides with the set of sentences deemed true by KF.

**15:30-15:45**

Break

**15:45-16:45**

**Giorgio Venturi (Unicamp & IHPST) Genericity and arbitrariness**

**Abstract:** In this talk we compare the notions of genericity and arbitrariness, on the basis of the realist import of the method of forcing. We argue that Cohen's Theorem, similarly to Cantor's Theorem, may be viewed as a meta-theoretic argument for the existence of uncountable collections. We then discuss the effect of this meta-theoretical perspective on Skolem's Paradox. In analyzing the connection between genericity and arbitrariness we also study a class of posets whose elements consist of generic extensions and whose order is induced by the relation of generic extension. This will allow us to show that there are different degrees of genericity among sets. We conclude discussing the effect of our arguments with respect to different multiverse positions and their search for truth in set theory.

## Saturday 11th June – G2, Cotham House

**09:15-10:15**

**Alexander Jones (Bristol) A Formal Classification of Pathological Satisfaction Classes**

**Abstract:** Satisfaction classes are a good semantic notion of truth for models of Peano Arithmetic, with the following exception. They can contain nonstandard sentences which are intuitively false, called pathologies, but which are made true by the satisfaction class. There has been work completed recently on how one might remove these pathological sentences from the theory of satisfaction classes, whilst retaining a conservative theory. There has been little discussion on what, exactly, these sentences are, however. In this talk we analyse what we mean by saying a sentence is pathological and give a formal criterion of this using Robinson's notion of semantic entailment for nonstandard sentences.

**10:15-10:30**

Break

**10:30-11:30**

**Mateusz Łełyk (Warsaw) Discovering the Tarski Boundary**

**11:30-12:00**

Tea and Coffee (provided)

**12:00-13:00**

**Richard Kaye (Birmingham) Stratification and Satisfaction**

**13:00-14:30**

Lunch

**14:30-15:30**

**Monika Gruber (Vienna) Ramsey's belief --> action --> truth theory**

**Abstract:** Ramsey's goal in "Facts and Propositions" is to present a logical analysis of judgement and belief, and he is determined to account for their truth conditions. Additionally, on just couple of pages of this short essay, Ramsey presents what is today known as the redundancy theory of truth, which has not only been falsely established as his truth theory but also became an inspiration to all modern deflationary theories of truth. Ramsey's redundancy conception of truth, however, only makes sense together with his theory of belief which, in turn, is dependent on his complete theory of truth, which turns out to be more of a correspondence theory. In what follows, we will see that Ramsey's theories of truth and belief are, in fact, interdependent. We will also determine the connection between Ramsey's theories of truth and probability, and see how decisive the agent's actions are for both of these theories.

**15:30-15:45**

Break

**15:45-16:45**

**Catrin Capmbell-Moore (Cambridge) Probability and the Revision Theory of Truth**

**Abstract:** In a usual revision theory of truth, some sentences never settle down on a particular truth value. But there's information in the revision sequence that we can use by assigning sentences different semantic-probability values. For example the liar sentence will get probability a half. One can also go further and construct a revision theory of probability itself.

**16:45-17:00**

Break

**17:00-18:00**

**Volker Halbach (Oxford) Truth and Logical Consequence**

**Abstract:** A substitutional account of logical truth and consequence for certain first-order languages is developed and defended. A substitution instance of a sentence is defined to be the result of uniformly substituting nonlogical expressions in the sentence with expressions of the same grammatical category. In particular atomic are replaced with formulae

containing at least the same variables. The definition of logical truth is then as follows: A sentence is logically true iff all its substitution instances are always satisfied. Logical consequence is defined analogously. It is shown that this substitutional notion of logical truth is squeezed between derivability in a system of first-order logic and the model-theoretic notion of provability. The substitutional definition of logical truth and consequence is argued to be closer to the informal notion than the proof-theoretic and model-theoretic definitions. The substitutional account requires an 'absolute' notion of truth or satisfaction. This will be introduced by suitable axioms.

**19:00**

**Conference Dinner - Wahaca**

Wahaca is a lively Mexican chain diner with a lively soundtrack for small plates of market-style food and cocktails. All speakers will have their meal funded.

Address: 70-78 Queens Rd, Bristol BS8 1QU

## **Sunday 12th June – G2, Cotham House**

**09:15-10:15**

**Lavinia Picollo (München) The expressive function of truth**

**Abstract:** It is often said that the truth predicate serves a logico-expressive function, namely, it allows for the expression of so-called 'infinite conjunctions'. This function prompts the formulation of logics or formal theories of truth. We argue that what principles these systems should validate depends on what it means for an infinite conjunction to express or stand in for all its 'conjuncts'. We examine two accounts available in the literature, intended to support transparency principles, and show them to be substantially flawed. We put forward a new approach, and show it supports a strong version of transparency: uniform transparency. Finally, we discuss whether classical or non-classical logics are to be preferred as basis for theories of truth, depending on the purpose for which the truth theory is intended.

**10:15-10:30**

Break

**10:30-11:30**

**Bartosz Wcisło (Warsaw) Models of the Positive Compositional Truth**

**11:30-12:00**

Tea and Coffee (provided)

**12:00-13:00**

**Thomas Schindler (Cambridge)**

**13:00-14:30**

Lunch

**14:30-15:30**

**Johannes Stern (München) Supervaluation-Style Truth Without Supervaluations**

**Abstract:** The fixed points of Kripke's supervaluational theory of truth are attractive interpretations of the truth predicate. They improve on the fixed points of Kripke's strong Kleene theory of truth in that they are closed under PAT-consequences, while the strong Kleene fixed points are only closed under PA-consequences. That is, the strong Kleene theory of truth gives up classical reasoning altogether once the truth predicate is involved. The price to pay for the improvement is twofold: (i) supervaluational truth violates compositionality. (ii) the supervaluational jump operation is opaque and complex since it involves quantification over second-order variables. While (i) is an unavoidable drawback, we investigate, inspired by work of Andrea Cantini, the prospects of a more transparent and simpler construction of the supervaluational fixed points and connect our observations to the theory VF and its models.

**15:30-15:45**

Break

**15:45-16:45**

**Philip Welch (Bristol) Maximalising Intrinsicity**

**Abstract:** Kripke in his original outline, suggested the notion of a maximal intrinsic fixed point in the strong Kleenean scheme of things. Such a fixed point arises by considering all sound evaluations that do not conflict with any other such. However it is possible to go further and consider more expansive levels of intrinsicity. A natural monotone operator is defined, and the question arises of how best to formulate an axiomatic system to capture this.

**16:45-17:00**

Closing

## Sponsors

We would like to thank and acknowledge the generous contributions of our sponsors for making this event possible. These sponsors are: The British Logic Colloquium, The Alumni Foundation, the Bristol Institute for Research in the Humanities and the Arts and the European Research Council Advanced Investigator Grant as part of a research project entitled 'Darwinism and the Theory of Rational Choice'.