Logic as Science
1st Workshop in the Anti-exceptionalism Project

University of Bergen
Department of Philosophy, Sydnesplassen 12 - 13. Seminarrom, Ground floor.

Friday 18th November

09:00 - 09:15	Welcome
09:15 - 10:30	What counts as evidence for a logical theory? *Ole Hjortland, University of Bergen*
10:30 - 10:45	Break
10:45 - 12:00	Counterfactuals and theory choice *Graham Priest, CUNY Graduate Center/Melbourne*
12:00 - 13:15	Lunch: Christie Café
13.15 - 14.30	Russell, set theory, and the revision of logic *James Levine, Trinity College Dublin*
14:30 - 14:45	Break
14.45 - 16.00	Logic, abductive methodology and theory comparison *Bruno Jacinto, Arché, University of St Andrews*
16:00 - 16:15	Break
16.15 - 17.30	Logical vice *Gillian Russell, UNC Chapel Hill*

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Saturday 19th November

09:00 - 09:15	Morning Coffee
09:15 - 10:30	Truth in a model *Paal Antonsen, University of Bergen*
10:30 - 10:45	Break
10:45 - 12:00	Logical partisanhood *Jack Woods, University of Leeds*
12:00 - 13:15	Lunch: Christie Café
13.15 - 14.30	The adoption problem and self-referential logical rules *Suki Finn, University of Southampton*
14:30 - 14:45	Break
14.45 - 16.00	Ontology and the logic of identity *Øystein Linnebo, University of Oslo*
19:30	Dinner: Naboen

Abstracts

What counts as evidence for a logical theory?
Ole Hjortland, University of Bergen

Anti-exceptionalism about logic is the Quinean view that logical theories have no special epistemological status, in particular, they are not self-evident or justified a priori. Instead, logical theories are continuous with scientific theories, and knowledge about logic is as hard earned as knowledge of physics, economics, and chemistry. Once we reject apriorism about logic, however, we need an alternative account of how logical theories are justified and revised. A number of authors have recently argued that logical theories are justified by abductive argument (e.g. Gillian Russell, Graham Priest, Timothy Williamson). This paper explores one crucial component of the abductive strategy: what counts as evidence for a logical theory? I develop three accounts of evidential confirmation that an anti-exceptionalist can accept: (1) intuitions about validity, (2) the Quine-Williamson account, and (3) indispensability arguments. I argue that the available evidence leads to underdetermination of the choice of logical theory. It follows, against the received view, that anti-exceptionalism does not supports classical logic.

Counterfactuals and theory choice
Graham Priest, CUNY Graduate Center/Melbourne

Elsewhere I have endorsed a model of rational choice between logical theories, in terms of computing the weighted average of the various good-making criteria of theories. There is currently a debate between those (like Williamson) who hold that counterfactuals with impossible antecedents are all vacuously true, and those (such as myself), who hold that this is not the case. In this talk I will show how the debate can be understood in terms of the above-mentioned model of rational theory-choice. I shall argue that non-vacuism is the better theory. The main point of the talk, however, is to illustrate the model of theory-choice, and so support its plausibility.

Russell, set theory and the revision of logic
James Levine, Trinity College Dublin

I discuss some aspects of Russell's early philosophical development and argue that his coming to accept Cantorian set theory and his subsequent attempts to resolve the paradoxes he finds there, lead Russell to accept an anti-exceptionalist, coherentist view of the justification of logic that allows for its revisability - a view of the epistemology of logic that anticipates and plausibly influences Quine's position.

Logic, abductive methodology and theory comparison
Bruno Jacinto, Arché, University of St Andrews

According to Quine (1986), "change of logic, change of subject": putatively rival logical theories are either equivalent or incommensurable. Even if such global skepticism towards genuine logical rivalry is ultimately unjustified, it is not unreasonable to think that some purportedly rival logical theories turn out to be equivalent or incommensurable. For instance, Fine (1977), Pollock (1985) and Correia (2007) have offered reasons to think that some quantified modal logics are equivalent and that their proponents are engaged in merely verbal disputes.

Appropriately ascertaining whether logical theories are equivalent or incommensurable requires an account of these theoretical relations. My main aim in this presentation is to propose and defend a representational account of the theoretical relations of equivalence, incommensurability and containment. Whereas the standard accounts of these relations only take into consideration the mathematical properties of theories, the account to be proposed focuses both on their mathematical and representational properties. My subsidiary aim is to show how such theoretical relations may be applied in an anti-exceptionalist abductive methodology for choice of logic, and that their appropriate application requires disentangling different senses in which theories count as 'logical'.

Logical vice
Gillian Russell, UNC Chapel Hill

How do we choose the best logic? On one approach we should do it by evaluating rival logics for various theoretical virtues and vices. This talk looks at what kinds of things might count as virtues and vices in logic, and takes issue with some recent arguments for particular logics along these lines.

Truth in a model
Paal Antonsen, University of Bergen

The model theoretic approach promises to give a precise account of logical truth and logical consequence. It aims to do so by defining these notions via the more basic notion of truth in a model. In this talk I discuss what it means to say that something is 'true in a model.' As context for the discussion I will make of use a dispute between Williamson and Stalnaker, a dispute about whether the model theoretic approach comes naturally with ontological commitments.

Logical partisanhood
Jack Woods, University of Leeds

A natural suggestion and increasingly popular account of how to revise our logical beliefs treats revision of logic analogously to the revision of any scientific theory. I investigate this approach and argue that simple applications of abductive methodology to logic result in revision-cycles. I do this by developing (contra Priest and Krämer) a case study of an actual dispute with this property. Such cycles are problematic if we take abductive methodology to convey something like doxastic justification on revising our logical framework. I generalize this case, pointing to similarities with more recent and popular heterodox logics, such as certain naive logics for truth. I use this discussion to motivate a constraint - LOGICAL PARTISANHOOD - on legitimate revision: both the proposed alternative and our actual background logic must be able to agree that moving to the alternative logic is preferable.

The adoption problem and self-referential logical rules
Suki Finn, University of Southampton

Saul Kripke and Romina Padró's 'adoption problem' can be summarized as such: Certain basic logical principles cannot be adopted, because, if a subject already infers in accordance with them, no adoption is needed, and if the subject does not infer in accordance with them, no adoption is possible. At first sight, the adoption problem seems devastating for certain basic logical principles to be superfluous or impossible to adopt goes against our ordinary beliefs about our ability to utilize what we consider to be helpful principles of logic. But by diagnosing what exactly the problem with adoption is supposed to be we can get a clearer picture of the morals that should be drawn from it. I do this by examining specifically what kind of thinkers would have trouble adopting rules, what it is about the adoption process that is problematic, and what it is about certain basic logical rules of inference like Modus Ponens and Universal Instantiation that make them unadoptable. I will clarify that such rules exhibit a kind of self-reference (by being of the very structure that the rule aims to govern or explain), and it is this feature that prevents them from being adopted. As such I conclude that the adoption problem bottoms out in a self-reference problem.

Ontology and the logic of identity
Øystein Linnebo, University of Oslo

Logic tells us that identity is an equivalence relation that is subject to Leibniz's Law. I critically discuss the idea that the logic of identity is constitutive of our thought about objects and thus very different in philosophical status from ordinary scientific claims.