METHOD, THEORY, REALITY WORKSHOP • 2024 SCHEDULE

(Talks are 45 minutes followed by 30 minutes for Q&A)

FRIDAY APRIL 26, 2024

3:30 pm - 4:45 pm – Ryan Olsen, "Why and How Identity is Grounded"

5:00 pm - 6:15 pm – Jenn McDonald, "Deriving Naturalness from Causal Structures"

6:30 pm - 7:45 pm – Chris Dorst, "What is the Epistemic Advantage of Humeanism?"

8:00 pm DINNER

SATURDAY APRIL 27, 2024

10:00 am – 10:30am COFFEE & LIGHT SNACKS

10:30 am - 11:45 am – Jason DeWitt, "Causal Pragmatism without Causal Perspectivalism"

12:00 pm - 1:15 pm – Devin Gouvea, "An Exemplary Approach to Scientific Concepts"

1:15 pm - 2:30 pm LUNCH

2:30 pm - 3:45 pm – Cruz Davis, "Serendipitous Shortcomings or Auspicious Assumptions?"

4:00 pm - 5:15 pm – Travis McKenna, "The Coordinating Role of Laws in Empirical Science"

5:30 pm - 6:45 pm – Alex Meehan, "How Ur-itating! A Trilemma for the Ur-prior Theorist"

7:00 pm RECEPTION

SUNDAY APRIL 28, 2024

10:00 am – 10:30am COFFEE & LIGHT SNACKS

10:30 am - 11:45 am – Jared Hanson-Park, "Realism and the Nature of Scientific Progress"

12:00 pm - 1:15 pm – Martina Botti, "Is Parthood a Relation? No."

1:15 pm - 2:00 pm LUNCH

2:00 pm - 3:15 pm – Alex Murphy, "On Getting 'Space' Right"

ABSTRACTS

Martina Botti (*Columbia University*), "Is Parthood a Relation? No."

I argue that to be a part of is no more a relation than to exist is a property. To this end, I prove, first, an overlooked incompatibility result: Simplicity of Plenitude. SOP says that an ontology committed to Plenitude, i.e., the claim that, for every object, there is a plenitude of objects that coincide with it, is incompatible with any mereological account of coincidence. I construct SOP as a paradox: there is no way to both (i) interpret the universal quantifier in Plenitude as intended, i.e., absolutely unrestricted and (ii) include both composite and atomic objects in the ontology, as—I argue—any mereological account of coincidence requires. Far from prompting a rejection of Plenitude, this result, I argue, should prompt a revision of the logical nature of parthood: not a relation holding between objects within our quantification domain, but an operator that triggers an extension of the interpretation of our quantifiers. I set forth and present a formal system that accommodates my revised account of parthood and discuss some applications to the debate on Composition as Identity and on real definitions.

Cruz Davis (*UMass Amherst*), "Serendipitous Shortcomings or Auspicious Assumptions?"

There is a common assumption that the best defenses of scientific realism require the minimization of putative epistemic shortcomings. Central to this line of thought is the idea that a proper defense of realism requires *both* eliminating the effects of the theory-laden methodology of science *and* providing a clear answer to worries of underdetermination of theory by evidence. This perceived wisdom is dead wrong. *Instead*, a proper understanding of the theory-ladenness of method should be seen as *essential* to an adequate defense of scientific realism and as *central* to the realist's response to underdetermination. Consequently, realists should see theory-ladenness as a guarantor as opposed to an obstacle to objective knowledge.

This paper draws out lessons from this insight. In particular, I argue that there is a general response strategy that realists can adopt from the aforementioned dialectic. Namely, realists should see undefended assumptions, putatively arbitrary choices, and so on that provide the typical grist for the anti-realist mill as *opportunities* for defending realism as opposed to problems for realism. To this end, I first, explain how one can generalize arguments from theory-ladenness for realism to provide a general response strategy to anti-realist arguments. I then offer several examples of how to apply this generalized response strategy to debates about natural kinds, values in science, and idealization. Finally, I close the discussion by considering how the response strategy requires treating epistemological inquiry and metaphysical inquiry as inseparable.

Jason DeWitt (*Ohio State University*), "Causal Pragmatism without Causal Perspectivalism"

A pragmatist about causation identifies causes by considering the function of causal talk and thought for creatures like us. Some philosophers have argued that if we begin with a pragmatist account of causation, then we must also accept perspectivalism about causation. The causal perspectivalist thinks that what causation *is* essentially depends on facts about an agent's perspective. In this paper, I critically evaluate this inference by considering Huw Price's positive argument for perspectivalism and his negative argument against non-perspectival causal pragmatisms. I show that there is no good reason to accept a central premise of the positive argument. Then, by considering the work of James Woodward, I suggest a version of non-perspectival causal pragmatism that survives Price's negative argument. This objectivist causal pragmatism identifies causes by reflection on human concerns and practices, but the causal relation is an objective relation that has nothing to do with agential perspectives. In seeing where and why Price's arguments fail, we find the recipe for an objectivist causal pragmatism. The paper concludes by considering Jenann Ismael's discussion

of perspectivalism. Ismael's view turns out to be consistent with objectivist causal pragmatism. The paper concludes that non-perspectivalism about causation is compatible with pragmatism about causation.

Chris Dorst (*University of Florida*), "What is the Epistemic Advantage of Humeanism?"

This paper aims to refine our understanding of the epistemic advantages of Humeanism about laws of nature. It has recently been argued (in Chen (ms)) that, contrary to the received wisdom, Humeanism does not have an advantage over non-Humeanism regarding our epistemic access to the laws. I will argue here that this is wrong: Humeanism *does* have such an advantage. However, given some of the basic motivations for Humeanism, it turns out that this advantage is one that Humeans themselves ought to regard as entirely insignificant. So the received wisdom about Humeanism's epistemic advantage is correct, but that advantage is one that, by the Humean's own lights, amounts to nothing. Despite all this, Humeanism has a different epistemic advantage worth bragging about, namely in its ability to make sense of our epistemic standards for lawhood.

Devin Gouvea (*Holy Cross*), "An Exemplary Approach to Scientific Concepts"

Important scientific concepts are often semantically unruly. There is consensus that they designate something important, but not how that "something" should be defined, identified, or theorized. After accumulating many examples of such behavior, philosophers of science are starting to treat the general phenomenon as an important feature of scientific practice. My talk presents a novel and explicitly historical model of conceptual complexity in science that riffs on the work of T. H. Kuhn and W. B. Gallie. Even though Gallie thought science immune to what he called "essentially contested concepts," his analysis of their development is remarkably fruitful. The central component of my model is an exemplary achievement—a series of concrete research activities that use the concept to produce something highly compelling. Because this achievement inspires but does not fix subsequent usage of its companion concept, it seeds complexity even as it provides cohesion. I demonstrate the model by surveying some episodes in the study of biological homology that are poorly captured by existing philosophical analysis, but easily explained by my exemplary approach.

Jared Hanson-Park (*Texas A&M*), "Realism and the Nature of Scientific Progress"

In the philosophy of science, the debates over scientific realism and scientific progress have received significant attention, but the relationship between these two debates is not precisely clear. I focus on the relationship between these two debates, seeking to determine how the realist's commitment to true theories that persist through theory change relates to scientific progress. Contrary to Bird (2007), I recognize that there are instances of lost knowledge throughout the history of science, so the realist cannot say that science has always made progress by accumulating knowledge. While realists may be drawn towards the view that progress consists in the accumulation of knowledge, I argue that a realist approach to theories does not necessarily entail a knowledge-focused approach to progress. Because realism is a more demanding philosophical commitment than the commitment to a particular account of scientific progress, I argue that progress can occur descriptively even when no realist advances have been made. In the end, I argue that the various realist positions can benefit from increased clarity and precision by making explicit the relationship between realist commitment and the explanation of scientific progress.

Jenn McDonald (*Columbia University*), "Deriving Naturalness from Causal Structures"

I argue that causal structures can be used to define a graded notion of 'natural' property. Various features of properties, discernible by surveying their occurrence in causal structures, are identified as constitutive of a

property's 'causal profile,' which then determines its degree of naturalness. First, I define a 'causal structure' as a worldly network of causal relations meeting certain basic conditions. I then identify the features of causal structures definitive of a property's causal profile. The causal profile of more 'natural' properties, on this view, appear more *frequently* in causal structures and the causal structures in which they appear are more *complex*; their causal structures *recur* more frequently and those that do are more *complex*. Most importantly, more 'natural' properties are more *transparent*, *resilient*, and *reliable* – in a sense that I define.

While it should be uncontroversial that these features genuinely hold of properties, or that by weighting them in various ways they can be used to privilege some properties over others, one may ask why the weighting I indicate should be definitive of 'naturalness'. To motivate this, I first show how the view distinguishes intuitively natural properties from non-natural ones – namely, gerrymandered, disjunctive, conjunctive, and extrinsic properties. Finally, I argue that the view explains the explanatory and predictive value of natural properties, delivers natural properties directly relevant to the special sciences, and supports a naturalistic conception of natural kinds.

Travis McKenna (*University of Pittsburgh*), "The Coordinating Role of Laws in Empirical Science"

The question of the *role* that laws play in the process of scientific inquiry has long occupied an important place in philosophical discussions of laws of nature. Philosophers have typically approached this question by attempting to write down a *job description* for laws: a list of tasks that laws accomplish more or less on their own in scientific practice. Familiar candidates include furnishing us with predictions, providing explanations, underwriting counterfactual claims, and so on. This approach, I argue, runs into trouble: laws on their own are often not *capable* of performing many of the tasks that end up on these job descriptions. Rather, they must be supplemented by a wide variety of modelling ingredients before they can be of much use — what I call a law's *supporting cast*. Properly speaking, it is in most cases a complex *package* of laws and supporting constructions that allows us to predict and explain the behaviour of various systems, rather than simply the law itself. If we want to develop a picture of the role that laws play in scientific practice, we should then look at the role that laws play in the construction of *models*. To this end, I suggest that laws play a *coordinating role* in scientific practice: they provide us with the kinds of coordinating frameworks that we need in order to construct models, which *in turn* provide us with predictions, explanations, and the like.

Alex Meehan (*Yale/UW-Madison*), "How Ur-itating! A Trilemma for the Ur-prior Theorist"

Ur-priors, or hypothetical priors, are an important tool in formal epistemology used to model agents' credences or evidential standards before they receive any evidence. This talk will present a trilemma for the ur-prior theorist. Supposing that (1) an ur-prior can be modeled as a two-place function of propositions, and that (2) the underlying possibility space may be uncountable (for example, to accommodate uncertainty about continuous quantities), then (3) there is a partitional learning situation such that if an agent conditionalizes in accordance with the ur-prior in that learning situation, then she is Dutch bookable and fails to maximize expected accuracy relative to that learning situation. The argument does not rely on any heavy set-theoretic assumptions and draws on a relatively under-discussed consequence of the Borel-Kolmogorov paradox (Kadane et al, 1986, Appendix of 'Statistical implications of finitely additive probability'). The upshot is that the ur-prior theorist must either reject (1), reject (2), or accept (3). I discuss the pros and cons of these options according to different interpretations of ur-priors, and whether these results show the ur-prior approach needs to be abandoned altogether in favor of a more fragmentationist approach to Bayesian epistemology. This talk is based on joint work with Snow Zhang.

Alex Murphy (*Yale*) "On Getting 'Space' Right: An Ordinary Solution to an Unordinary Problem"

Our most promising theories of quantum gravity share one surprising feature – their fundamental ontology isn't spatiotemporal in a recognisable sense. This raises a broadly Sellarsian question: how are we to relate the manifest of the spatiotemporal with the scientific image so construed? One popular suggestion, endorsed by David Chalmers, is to adopt Lewisian-style analytic functionalism about our spatial concepts and terms. By doing so, Chalmers claims, we can license our ordinary spatial talk and show how it relates to descriptions found in fundamental physics. As such, he claims, functionalism helps us avoid the charge of systematic error which would otherwise face our ordinary spatial discourse. I'll show that we neither need such functionalism, nor should we want it. The latter is true because functionalism leaves our spatial concepts, claims, and terms implausibly vulnerable to shifts in reference and reference failure. The former is true because basic meaning-theoretic considerations, acceptable to a range of meaning-theorists, demonstrate the absurdity of eliminativism about ordinary spatial discourse.

Ryan Olsen, (*UMass, Amherst*), "Why and How Identity is Grounded"

Consider a non-fundamental thing, like Jumbo the elephant. What is the relationship between Jumbo's existence and his numerical identity? Assuming that Jumbo's existence is metaphysically grounded (for example, in the arrangement of his cells and tissues) I argue that Jumbo's identity fact must also be grounded. Otherwise, we face what I call the *selection problem:* ungrounded identity facts would require that the grounds of Jumbo's existence select Jumbo out of all things whose identity facts are ungrounded. And such grounding stories have untenable consequences—for example, that Jumbo is as fundamental as his cells, proteins, and atoms. How, then, is Jumbo's identity fact grounded? Not in his existence, I argue, *contra* recent scholarship. Existence facts are either grammatically plural or singular. Plural facts are about pluralities of things, and many things cannot be numerically one. So a plural existence fact cannot ground an identity fact. But a singular existence fact presupposes that its subject is numerically one, undercutting the idea that the former explains the latter. Whether plural or singular, existence facts do not ground identity facts. Instead, I suggest an account of identity focused on *how* existence is grounded: what makes x and y identical is that their existence facts are grounded in the very same way. I conclude by highlighting how this account can yield the numerical identity of objects located at different times, putting pressure on perdurantist theories of persistence.

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