



## Topics in Scientific Philosophy, February 23-25, 2018

Change in further parameters, however, go on to vindicate major strengths of diversity. With an increase in the pool of available heuristics, diverse groups again do better than groups of the highest-performing individuals. Group dynamics makes a difference as well: simultaneous 'tournament' deliberation in a group in place of the 'relay' deliberation in Hong and Page's original model further emphasizes an advantage for diversity. 'Tournament' dynamics particularly shows the advantage of mixed groups that include both 'experts' and 'non-experts'.

As a whole, our results suggest that diversity and expertise—the wisdom of crowds and the wisdom of the few—play distinctive epistemic roles relative to problem characteristics and available conceptual resources.

**11:30** Break

**12:00** Peter Vanderschraaf, University of California, Merced

Title: Modeling a Coordination Regime

Abstract: Hume famously denies that the relationship between the rulers and the ruled of a state is contractual and argues that instead this relationship is founded upon convention. Several authors, including Brian Skyrms, have revived this idea in contemporary political philosophy. If the rulers and the ruled can be in such a *coordination regime*, this would account for why the ruled in many actual states should obey their governments and why their governments should provide adequate services without appeal to dubious free-standing political obligations. But I argue that a coordination regime falls outside the scope of the standard game-theoretic accounts of convention proposed by David Lewis and Robert Sugden. I propose a model of a coordination regime that integrates elements of the theory of repeated games with the economics of search. In this model, if the incumbent sovereign fails to serve the ruled adequately, the ruled can depose this sovereign and return to the State of Nature. But they then must search for a new sovereign they expect will serve them adequately. I explore conditions that characterize a coordination regime that are analogous to folk-theorem equilibria of long- and short-lived players in repeated games.

**1:00** On Site Lunch

**2:00** Jos Uffink, University of Minnesota

Title: Schrödinger and the prehistory of the EPR argument.

Abstract: This talk will present some of the results that came out of an historical effort to study Schrödinger's unpublished notebooks on his pre-1935 thoughts on entanglement. In particular, this talk will show that Schrödinger developed the essentials of the Einstein-Podolsky-Rosen (EPR) argument of 1935 already in 1931. I will comment on how this argument differs from the EPR version, and the version of the argument that Einstein communicated to Schrödinger in his post-EPR correspondence.

**3:00** Break

**3:30** Roman Frigg, London School of Economics

Title: Can Somebody Please Say What Gibbsian Statistical Mechanics Says?

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Abstract: Among working physicists, Gibbsian statistical mechanics (GSM) is the most widely used version of statistical mechanics. Yet a closer look at GSM reveals that it is unclear what exactly the theory says and how it bears on experimental practice. The root cause of the difficulties is the status of the Averaging Principle, the proposition that what we observe in an experiment is the ensemble average of a phase function. We review different stances toward this principle, ranging from unconditional acceptance to blatant rejection. We find all of them wanting and suggest that the problem finds an elegant solution if one adds a Boltzmannian definition of equilibrium to GSM, which results in what we call the 'Gibbsmannian approach'.

**4:30** Break

**5:00** Sarita Rosenstock, University of California, Irvine

Title: Structure and Equivalence in Classical Field Theories

Abstract: Scientists and philosophers often invoke parsimony as a theoretical virtue alongside descriptive accuracy, and aim to minimize the amount of structure present in a physical theory as much as possible. But it's not always clear what it means to reduce structure in a physical theory, or how one would go about doing so. I present a proposal for formalizing structure comparison in physics using category theory, which can be thought of as the mathematical theory of structure. I'll then show how this method helps elucidate a number of interesting and important issues in the foundations of classical field theories, including general relativity and Yang-Mills theory.

**6:30** – 8pm On Site Dinner

**Saturday, 2/24**

**8:30** On Site Breakfast

**9:00** Gerard Rothfus, University of California, Irvine

Title: Evidence, Causality, and Sequential Choice

Abstract: This talk explores the significance of sequential choice arguments for the evidential vs. causal decision theory debate. After considering Arif Ahmed's recent argument that causalists fall prey to dynamic inconsistency, I show, using an example due to Brian Skyrms, that evidentialists fare little better in this regard. I then examine the normative import of these results and consider various ways those concerned to make causalists (or evidentialists) dynamically consistent might proceed.

**10:00** Break

**10:30** James Joyce, University of Michigan, Ann Arbor

Title: The Dynamics of Rational Deliberation Revisited

Abstract: Using the model of deliberation developed in Brian Skyrms' *The Dynamics of Rational Deliberation*, I will explain away some purported counterexamples to causal decision. During the course of the discussion I will address the proper role and interpretation of act probabilities in deliberation, and

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may briefly consider the status of what Huw Price has called "Ramsey's ultimate contingency," which is roughly the idea a deliberating agent is in a position to discount information about she is likely do.

**11:30** Break

**12:00** Teddy Seidenfeld, Carnegie Mellon University

Title: When LARGE also is SMALL: Conflicts between Measure Theoretic and Topological senses of a negligible set.

Abstract: In this presentation I review some old and some new results about the conflicts between measure-theoretic and topological senses of being a "negligible" (or "small") set. These results help to explain why familiar probability strong-laws cannot be reconciled with a topological perspective where P-null sets (where the strong laws fail) also are meager sets.

**1:00** On Site Lunch

**2:00** Sandy Zabell, Northwestern University

Title: Fisher, Bayes, and predictive Bayesian inference.

Abstract: R. A. Fisher is usually perceived to have been a staunch critic of the Bayesian approach to statistics, yet his last book (Statistical Methods and Scientific Inference, 1956) is much closer in spirit to the the Bayesian approach than the frequentist theories of Neyman and Pearson. This mismatch between perception and reality is best understood as an evolution in Fisher's views over the course of his life. In my talk I will discuss Fisher's initial and harsh criticism of "inverse probability", his subsequent advocacy of fiducial inference starting in 1930, and his admiration for Bayes expressed in his 1956 book. Several of the examples Fisher discusses there are best understood when viewed against the backdrop of earlier controversies and antagonisms

**3:00** Break

**3:30** Persi Diaconis, Stanford University

Title: A Practical Use for the Philosophy of Inference

Abstract: The Bayesian/ Frequentist debate has been going on 'forever'. I will examine the problem of making Bayesian goodness of fit tests (does the model fit the data). Even in 2018, this is a research area. It's simply not true that with lots of data Bayesians and frequentists agree (Lindley's paradox) and the differences make a practical difference. There is much for philosophers to do in going forward.

**4:30** Break

**5:00** Jan-Willem Romeijn, University of Groningen

Title: Resiliency in psychiatric science

Abstract: What is a good classification scheme for mental disorders? This question is of great importance for clinicians and psychiatric researchers, but also for philosophers of science. The problem of finding the right classification scheme arguably resembles a problem well-known in philosophical circles, to wit, the

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problem of the reference class. In my talk I propose a solution to this problem that goes back to Brian Skyrms' seminal 1977 paper "Resiliency, Propensities, and Causal Necessity". In it he develops the idea that chances are robust degrees of belief. I will elaborate on this idea and argue that it suggests a particular anti-reductionist approach to the problem of psychiatric classification, in which causal inference and statistical model selection play a key role.

**6:30** On Site Dinner

**Sunday, 2/25**

**8:30** On Site Breakfast

**9:00** Francesca Zaffora Blando, Stanford University

Title: A learning-theoretic characterisation of Martin-Löf randomness

Abstract: In this talk, I will provide a novel characterisation of Martin-Löf randomness within the learning-theoretic framework for algorithmic randomness introduced by Osherson and Weinstein [2008]. I will also highlight a connection between this learning-theoretic framework and integral tests for randomness.

**10:00** Break

**10:30** Jason McKenzie Alexander, London School of Economics

Title: Fr

Abstract: Recent attempts to understand the phenomenon of group agency have proceeded by looking at conditions required for the formation of group attitudes, particularly using axiomatic methods (see List and Pettit, 2011). In this paper, we argue that this methodology fails to capture, either from a normative or descriptive perspective, a number of essential features of how groups form collective attitudes in practice. Drawing upon an empirical case study involving the construction of regulation by the International Accounting Standards Board over several years, we show that this group (and, we suggest, many other groups) routinely behave in ways which violate every one of List and Pettit's axioms. We argue that attending to details of the dynamics of intragroup deliberation shifts responsibility to the individuals involved, rather than the group. This suggests alternative methods for analysing group agency and group attitude formation are required to capture these additional complicating features.

**12:00** On Site Lunch

End of Conference