CHANCE ENCOUNTER 2016

Faculty of Philosophy, University of Groningen, Oude Boteringestraat 52, room Omega.

Schedule

Thursday June 23

9:30 Welcome

9:45 Nina Emery (Brown) “Deterministic chance and the explanatory role”

10:45 Coffee break

11:15 Aidan Lyon (Maryland) “Counterfactual Probabilities, Chances and Robust Explanations”

12:15 Lunch

13:15 Malcolm R. Forster (UW Madison) “Causation: Can the Philosophical and Scientific Conceptions Be Unified?”

14:15 Short break

14:30 Jan Sprenger (TiLPS) “Conditional Degree of Belief in Bayesian Inference”

15:30 Tea and cookies

16:00 Mauricio Suarez (Madrid) “Chance and Statistical Modelling”

17:00 Drinks and dinner in town

Friday June 24

9:45 Luke Fenton-Glynn (UCL) “Imprecise Best System Chances”

10:45 Coffee break

11:15 Patryk Dziurosz-Serafinowicz (Groningen) “David Lewis’s Kinematics of Chance and Resiliency”

12:15 Lunch

13:15 Adam Bales (Cambridge) “Chance, Choice and Causal Decision Theory”

14:15 Short break

14:30 Ronnie Hermens (Oxford) “What is the difference between "quantum” and “ordinary” probability?”

15:30 Tea and cookies

16:00 Roman Frigg (LSE) “Determinism and Chance - An Impossible Encounter?”

17:00 Drinks

Abstracts

Nina Emery (Brown)
Deterministic chance and the explanatory role

Compatibilism about chance and determinism is the view that there are non-trivial chances in worlds where the fundamental laws are deterministic. In this paper I present a version of the explanatory role argument for compatibilism. According to this argument we ought to be compatibilists because there are cases where probabilities play a crucial role in explaining some phenomena even when the fundamental laws are deterministic, and in order for the relevant probabilities to play this explanatory role they must be suitably objective. I then critically evaluate two recent suggestions for a metaphysics of deterministic chance with the explanatory role argument in mind.

Aidan Lyon (Maryland)
Counterfactual Probabilities, Chances and Robust Explanations

Some of our best scientific explanations make references to probabilities, and this has led some philosophers to conclude that those probabilities are objective chances, because they cannot be subjective probabilities. However, this line of reasoning quickly runs into a problem: classical statistical mechanics assumes that the world is deterministic, and it would seem that deterministic worlds cannot be chancy. So, some philosophers have concluded that the probabilities in question must be subjective (a.k.a. "epistemic") probabilities after all (Schaffer 2007). I argue that both lines of reasoning are mistaken, and their mistakes come from not first clearly identifying the different conceptual roles that probabilities play in the sciences. I'll show that by delineating at least three concepts of probability — counterfactual probabilities, chances, and credences — many conceptual confusions can be avoided, especially ones involving determinism and chance. I'll argue that many of the probabilities that appear in high-level sciences should be understood as counterfactual probabilities, given the work the play in scientific explanations.

Malcolm R. Forster (UW Madison)
Causation: Can the Philosophical and Scientific Conceptions Be Unified?

Abstract: The key idea behind the scientific theory of causation, called the structural theory, is that a model asserting causal relations between variables entails probabilistic independence relations amongst the variables. Philosophers have conceived of causal relations as occurring between single-case instances, which is a finer-grained description of

causation. The idea is to extend the structural theory by allowing that finer-grained causal models entail not just independencies but also partial independencies. This points towards a natural and novel way of extending the structural theory to cover single-case causation.

Jan Sprenger (TiLPS)
Conditional Degree of Belief in Bayesian Inference

The normative force of Bayesian inference is, to a large extent, based on constraints on the conditional degree of belief in evidence E given hypothesis H, that is, p(E|H). In updating prior to posterior degrees of belief, these degrees of belief are usually set equal to the value of the corresponding statistical probability density. But what justifies this equality that is required for meaningful Bayesian inference? The paper argues that some easy answers fail, and it develops a constructive answer based on Ramsey's counterfactual interpretation of conditional degree of belief. It is argued that such an approach to conditional degree of belief also explains (and justifies) the lack of interest in interpretations of objective chance among statisticians and other scientists. Moreover, the Ramseyian approach enables us to develop satisfactory responses to more general criticisms of Bayesian inference.

Mauricio Suarez (Madrid)
Chance and Statistical Modelling

I defend a three-fold form of pluralism about chance, involving a tripartite distinction between propensities, probabilities, and frequencies. The argument has a negative and a positive part. Negatively, I argue against the identity theses that inform current propensity and frequency theories, which already suggests the need for a tripartite distinction. Positively, I argue that that a tripartite distinction is implicit in much statistical practice. Finally, I apply a well-known framework in the modelling literature in order to characterize these three separate concepts functionally in terms of their roles in modelling practice.

Luke Fenton-Glynn (UCL)
Imprecise Best System Chances

Abstract: Attention has recently been paid to the prospects of the Best System Analysis (BSA) for yielding high-level chances, including statistical mechanical and special science chances. But a foundational worry about the BSA lurks: there don't appear to be uniquely appropriate measures of the degree to which a system exhibits the theoretical virtues of simplicity, strength, and fit, nor a uniquely appropriate way of balancing the theoretical virtues

in determining a best system. I argue that, when we consider systems that entail high-level chances, there is a set systems for our world that are tied-for-best given the limits of precision of the notions of simplicity, strength, fit, and balance. I argue that the Best System analyst should conclude that (some of) the chances for our world are imprecise.

Patryk Dziurosz-Serafinowicz (Groningen)
David Lewis's Kinematics of Chance and Resiliency

In this paper, I first present and discuss Lewis's argument for his kinematics of chance. Second, I give an alternative argument for Lewis's kinematics of chance that does not appeal to the Principal Principle. That is, I argue that under certain fairly plausible conditions Lewis's kinematics of chance is equivalent to a particular principle connecting prior and possible posterior chances. I call this principle Generalized Chance Expectation. This principle in turn is motivated by a certain sort of resiliency considerations: I show that any chance function that satisfies this principle maximizes resiliency under variation of complete intervening histories.

Adam Bales (Cambridge)
Chance, Choice and Causal Decision Theory

Abstract: In order to gain a sense of chance's role in practical rationality, it might be hoped that we could look to chance's role in causal decision theory (CDT). However, this hope is stymied by a case due to Price that seems to reveal that CDT mischaracterises chance's role in practical rationality. On Price's view, the appropriate response to this case is to abandon CDT. Contra this, I will argue that CDT can be rescued from Price's case and that doing so clarifies chance's role in practical rationality (and reveals a symmetry between this role and chance's role in epistemic rationality).

Ronnie Hermens (Oxford)
What is the difference between "quantum" and "ordinary" probability?

Not much… I will argue that quantum mechanics itself does not pose a clear reason for philosophers to adjust their theories of chance, credence or any other form of probability. That being said, it should be recognized that the mathematical formalisms of quantum and classical probability are quite distinct. By discussing a recent experimental test of noncontextuality (Mazurek et al., 2015), I will argue that this distinction relies on the validity of certain assumptions in quantum mechanics that do not have much to do with probability.

Roman Frigg (LSE)

Determinism and Chance - An Impossible Encounter?

On the face of it ‘deterministic chance’ is an oxymoron: either an event is chancy or deterministic, but not both. Nevertheless Classical statistical mechanics posits probabilities for various events to occur. We argue that the tension between the two is only apparent. We present a theory of Humean objective chance and show that chances thus understood are compatible with underlying determinism and provide an interpretation of the probabilities we find in Boltzmannian statistical mechanics.