Schedule, titles and abstracts

Workshop: „Reasoning and making decisions"

Nov17 and Nov18, 2014
Ludwigsburg University of Education, 1.222
Starting Monday Nov17 at 13.00

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13.00

Indicative conditionals and probabilistic support

Vicenzo Crupi (University of Torino)

Once upon a time, some thought that indicative conditionals could be effectively analyzed by means of the material conditional. Nowadays, an alternative theoretical construct largely prevails and receives wide acceptance, namely, conditional probability (of the consequent given the antecedent). Partly following earlier critical remarks made by others (most prominently, Douven and Milne), I advocate a revision of this consensus and suggest that incremental probabilistic support (rather than conditional probability alone) is key to the understanding of both the logic of indicative conditionals and their role in human cognition.

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14.00

AC – a useful fallacy

Alexandra Varga (University of Gießen)

The talk discusses Affirmation of the Consequent for causal conditionals from the perspective of Closed – World Reasoning embedded in Constraint Logic Programming (Stenning & van Lambalgen 2008). This formalism sanctions the inference pattern of AC. I suggest two possible domains where people's inferences can be accurately modeled as Closed-World Reasoning, i.e., communicative cooperative dialogical interactions, and

explanation. I present preliminary results of an experiment which tests the rate of AC endorsement in an explanatory context where participants are asked to give reasons for the minor premise (the consequent of the conditional given as a fact), compared with the typical logical reasoning context where the two premises are followed by questions such as 'what can be inferred'. I will also refer to the next planned experiments, meant to shed light on contexts where AC inferences are rationally drawn (in the sense that they serve well reasoners' epistemic goal to understand) and amenable to computational models in the above mentioned formalism.

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15.00

Setting decision heuristics in the framework of a Logic Programming treatment of Cummins' 1995 paradigm

Keith Stenning (Universities of Edinburgh and Gießen)

Laura and I carried out an extension of Cummins exploration of naive causal reasoning. This paradigm is ideal for modelling in Logic Programming (LP) because it is all about defeaters and defeaters have direct analogues in the alternative causes and abnormality clauses of LP-nets. We modified and extended the experiment as a within-subject design, and also asking subjects for judgments about the likelihoods of their own generated defeaters. I have been analysing this very rich data for a very long time. The talk will be about some relations between ABC decision heuristics and the results. This is partly to present research results, but also hopefully useful for illustrating some methodological prejudices, and raising some issues about the relation between decision and reasoning.

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Tuesday, November 18, Room 1.222

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9.00

The coherence perspective on reasoning about uncertainty

Niki Pfeifer (Munich Center for Mathematical Philosophy, LMU Munich)

Since the first experiments on reasoning in 1908, conditionals and quantifiers have been the main focus of the psychology of deductive reasoning. Classical logic used to be the gold standard rationality framework for evaluating the quality of human inference. However, the situation has changed recently: probabilistic approaches seem to replace classical logic. In my talk, I will defend coherence-based probability logic as a promising new rationality framework for human inference. I will illustrate my approach by recent formal developments and experimental results about uncertain conditionals and quantifiers.

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10.00

Inference-Based Causal Distortions of Probability Judgments

Momme von Sydow (University of Heildelberg)

Probability judgments are normally assumed to rely on correspondence-based induction. However, we investigate whether peoples' induction may be influenced by coherence-based causal inferences. Standard structural assumptions of causal models may distort observed evidence and may lead to distorted interpretation of observed data. Here also some new evidence for the causal coherence hypothesis is presented involving both overview formats, sequential learning formats, and also betting formats.

11.00

Decisions about treatment: a health psychology perspective?
Sarah Chapman (University of London)
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12.00   Lunch
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13.30

Reasoning goals and how to study them

Keith Stenning (University of Gießen)

Psychology gets very anxious when talk turns to norms. Science is supposed to be `descriptive' and not about normative issues: that's the business of philosophy. Yet as soon as we have goals, we have norms. In the psychology of reasoning, there is a certain awareness of varieties of reasoning: perhaps most prominent in `dual process' theories of reasoning with Systems 1 and 2. But even here, the systems are often presented as two ways of `doing the same thing`; classical logical reasoning, or a poor man's approximation to it by `heuristic' means. It is a lovely irony, that it is logic, of all disciplines, that offers to rescue the damsel of psychology from this diffidence about desires.
(Achourioti, Fugard and Stenning,2014) Frontiers in Psychology:
http://journal.frontiersin.org/Journal/10.3389/fpsyg.2014.01159/full

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14.15

The role of examples and counterexamples in elementary mathematical reasoning.

Francisco Vargas (Liceo Leonardo da Vinci, Bogotà)

I will discuss the design of some experimental tasks from the perspective of the fundamental opposition between classical and defeasible logic. Classical logic is characterized by a notion of validity dependent on *all* the possible models of the situation at hand whereas defeasible reasoning may be understood as based on the establishment of *one* particular, intended model of it. I will thus focus on the role that examples and counterexamples may play in mathematical reasoning and understanding.

15.00

Heuristics as analyzed by the ABC group

Laura Martignon (Ludwigsburg University of Education and MPI for Human Development)

I will present a synthetic treatment of the core heuristics investigated by the Center for Adaptive Behavior and Cognition concentrating on their ecological rationality. I will also address the similarities between the qualitative treatment of conditionals via defeaters and the heuristics for comparison, estimation and categorization.

15.45 Coffee break

16.30

Heuristics for dealing with assumptions at the overlap between critical and statistical thinking

Sebastian Kuntze (Ludwigsburg University of Education)

Strategies of dealing with assumptions and evaluating claims are at the heart of the intersection domain of statistical thinking and critical thinking. These strategies are associated with certain heuristics which will not only be focused on in theoretical considerations but also be used as a lens for analysing qualitative interview data.

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17.15

Joachim Engel (Ludwigsburg University of Education)

Using regression methods to model and evaluate aspects of qualitative reasoning with a handy software package

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18.00 Discussion with snacks

20.00 Concert in 7.222

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