

## PROGRAMME

# Rule & Rationality

*9:00 - 9:30 – Welcoming of the participants*

**9:30 - 9:50 – Introductory remarks by Michel Le Du**

**10:00 - 11:00 – Severin Schroeder**

Wittgenstein's Concern with Mathematical Proof in *Remarks on the Foundations of Mathematics I* (TS 222)

**11h:00 - 12:00 – Nuno Venturinha**

Kinds of Certainty

*12:00 - 14:00 – Lunch break*

**14:00 - 15:00 – Jean-Philippe Narboux**

What Human Beings Call Thinking: Wittgenstein and the Queer Wood Sellers

**15:00 - 16:00 – Rémi Clot-Goudard**

Kinds of Necessities: Anscombe on the "Moral Ought"

*16:00 - 16:15 – Coffee break*

**16:15 - 17:15 – Éloïse Boisseau**

No More Rules! Artificial Deep Neural Networks and Epistemic Rationality

*17:15 - 17:30 – Closing words*

**Severin Schroeder (University of Reading)**

**Wittgenstein's Concern with Mathematical Proof in *Remarks on the Foundations of Mathematics I* (TS 222)**

I shall explore the origins of Wittgenstein's spectacular claim that a mathematical proof involves conceptual change. I shall argue that the reasoning leading to the claim in *RFM I* is unconvincing, based on a specious alternative. Finally, I shall suggest a genetic explanation of the development of Wittgenstein's ideas.

**Nuno Venturinha (NOVA University Lisbon)**

**Kinds of Certainty**

In his late manuscripts, Wittgenstein emphasizes that the foundation of mathematical language-games rests on objective rules. He suggests that if a mathematician were to dispute such normativity due to subjective factors, discussions in mathematics would cease, as its principles cannot be undermined. Unlike the 'certainty' associated with divine intervention, which can accommodate various interpretations and outcomes, 'mathematical certainty' relies on a fixed set of rules and proofs that transcend individual perspectives. Interestingly, the fluidity of our language-games allows us to speak of what 'God knows' in specific contexts as a synonym for absolute 'certainty', particularly when referring to concepts whose exact values cannot be fully represented, such as the number  $\pi$  or  $\sqrt{2}$ . This talk aims to show that religion provides a privileged counterpart to empirical or mathematical language-games, which involve specific kinds of demonstrability, even if they lack an ultimate metaepistemological or metamathematical proof of consistency.

**Jean-Philippe Narboux (Strasbourg University)**

**What Human Beings Call Thinking: Wittgenstein and the Queer Wood Sellers**

In his later writings, Wittgenstein suggests that the rules of inference and the rules of calculation that we deem constitutive of rationality are best construed as rules of expression: what shows forth in these rules is not some logical machinery underpinning the workings of reason, but rather what we human beings call 'thinking' or 'acting rationally', which in turn is a function of our natural history. On the face of things, Wittgenstein's radical proposal would seem to abolish logic. I propose to assess its credentials by reviewing Wittgenstein's rather elusive discussion of what we should say of people queer enough to sell heaps of wood by surface area.

**Rémi Clot-Goudard (Grenoble-Alpes University)**

### **Kinds of Necessities: Anscombe on the “Moral’ Ought”**

In her article ‘Modern Moral Philosophy’, Anscombe famously claims that

*the concepts of obligation, and duty – moral obligation and moral duty, that is to say – and of what is morally right and wrong, and of the moral sense of ‘ought’, ought to be jettisoned if this is psychologically possible; because they are survivals (...) from an earlier conception of ethics which no longer generally survives, and are only harmful without it.*

Far from encouraging to abandon any ethical perspective, Anscombe actually calls for a better understanding of the normative force of action-guiding sentences and of the nature of obligation. I propose to show how she responds to her own call by her reflections about modal verbs (‘can’t’, ‘must’, ‘have to’...) and kinds of necessities, thus giving us insight on what being a rational animal amounts to.

**Éloïse Boisseau (Aix-Marseille University)**

### **No More Rules! Artificial Deep Neural Networks and Epistemic Rationality**

The concept of a ‘rule’ has been the subject of some discussion in the philosophy of AI, notably in relation to its ‘symbolic’ incarnation. The criticism has tended to centre around so-called (‘rule-based’) ‘expert’ systems. Initially judged to be intelligent because of their ability to follow rules, these were subsequently deemed overly rational: their rigidity in ‘following’ the rules was then seen as an obstacle to true intelligence. Currently, the idea of a ‘rule’ is being brought back to the fore, this time in relation to systems that are no longer deductive but inductive, based on a connectionist architecture and deep learning. These ‘learning’ systems no longer need to formalise human knowledge in order to make judgements based on a given set of data. In particular, it has been claimed that these systems are capable of defining their own rules. My presentation will explore this new use of the concept of a ‘rule’ to describe the rationality of AI programmes. Should we really consider them as ‘experts’ in the same way as we do human experts? What attitude should we adopt towards their ‘judgements’? Should a difference in diagnosis between a human and a machine really be qualified as a ‘peer disagreement’?