A.LO.PHI.S
Applied LOgic and PHIlosophy of Science

DIPARTIMENTO DI PEDAGOGIA, PSICOLOGIA, FILOSOFIA

Dottorato di ricerca in "Filosofia, Epistemologia e Storia della Cultura"

FORMAL METHODS AND THE FLUX OF LIFE

5 aprile 2017
Aula 2A del "Corpo aggiunto" - Facoltà di Studi Umanistici,
Via Is Mirrionis, 1 – 09123, Cagliari (CA)

15:30 Francesco Paoli (Università di Cagliari)
Opening

15:45 Peter Øhrstrøm (Aalborg University)
The Rise of Temporal Logic

16:45 Martin H. Prior (University of London)
Prior versus Reichenbach
Logic, Description and Language

Discussants: Bogdan Dicher, Fabio Corpina

ABSTRACTS:

P. Øhrstrøm, *The Rise of Temporal Logic*

A.N. Prior (1914-69) was the founder of modern temporal logic. In the 1950s and 1960s he showed that tense-logic can be used in order to keep track of the past and of the future possibilities in a way which makes it possible to reason systematically on temporal matters.

From the early 1930s Prior had been an active member of the Presbyterian community in New Zealand. He became a specialist in the debates regarding the logical tension between the doctrine of divine foreknowledge and the doctrine of human freedom. He demonstrated how this logical problem can be formalized and analysed in terms of his tense-logic. He found great inspiration in the works of Aristotle, Diodorus, Thomas Aquinas, Ockham, Peirce, Łukasiewicz, Kripke and several others. He argued that in the discussion concerning divine foreknowledge and human freedom there are just a few reasonable positions. – In general Prior demonstrated that temporal logic can be used to analyze the notion of time itself as well as fundamental existential problems, such as the problem of determinism versus freedom of choice.

M.H. Prior, *Prior versus Reichenbach*

Issues of time and tense have provoked controversy over the works of Arthur Prior and the mathematician Hans Reichenbach. As a linguist I feel that their work is in fact complementary, although it must always be recognised that Reichenbach's ideas can be captured in Prior's tense logic but not the other way round.

Prior's work addresses the issues of the philosophy of time, especially in comparison with modal logic, while Reichenbach addresses language-specific issues, and not least the pragmatic issue of the Reference Time. He also allows for aspect though not in any depth. Patrick Blackburn has done some good work in capturing reference time within the framework of Hybrid Logic.

My own work recognises that to capture both tense and aspect we must look more closely at actions, states and events, and also at intervals of time. Here I consider its analysis within Description Logic, notably by E. Franconi, and I further refine this and also extend Blackburn's analysis to intervals.