

LNAT 2: Logic Diagrams – Their History and Reality in Language and Cognition

Call for Papers

Both the graphical representation of logical relations (logical geometry) and the visual modelling of reasoning patterns (diagrammatic reasoning) find their origin in the Aristotelian Square of Opposition.

Older proposals by Euler (1768), Venn (1880, 1881), Peirce (1898, 1933), Lewis Carroll (1896) and others regarding the visual modelling of reasoning patterns built on Aristotelian insights and have given rise to a great variety of modern visualisations of reasoning, including Conceptual Graphs (Sowa 1976), Formal Concept Analysis (Priss 2005, 2009) and Conceptual Structures (Sowa 1984).

In modern times, further foundational work on the Square, its internal relations and its graphical representation has led to several modifications of the original representation. First, the Square was extended to a hexagon of logical relations by the addition of two further operators enriching the Aristotelian logic (Blanché 1966, Horn 1989). Then it was, in different ways, either reduced to a few relations (Löbner 1990) or expanded even further into an octagon of logical relations (Wolenski 2008, Seuren 2010), and – from a less cognitively oriented and more strictly geometrical perspective – to polyhedral structures of opposition (Moretti 2009, Smessaert 2009), showing logical relations implicit in the Aristotelian Square. These developments have led to new insights, in particular regarding the position of the Square vis-à-vis the Hamiltonian triadic and modern Russellian predicate logic. They have also yielded interesting applications in linguistics, AI, modal logic, cognitive science and other related fields.

The purpose of the conference is to provide a forum for a systematic discussion of this field of research, both from a historical and a contemporary point of view. We therefore welcome contributions primarily on the following topics:

- the history and/or theory of logical geometry (relations of opposition, inclusion, duality, diagrammatic reasoning, etc.);
- contemporary applications of logical geometry and of diagrammatic reasoning;
- the psychological and/or linguistic reality of logical relations and geometry.

References

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Invited Speakers

Sebastian Loebner (Univ. of Düsseldorf, Germany)

Alessio Moretti (Nice, France)

Uta Priss (Ostfalia University of Applied Sciences, Wolfenbuettel, Germany)

Important dates

First call for papers: July 8, 2011

Second call for papers: August 30, 2011

Abstract submission deadline: October 1, 2011

Notification of acceptance: November 15, 2011

Conference: December 21-22, 2011