Category: Academic Meeting

Title: The Philosophy of Notation: Operational Iconicity and Observational Advantages in Diagrams

Description: What can we say is truly distinctive of diagrammatic notations for logical reasoning, relative to equivalently expressive non-diagrammatic forms? Several responses have been given in the literature – logical diagrams are visual (Shin 2002), they have multiple, equivalent "readings" (Shin 2002, Macbeth 2005, Schlimm 2018), they are directly interpreted (Lemon 1996, Stenning 2000) – that have attempted to overcome the old difficulty of defining a logical diagram in terms of isomorphism; but none seems to have gained universal acceptance.

An idea has emerged in recent years that merits a deeper analysis. The idea is that diagrams in general and mathematical and logical diagrams in particular are languages whose formulas are capable of expressing more information (of whatever kind) than was necessary to construct the formula. This feature was called "autarchy" by Leibniz (he was thinking of the binary notation for arithmetic), and variants of it have been called "iconicity" (Peirce), "operational iconicity" (Stjernfelt), "free ride" (Shimojima) and "observational advantage" (Stapleton, Jamnik & Shimojima). The idea is simple and intuitive, but adequate analysis of it has not yet been made.

The aim of this workshop is to subject this idea to analysis by seeking contributions that explore the notions of operational iconicity and observational advantages from different perspectives: the formal semantics of diagrammatic languages, the philosophy of language and logic, studies on mathematical and logical cognition, the philosophy of mathematical practice, and the psychology of reasoning. We envision a multidisciplinary collaborative workshop that will enable us to identify common questions and goals, and to share findings across these areas of research. The workshop will follow on from the success of the first "Philosophy of Notation" international conference in Tallinn, 2015.

We are pleased to announce that the workshop will feature several invited speakers with globally recognised expertise in our theme: Amirouche Moktefi, Ahti-Veikko Pietarinen, Atsushi Shimojima, Gem Stapleton and Frederik Stjernfelt. We also invite researchers to submit abstracts for consideration. In addition to our core theme, other issues that contributing authors may wish to address include:

- the history of logical notations and diagrams,

- the virtues and the limits of different notations and symbolic systems,
- the design and the role of notations in logic, diagrammatic reasoning and visual thinking in logic and mathematics, and
- the cognitive and semiotic dimensions of formal reasoning.

We invite authors to submit a 500 word abstract to j.burton [at] brighton.ac.uk and francesco.bellucci4 [at] unibo.it by the closing date of 15th February 2019. Abstracts will be reviewed by the Program Committee and feedback provided. Notification of acceptance will be given by the beginning of March 2019.

Following the workshop we hope to publish a selection of papers in a special issue of an international journal or in an edited collection, and we will provide more information about this as it becomes available.

Registration is free -- email the organisers to let us know you are coming.

Co-chairs:

Jim Burton, University of Brighton
Francesco Bellucci, University of Bologna

Program Committee:

Daniele Chiffi, Polytechnic University of Milan, Italy
Amirouche Moktefi, Tallinn University of Technology, Estonia
Claudio Paolucci, University of Bologna, Italy
Ahti-Veikko Pietarinen, Tallinn University of Technology, Estonia
Atsushi Shimojima, Doshisha University, Japan
Gem Stapleton, University of Brighton, UK
Frederik Stjernfelt, Aalborg University, Denmark

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Place: Department of Philosophy and Communication, University of Bologna, Italy