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# Fifth Pisa Colloquium in Logic, Language and Epistemology

*Edited by*

Luca Bellotti, Enrico Moriconi, Giacomo Turbanti

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## PREFACE

Michael Dummett, in his work *Origins of analytical philosophy* (1993), famously maintained that analytic philosophy is characterized by a linguistic account of intentionality. Accordingly, he conceived the linguistic turn in semantic terms as the rise of an original methodology to analyze the structure of thoughts in terms of the structure of the sentences that express them.

This semantic reading has the great merit of highlighting the contribution of the German philosophical environment to the genealogy of the analytic tradition, especially in the case of Bernard Bolzano and Franz Brentano. On the other hand, it also inevitably downplays the logical, epistemological and ontological questions that, at the turn of the twentieth century, inspired the philosophical reflections on logical forms of authors such as Ernst Mach, Edmund Husserl, George Edward Moore, Bertrand Russell, and Ludwig Wittgenstein.

In the last five years, Carlo Marletti devoted his courses in the Philosophy of Language at the University of Pisa to the investigation of this latter sort of reflections, with the purpose of clarifying their theoretical grounds and the importance that they have had in the history of analytic philosophy.

The essays collected in this volume are authored by some of the people that have animated and participated to those courses, either as teachers or as students. They aim to furtherly explore the expressive and analytic potential of logical forms in various directions.

Luca Bellotti discusses some aspects of a “Kantian” notion of synthesis, referring to Ernst Cassirer’s late thought, focusing on the definition of the concept of number and showing some more general consequences for the limitation of the logical role of subsumption in mathematics.

Matteo Bizzarri’s paper deals with the Lockean thesis with respect to the lottery paradox in the context of classical logic, proposing a solution to the problem by means of fractional semantics, without using probability or non-classical logic, showing the effectiveness of that kind of semantics to solve the paradox.

Leonardo Ceragioli assumes a positive solution to Putnam’s question “Are logical properties part of the meaning of the connectives?” and looks for criteria to decide which logical constants are responsible for logical deviance, taking the conflict between intuitionistic and classical logic as a case study, in particular the reason of the disagreement on the principle of excluded middle: a difference in the meaning attached to “or”; to “not”; to both “or” and “not”, philosophically motivating the alternatives.

Enrico Moriconi's paper deals with Popper's logical investigations in the years 1946–1948, recently collected and published, with the addition of unpublished material and correspondence, explaining Popper's original analysis of quantification.

Andrea Sabatini focuses on simply typed lambda-mu-calculus as the image, under Curry-Howard isomorphism, of the arrow-false-fragment of minimal logic extended with classical reductio, showing that the calculus allows an interpretation of the irrelevance of conclusions of reductio with respect to discharged assumptions, and yields a privileged normalization procedure for the fragment, whose intensional incompleteness with respect to full classical logic is highlighted, finally discussing the philosophical significance of the fact that Böhmer's theorem for the calculus fails.

Giacomo Turbanti opposes as partial and misleading the current interpretation of Russell as a causal eliminativist, and argues that his criticism of causality was part of the more ambitious project of transposing the common-sense concept of "cause" into some of the categories of representation in modern science, a project endorsed during Russell's whole philosophical development despite all its turns and changes.

Four of these papers are closer to the original contents of the courses that gave rise to the collection. Specifically, Bellotti aims to show how the basic subject-predicate logical form only rarely fits mathematical propositions; Ceragioli discusses logical deviance as based on the meaning of the items in the logical vocabulary; Moriconi focuses on an original characterization of quantifiers based on their role in derivations; Turbanti deals with the logical form of propositions expressing causal relationships.

The other two papers are more loosely connected with fundamental issues and pursue instead the investigation of specialized uses of logical forms: they exemplify either the application of theoretical choices on logical form to paradoxes of belief (Bizzarri) or, in another direction, the application of an extension of the lambda calculus to the elucidation of aspects of logical form (Sabatini).

We thank all the people who were involved and contributed to this project.

Pisa, June 2023

THE EDITORS

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