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Nota di contenuto	PART I: THE HISTORICAL DIMENSION OF MATHEMATICS -- Chapter 1: A Geometrical Constructive Approach to Infinitesimal Analysis: Epistemological Potential and Boundaries of Tractional Motion; Pietro Milici -- Chapter 2: Plane and Solid Geometry: A Note on Purity of Methods; Paolo Mancosu and Andrew Arana -- Chapter 3: Formalization and Intuition in Husserl's Raumbuch; Edoardo Caracciolo -- PART II: LOOKING AT MATHEMATICS THROUGH LOGIC -- Chapter 4: Frege's Grundgesetze and a Reassessment of Predicativity; Francesca Boccuni -- Chapter 5: A Deflationary Account of the Truth of the Gödel Sentence G; Mario Piazza and Gabriele Pulcini -- Chapter 6: Rule-following and the Limits of Formalization: Wittgenstein's Considerations Through the Lens of Logic; Paolo Pistone -- Chapter 7: Paradox and Inconsistency: Revising Tennant's Distinction Through Schroeder-Heister's Assumption Rules; Luca Tranchini -- Chapter 8: Costructability and Geometry; Alberto Naibo -- Chapter 9: A Cut-like Inference in a Framework of Explicit Composition for Various Calculi of Natural Deduction; Michael Arndt and Laura Tesconi -- Chapter 10: On the Distinction Between Sets and Classes: A Categorical Perspective;

Samuele Maschio -- PART III: PHILOSOPHY AND MATHEMATICS -- Chapter 11: Structure and Applicability; Michele Ginammi -- Chapter 12: Defending Maddy's Mathematical Naturalism from Roland's Criticism: The Role of Mathematical Depth; Marina Imocrante -- Chapter 13: On the Indispensable Premises of the Indispensability Argument; Marco Panza and Andrea Sereni -- Chapter 14: Naturalness in Mathematics: On the Statical-dynamical Opposition; Luca San Mauro and Giorgio Venturi -- Chapter 15: An Inquiry Into the Practice of Proving in Low-dimensional Topology; Silvia de Toffoli and Valeria Giardino.

Sommario/riassunto

This book brings together young researchers from a variety of fields within mathematics, philosophy and logic. It discusses questions that arise in their work, as well as themes and reactions that appear to be similar in different contexts. The book shows that a fairly intensive activity in the philosophy of mathematics is underway, due on the one hand to the disillusionment with respect to traditional answers, on the other to exciting new features of present day mathematics. The book explains how the problem of applicability once again plays a central role in the development of mathematics. It examines how new languages different from the logical ones (mostly figural), are recognized as valid and experimented with and how unifying concepts (structure, category, set) are in competition for those who look at this form of unification. It further shows that traditional philosophies, such as constructivism, while still lively, are no longer only philosophies, but guidelines for research. Finally, the book demonstrates that the search for and validation of new axioms is analyzed with a blend of mathematical historical, philosophical, psychological considerations.