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Nota di contenuto	1 The Ghost and the Spirit of Pythagoras in Modern and Modernist Mathematics -- 2 Plato's Ghosts: Pythagorean Mathematics, Socratic Philosophy, and Tragic Art -- 3 'Comprehending the Connection of Things': Bernhard Riemann and the Architecture of Mathematical Concepts -- 4 What is a Curve?: From Geometry to Algebra, from Modern to Modernist Mathematics -- 5 Returns of Geometry: From the Pythagoreans to Mathematical Modernism and Beyond -- 6 Who Thinks Abstractly: Emmy Noether and Modernist Mathematics -- 7 Mathematical Practice as Philosophy, with Galois, Riemann, Poincaré, and Grothendieck.
Sommario/riassunto	This book is a philosophical study of mathematics, pursued by considering and relating two aspects of mathematical thinking and practice, especially in modern mathematics, which, having emerged around 1800, consolidated around 1900 and extends to our own time, while also tracing both aspects to earlier periods, beginning with the ancient Greek mathematics. The first aspect is conceptual, which characterizes mathematics as the invention of and working with concepts, rather than only by its logical nature. The second, Pythagorean, aspect is grounded, first, in the interplay of geometry and algebra in modern mathematics, and secondly, in the epistemologically

most radical form of modern mathematics, designated in this study as radical Pythagorean mathematics. This form of mathematics is defined by the role of that which beyond the limits of thought in mathematical thinking, or in ancient Greek terms, used in the book's title, an alogon in the logos of mathematics. The outcome of this investigation is a new philosophical and historical understanding of the nature of modern mathematics and mathematics in general. The book is addressed to mathematicians, mathematical physicists, and philosophers and historians of mathematics, and graduate students in these fields.