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The Quest for the Invisible

Microscopy in the Enlightenment

Marc J. Ratcliff, University of Geneva, Switzerland

'Comprehensive, provocative, revisionist – this highly original book is sure to excite comment and command respect.' – Janet Browne, Author of *Charles Darwin: Voyaging* and *Charles Darwin: The Power of Place*

The eighteenth century is often viewed as a period of relative decline in the field of microscopy, after an intense period of discovery in the seventeenth century, and developments in the field during the Enlightenment have been largely overlooked. This book fills a considerable gap in the study of this life science, providing a thorough analysis of the main concerns of the field and how microscopists learned to communicate with each other to compare results and build a new discipline.

Employing a substantial body of contemporary literature from across Europe, Marc J. Ratcliff presents a definitive account of the state of research into microscopy of the period. He brings to light the little known work of Louis Joblot, re-evaluates the achievements of Abraham Trembley and gives new weight to Otto-Friedrich Müller's important contributions. The book connects changes in instrument design to an innovative account of microscopical research during the eighteenth century and the rich social networks of communication that grew during this period, and shows how scholars progressively established a modern rule to shape their new discipline: balancing microscopical magnification with shared vision. This rule developed in response to the diminishing size of the microscopical object during the course of the eighteenth century, from dry minute organisms to aquatic invisible organisms, thus completing the scholar's quest to study the invisible.

Contents: Introduction: reasons for a new historiography; PART 1 THE DEFINITION OF GOOD MICROSCOPICAL OBJECTS 1680–1740: Production and visibility of microscopes in the first half of the 18th century; The study of animalcules at the turn of the 18th century; Insects, hermaphrodite and ambiguity. PART 2 THE BREAK WITH THE PAST 1740–1760s: Towards marketing strategies for the microscope in the second half of the 18th century; Abraham Trembley, the polyp and new directions for microscopical research; The disputes over authority and microscopical observations. PART 3 INFUSORIA AND MICROSCOPICAL EXPERIMENTS: THE TRUE INVISIBLE OBJECTS 1760s–1800s: The quantifying spirit in microscopical research and 'keeping up' with invisible objects; The emergence of the systematics of infusoria; From spontaneous generation to the limits of life: the microscopical experimentalist research from the 1760s to 1800; Conclusion; Bibliography; Indexes.

Includes 34 b&w illustrations and 6 line drawings

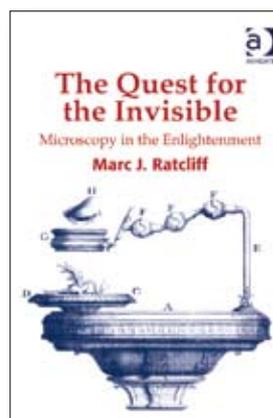
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