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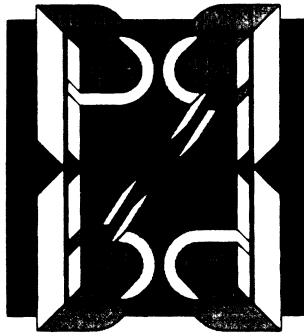
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THE CONTRIBUTORS: Philip Kitcher, Marcello Pera, Ernan McMullin, Paolo Rossi, Dudley Shapere, Richard Westfall, William Shea, Peter Machamer, Maurizio Mamiani, and Gerald Holton.

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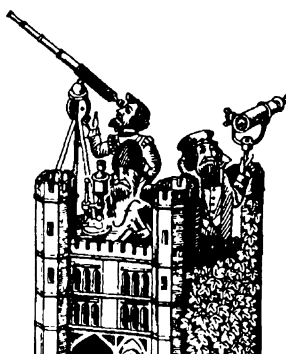
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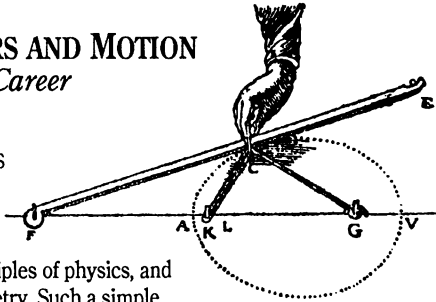
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### *René Descartes' Scientific Career*

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DESCARTES IS OFTEN DESCRIBED AS the leading rationalist of the seventeenth century, an armchair philosopher who believed that his metaphysics contained all the principles of physics, and that physics was nothing but geometry. Such a simple characterization hardly does justice to a leading figure of the Scientific Revolution and conveys but a poor idea of the fascinating and complex way that his philosophy and his science interacted. This book provides a broader and fuller picture of a man of genius who lived in an age when a scholar could take the whole of knowledge for his province. In chapters one and two, we follow Descartes from his early training in a Jesuit College in France to the Netherlands where he enlisted in the army and was rescued from the boredom of barrack-life by Isaac Beechman, who stimulated his interest in mathematics, music, the law of free fall and problems in hydrostatics. In chapter three, we see how Descartes was launched on his reform of geometry by the brilliant discovery of a mathematical device that enabled him to find mean proportionals and trace out curves of increasing complexity. Chapter four discusses Descartes' attempt to extend the empire of mathematics to musical consonance. Chapter five reveals that Descartes was not always clad in the shining armour of rationality, and that he was interested in the Rosicrucian movement at the time he experienced his celebrated dream in 1619. Chapter six outlines Descartes' quest for a method based on clear and distinct intellectual perception, and his conception of the role of the natural philosopher as seeking proportional relations among fundamental magnitudes. Chapter seven tells of his spectacular discovery of the law of refraction, and chapter eight shows how Descartes used his metaphysics to ground his physics. Chapter nine recounts his triumphal explanation of the rainbow, and chapter ten outlines his achievements in optics. Chapters eleven and twelve describe the genesis and properties of his new world, and discuss the role of his laws of motion and his rules of impact. The final chapter discloses the shock that Descartes experienced when he heard of Galileo's condemnation in 1633, and how he found a way of publishing his ideas without incurring a similar fate. The conclusion draws attention to the tension between Descartes' methodological ideal and his actual scientific procedure, and the appendix offers a useful chronology of Descartes' life and work.

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