Corpuscularianism and the Rise of Mechanism
Stephen Gaukroger

in The Emergence of a Scientific Culture: Science and the Shaping of Modernity 1210-1685

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From the early 17th century onwards, the dominant natural philosophy was mechanism: the view that all explanations must ultimately take the form of a reduction to a very economical range of features at the micro-corpuscularian level, e.g., in the paradigm case, size, speed, and direction of motion. Gassendi and Beeckman offered very different routes to mechanism: Gassendi's was a legitimatory programme that focuses on matter theory, whereas Beeckman's approach comes directly out of mechanics, which it attempted to transform into natural philosophy by fleshing it out in micro-corpuscularian terms. The crucial stage in mechanism comes with the rise of concerted attempts to integrate mechanics and matter theory into a consistent whole, at the same time offering the mechanism so devised as a complete theory of the cosmos, and it is the approaches of Hobbes, whose closest affinities are with Gassendi, and Descartes, whose closest affinities are with Beeckman, that bring out most clearly what is at issue here.

Experimental Natural Philosophy
Stephen Gaukroger

in The Emergence of a Scientific Culture: Science and the Shaping of Modernity 1210-1685

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This chapter deals with experimental philosophy, as represented in Gilbert on magnetism, Hobbes on the air pump, and Newton on the
production of the spectrum. It is shown that experimental philosophy differs from mechanism in quite radical ways. In particular, it has explanatory success but in apparently very localized domains, and it construes causation not in terms of underlying causes but in terms of causes acting at the same level. Its difference from mechanism is manifest in the contrast between Descartes' and Newton's accounts of the production of the spectrum: Descartes provides a fully geometrical account of the separation of coloured rays, but then shifts into a different register, a qualitative and speculative one in attempting to provide a micro-corpuscularian account of the physical basis of colour production; Newton manages to account for the spectrum without leaving the phenomenal geometricized level, eschewing any recourse to 'underlying' causes.

The Quantitative Transformation of Natural Philosophy
Stephen Gaukroger
in The Emergence of a Scientific Culture: Science and the Shaping of Modernity 1210-1685
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This chapter looks at attempts to quantify natural phenomena and, in particular, forces. Early efforts along these lines — notably by Galileo and Descartes — tried to extrapolate from statics to dynamics, whereas later in the century kinematics, as pioneered by Galileo, was taken as the model by Huygens and Newton. Newton, building on Hooke's suggestion that planetary orbits were not a given and unquestionable feature of the cosmos, was able to show how such orbits were generated and clarify the dynamics needed to account for the processes involved. In this way, mechanics, traditionally excluded from natural philosophy in the Aristotelian sense, is transformed not only into a natural-philosophical discipline, but into what was in many respects the natural-philosophical discipline par excellence.

Reconstructing the Natural Philosopher
Stephen Gaukroger
in The Emergence of a Scientific Culture: Science and the Shaping of Modernity 1210-1685
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The development of the persona of the natural philosopher is the key to understanding how natural philosophy becomes inserted into European culture in the 16th and 17th centuries. This chapter shows in detail that notions of truth and justification turn just as much on conceptions of intellectual honesty as they do on notions of method. It looks primarily at the standing of the natural philosopher in Bacon, Galileo, Descartes, Boyle, and Royal Society apologists, focusing on claims that the natural philosopher requires a kind of intellectual honesty lacking in scholastic natural philosophy. This is closely tied in with one of the distinctive features of early-modern natural philosophy: that questions that had earlier been seen in terms of truth are now discussed instead in terms of impartiality and objectivity.

From Analytic Geometry to the Fundamental Theorem of Algebra

Victor J. Katz and Karen Hunger Parshall

in Taming the Unknown: A History of Algebra from Antiquity to the Early Twentieth Century

This chapter follows up on the mathematical advances made during the sixteenth century, especially in the work of François Viète as he aspired to transform his algebra to realize his aim to “solve every problem.” Though Viète's algebra was not up to the task, two of his followers—Thomas Harriot and Pierre de Fermat—helped to transform that algebra into the problem-solving tool he had envisioned, and René Descartes would later recognize the significance of this work and begin circulating these ideas, thus jumpstarting the transformation of algebra, which this chapter explores through a number of noted intellectuals during the period.

Descartes, Locke, Kant, and the Crisis of Justification

Randal Rauser

in Theology in Search of Foundations
The medieval consensus of Christendom that once framed theological discussion and yielded authority to the theologian was crucially eroded during the Reformation and Enlightenment. As a result, Christian philosophers like René Descartes, John Locke, and Immanuel Kant sought to secure the theologian's waning authority philosophically. Descartes sought to further the extent of medieval scientia through the radical method of critical doubt. Locke was more pessimistic about the potential of scientia, and so he focused instead upon the rational regulation of opinion. But Kant was the most pessimistic of all as he severely chastened reason in order to provide room for faith in practical reason. While each philosopher sought to provide a rational ground for theology, in retrospect they actually functioned like gravediggers that sped the decline of theology.

René Descartes
C. U. M. Smith, Eugenio Frixione, Stanley Finger, and William Clower

in The Animal Spirit Doctrine and the Origins of Neurophysiology

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Item type: chapter

This chapter discusses René Descartes, who is an essential historical figure. It studies his highly influential work, where he tried to show how human neurophysiology and behavior could be entirely explained using mechanistic terms. It shows that Descartes' neurophysiology imagined that the body's musculature would be activated by "animal spirits" that course down tubular nerves. It determines that his ideas were more related to metaphysics than with physiological and anatomical reality. This chapter also states that Descartes was the first to make all nature inanimate.

Cartesian Romance
Ayesha Ramachandran

in The Worldmakers: Global Imagining in Early Modern Europe

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By the seventeenth century, the terms “world” and “cosmos” would become almost interchangeable: chapter four explores this further expansion in scale in René Descartes’s Le monde (The World) whose title
refers, in fact, to the universe. Though celebrated for his invention of the cogito, this chapter argues for Descartes’s significance as a revolutionary worldmaker: Le monde imagines the creation of a hypothetical world (a “new world”) in order to establish a new physics. Descartes’s suppression of the text after Galileo’s condemnation in 1632 is thus motivated by the recognition of the dangerous consequences of worldmaking itself. Confronting the necessity of human making, he seeks, in the Meditations, to defend its foundations by realigning the metaphysical relation between God and world. Descartes’s work thus marks the transition from Mercator’s bodily and artisanal metaphors of worldmaking to an internalization of the world as a product of the “intellectual imagination.”

Augustine's Confessions and Descartes's Discourse
DONALD PHILLIP VERENE


Published in print: 1991 Published Online: October 2011
Publisher: Oxford University Press
DOI: 10.1093/acprof:oso/9780198239000.003.0003

This chapter examines Saint Augustine's Confessions and Rene Descartes' Discourse on the Method in relation to Giambattista Vico's Autobiography. It investigates what light the Confessions might throw on how to understand Vico's project. It also discusses Vico's decision not to mention the Confessions in his own autobiography and his efforts to invent the true art of autobiography against the feigned autobiography of Descartes.

Abandoning Judgment
Douglas John Casson

in Liberating Judgment: Fanatics, Skeptics, and John Locke's Politics of Probability

Published in print: 2011 Published Online: October 2017
Publisher: Princeton University Press
DOI: 10.23943/princeton/9780691144740.003.0003

This chapter describes how the crisis of authority led some to abandon the possibility of public justification altogether and others to seek out a type of knowledge that would be invulnerable to skeptical objections. Michel Montaigne and his popularizer, Pierre Charron, argued that in the absence of universally acceptable standards, wise men should
defer to established traditions and reigning authorities. In contrast, René Descartes sought to resolve the problem of multiple authorities by erecting a new, apodictic science built on unassailable foundations. Although he hoped that his project would eventually yield absolute certainty in the contested realms of morals, politics, and religion, Descartes nonetheless counseled his readers to follow the customs and laws of their localities until such certainty could be achieved.

Skepticism, Deception, and the Material World
Paul Russell

in The Riddle of Hume's Treatise: Skepticism, Naturalism, and Irreligion
Published in print: 2008 Published Online: May 2008
Item type: chapter

In the early eighteenth century context there was an intimate connection between problems concerning the existence of the material world and problems of natural religion. Two issues are of particular importance for understanding Hume's irreligious intentions in his discussion of the external world, as presented in the section entitled "Of scepticism with regard to the senses." First, if we are unable to establish that we know that the material world exists, then all arguments for the existence of God that presuppose knowledge of the material world (i.e. its beauty, order, design, etc.) are placed in doubt. Second, if we are naturally disposed to believe in the existence of body, but this belief is false, then it seems to follow that God must be a deceive—or does not exist. Hume's arguments in 1.4.2 are finely crafted to present both these irreligious challenges to the orthodox view.

Review Essay
Tad M. Schmaltz

in Oxford Studies in Early Modern Philosophy Volume VI
Published in print: 2012 Published Online: January 2013
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This chapter is a critical review of two recently published works on Descartes: Helen Hattab's Descartes on Forms and Mechanisms and Peter Machamer and J.E. McGuire's Descartes's Changing Mind. Both works reflect the recent trend in Descartes scholarship to focus on Descartes's writings on natural philosophy and to emphasize
developments in these writings over time. The discussion of Hattab considers her central claim that whereas in his earlier writings Descartes offered an argument against the material substantial forms of the scholastics that is grounded in his mechanics, during the 1640s he settled instead on a metaphysical argument against such forms that reflects the influence of the Dutch atomist Gorlaeus. The discussion of Machacher and McGuire considers their central claim that Descartes’s account both of causation in the physical world and of the epistemic status of our claims about this world underwent a radical shift around the time of the Meditations.

Introduction
A. Raghuramaraju

in Modernity in Indian Social Theory

In India, philosophers have not attempted to overcome the existing limitation between social theory and social philosophy. Surprisingly, many of them are not even aware of this as a philosophical issue. This explains why there is a social variance between India and the West. Like the West, Indian society is becoming modern, but modernity in India has to coexist with the pre-modern. This introduction examines the uniqueness of Rene Descartes's method and presents a different perspective on modernity. It considers the intermediate attempts to overcome solipsism into three major movements, each constituting a distinct stage in the movement of ideas. It also considers the views of Alasdair Maclntyre on modernity and tradition in the West.

Descartes and Leibniz as Readers of Suárez: Theory of Distinctions and Principle of Individuation
Roger Ariew

in The Philosophy of Francisco Suárez

This essay explores the reception and used of Suárez’s philosophy by two canonical early modern philosophers, René Descartes and Gottfried Leibniz. It is argued that Descartes’ theory of distinctions does not betray
any indications of being Suárezian, despite many claims to the contrary. Leibniz, however, was a very different reader of Suárez’s works, it is argued, and his thinking about individuation was clearly influenced by Suárez even if he did not adopt the Suárezian position in the end.

What Someone May Have Whispered in Elisabeth’s Ear
Vlad Alexandrescu
in Oxford Studies in Early Modern Philosophy Volume VI
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This chapter looks at Elisabeth’s arguments in the framework of Descartes’ program to collect valuable objections from members of the Republic of Letters. The analysis of Elisabeth’s first letters reveals astonishing resemblances between Elisabeth’s position and the one Gassendi had expressed in his Fifth Objections. In order to explain this fact, the chapter proposes that Samuel Sorbière, present in the Low Countries since 1642, was an agent of Gassendi’s who worked his way into Queen of Bohemia’s court at the Hague and who, during several encounters with Princess Elisabeth, explained to her Gassendi’s views and worked with her on a Gassendist interpretation of Meditation Six. The chapter also shows that later on, Sorbière was to depart from a number of Gassendist positions and that Descartes’ ideas eventually permeated his philosophical writings.

Spinoza, Platonism and Naturalism
MICHAEL AYERS
in Rationalism, Platonism and God: A Symposium on Early Modern Philosophy
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Item type: chapter

This chapter examines the strands of Platonism and naturalism in philosopher Baruch Spinoza’s metaphysics. It argues that Spinoza’s hierarchical system of substance, attribute, immediate and mediate infinite modes, and finite modes matches in some surprising respects Neoplatonist accounts of the emanation of the universe from God. It suggests that Spinoza’s perception of universal and necessary principles are more related to that of Thomas Hobbes than to Plato or Rene Descartes.
We human beings are quite limited, it is painfully plain, in our experiencing, our thinking, and our understanding. Yet, even when mindful of our human limitations, we may perhaps aspire to a humanly intelligible philosophy of the world that is, nonetheless, a fairly substantial philosophy. This chapter provides some quite simple and obvious observations and then attempts to articulate some instructive implications of those observations. The implications may also be features of a humanly realistic philosophy. Each of us has a power to think, and a power to experience. When one's power to think is exercised, or his/her propensity is manifested, then he/she actually does think. Rene Descartes famously held that, at every moment of his existence, he was, and must be, conscious. In addition to having a propensity toward experience, quite certainly manifested in certain conditions, one may also have a real propensity toward unconsciousness. When writing philosophically about himself, David Hume is sometimes so extreme as to claim he cannot really have any idea of himself.

This chapter describes how Dutch moral philosophers were forced to contemplate a world governed not by reason but by passions from wealth brought about by violence and trade. Rene Descartes found his attention increasingly being drawn toward these debates, resulting in the development of his explanation of how the passions arose from the material world itself and became the main source of human behavior and thought. Some Dutch physicians took his position a step farther, resulting in a full-fledged materialist view maintaining that we are governed by matter in motion, and nothing else. Nature was the source of great
benefits, from health and wealth to happiness and love. This position, however, negated the view that we should be governed by rational virtue and led to an enormous backlash from the religious against the new philosophers.

Volume Editor's Introduction
Lisa Shapiro

in The Correspondence between Princess Elisabeth of Bohemia and René Descartes
Published in print: 2007 Published Online: February 2013
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Publisher: University of Chicago Press
DOI: 10.7208/chicago/9780226204444.003.0001

The correspondence between Princess Elisabeth of Bohemia (1618–80) and René Descartes covers topics spanning the range of philosophical inquiry, but the letters were not written for the public. Early on in the correspondence, Elisabeth is quite insistent that their exchanges be kept private. In concluding her letter of 6 May 1643, she charges Descartes to refrain from making their exchange public, and her letter of 10 October 1646 demonstrates that they considered communicating in code. This introductory chapter presents biographies of Princess Elizabeth and René Descartes. It then provides an overview of the philosophical issues engaged in the correspondence, along with some essential background for understanding those issues. Next, it considers in greater depth Elisabeth's own philosophical position.

Introduction
MICHAEL AYERS

in Rationalism, Platonism and God: A Symposium on Early Modern Philosophy
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This introductory chapter explains the coverage of this book, which is about the relation between the concepts of rationalism, Platonism, and God. This book is intended as a contribution to the exploration and exposition of the common ground of the great early modern rationalist theories. It examines contemplation and control in Cartesian philosophy and analyses the priority of the perfect in the philosophical theology of the continental rationalists. It also provides commentaries on the
relevant theories of philosophers Rene Descartes, Baruch Spinoza, and Gottfried Leibniz.