

epistemology based not on the authority of the classics but in practices and tangible results. Under the rubric “The Canon Constructed,” the closing essay by Margaret Jacob shows how the old canon of the Scientific Revolution was developed in the eighteenth century; Jacob underscores that it was then that mathematical sciences—and specifically Newton’s contributions—were selected and separated from theological and alchemical issues.

In sum, readers of this journal will find this volume useful for the merits of the individual essays. For those familiar with the discussions of the past decade in which historians of science have tried to reassess the Scientific Revolution, the volume does not offer any radical new idea. Finally, it is significant that—save Smith’s—none of the essays focused on medicine or technology, or other larger cultural trends that may have helped shape cultural styles and influenced the approach to understanding and representing nature.

Jorge Secada. *Cartesian Metaphysics: The Late Scholastic Origins of Modern Philosophy*. Cambridge: Cambridge University Press, 2000. x + 333 pp. + \$59.95. Review by LUCIANO BOSCHIERO, UNIVERSITY OF NEW SOUTH WALES.

Most of the scholarly works during the past fifteen years regarding Descartes’ career have provided valuable contributions to our understanding of Cartesian natural philosophy. Jorge Secada’s text, focusing on the origins of Descartes’ metaphysics, manages to enrich further this field of study in seventeenth-century history and philosophy of science. He illustrates a model for understanding Cartesian metaphysics by addressing the significance Descartes placed on defining the essences of substances. Furthermore, Secada suggests that Descartes’ essentialism originated from Late Scholastic thought. In fact, the aim of Secada’s book is “to offer a unified reading of Descartes’ metaphysics against the background of Scholastic philosophy” (1), thus opening the way for a thorough and contextual account of Cartesian metaphysics.

Secada begins by introducing what he believes was an important question for Cartesian and Scholastic philosophy at the beginning of the seventeenth century. This concerned “the order of knowledge of essence and of existence” (1). Scholastics had long believed that once we know that a substance exists, we could then come to establish its essential definition. In contrast, Descartes contended that it was first necessary to know the nature of something before being assured of its existence. So, “what is in dispute is whether one can know the nature or essential definition of a substance without knowing whether it exists and, conversely, whether one can know whether a substance exists without knowing its nature” (8). This is the scenario that Secada introduces in Chapter One to distinguish Aristotelian natural philosophy and its reliance on sense experience, with Descartes’ metaphysics and his belief in the intellectual conception of knowledge. Throughout his early works, Descartes suggested that our knowledge of nature is independent of our sensory skills; that “the Cartesian way to knowledge starts with the unveiling of a world of essences which exists within the mind and which the intellect alone can perceive clearly and distinctly” (18). This is not to say that sensory perceptions are irrelevant according to Descartes, they are in fact our gateway to the world, but how we come to understand what exists from our senses is based on our intellect and our knowledge of the essences of substances.

Despite Descartes’ formulation of this anti-Aristotelian philosophy, Secada contends that it is not difficult to trace the Scholastic origins of Cartesian metaphysics. To begin with, Descartes was educated in a Jesuit School and according to Aristotelian beliefs that were widely accepted by the beginning of the seventeenth century. So when he began to formulate a new natural philosophy to replace Aristotelianism, he was using the same theological and metaphysical tools as some of his Scholastic predecessors, such as Thomas Aquinas and Francisco Suárez. The use of terms such as “essences” and “existences” characterised both Cartesian and Aristotelian philosophies, as did their attempts to frame these concepts according to their understanding of God and His

relation to humanity and nature. Therefore, Descartes was seeking solutions to the same questions being asked by Aristotelians since the Middle Ages. This point, made by the end of Secada's first chapter, "affords us a tool for the examination of Descartes' metaphysics and for the fruitful articulation of its relations to Late Scholasticism" (26).

With this in mind, Secada provides an account of the mathematical and physico-mathematical principles that Descartes encountered in his education. Early in his career, Descartes began to associate the mathematical arts that he was taught by his Scholastic teachers, with certainty of knowledge and purely intellectual inquiries. Furthermore, he was beginning to subscribe to a neo-Platonist sceptical approach to the use of sense experience in order to promote a Christian essentialism reminiscent also of St. Augustine. That is, that since God is in all of us, we do not need to follow our senses to know his existence. So Descartes was in fact intent on improving on Scholastic thought with the Jesuit education afforded to him, by striking out against the Aristotelian notion of the primacy of sensory cognition. According to Secada, "Incarnating the ideals of the Jesuit Reformation and persuaded of the weakness of Scholastic learning, Descartes gradually came to adopt as his life project the construction of a new system of knowledge, in harmony both with the faith and with the new science, to take the place of Aristotle's" (50).

In Chapter Three Secada continues to discuss the importance of theology, scepticism, and intellect in Descartes' formulation of an essentialist metaphysics. In particular, he points out how Christianised Platonism from the Middle Ages and the Renaissance were used by both Descartes and Late Scholastics to discuss the notion of eternal and immutable essential definitions of substances that can lead to our knowledge of God's existence. So, even though Descartes then continued along the anti-Aristotelian path of scepticism and mathematics, he and his Scholastic predecessors shared some essentialist beliefs. Descartes was framing ancient and early modern Scholastic notions in a manner that allowed him to construct the metaphysical groundwork for his new

natural philosophy. This concludes Part One of Secada's book. It is the most important part of his thesis since it outlines the basic concepts of Cartesian metaphysics. More importantly, Secada shows that Descartes was addressing the same problems and using the same tools as his Scholastic predecessors and contemporaries. As promised in the Prologue, Secada is fulfilling his aim "to redress the unbalanced but extended picture of the Cartesian philosophy as a radical break with the past" (55).

In Part Two, Secada looks at the details that strike at the heart of Descartes' essentialism. That is, his beliefs regarding the mind, the self, and God that are dealt with mainly in the *Meditations*. These refer firstly to how ideas are created in the mind, followed by the identification of the autonomy of our intellect from all sensory perceptions, allowing us finally to recognise the essence of our own existence as well as that of God. According to Secada, these points provide Descartes with the foundations for an essentialist metaphysics and an anti-Aristotelian philosophy of nature.

In Part Three, Secada finally looks at Descartes' doctrine of the essences and existences of substances. That is, Secada is pointing out how according to Descartes, every substance has its own essential definitions, allowing us to form an ontology based on the Cartesian essences of extension and thought. The issues dealt with here and in Part Two are at the core of the Cartesian metaphysical and natural philosophical views that came to replace the Scholastic traditions from which they were born, and which are explained in Part One of Secada's book.

The only shortcoming of Secada's thesis is that he does not define the views of "modern" philosophy that he refers to in the title and throughout the text. In particular, while he discusses the Scholastic origins of Cartesian metaphysics, he does not specify how these early modern essentialist discussions supposedly constitute the birth of "modern" philosophy of science. This indeed may not even be necessary since Secada skilfully manages to deal with Descartes' arguments in the context of early seventeenth-century natural philosophy. The value of this book is therefore in the contributions it makes to our understanding of the metaphysi-

cal assumptions that came to make up the basis of Descartes' natural philosophical beliefs. More specifically, Secada skilfully examines Cartesian metaphysics in the context of the dominant Scholastic views regarding essentialism, existentialism, theology, and sense experience. For this reason, it would be a useful source for scholars wishing to establish a solid understanding of the complexities that came to make up Descartes' natural philosophy.

Ronni Baer, with contributions by Arthur K. Wheelock, Jr., and Annetje Boersma; ed. by Arthur K. Wheelock, Jr. *Gerrit Dou (1613-1675): Master Painter in the Age of Rembrandt*. Washington: National Gallery of Art; New Haven and London: Yale University Press, 2000. 159 pp. \$65.00. Review by LINDA STONE-FERRIER, THE UNIVERSITY OF KANSAS.

Gerrit Dou (1613-1675): Master Painter in the Age of Rembrandt, a beautifully illustrated, scholarly catalogue, accompanied the exhibition of the same name that opened in 2000 at the National Gallery of Art, Washington, and traveled to the Dulwich Picture Gallery, London, and to the Royal Cabinet of Paintings Mauritshuis, The Hague. The international loan exhibition offered the first focused look at 35 paintings by the esteemed Leiden painter, Gerrit Dou. Although the young artist trained for three years with Rembrandt, Dou's subsequent style of painting, which was referred to in his own time as *fijnschilderij*, or fine painting, differed significantly from that of his teacher by virtue of its stunning illusory and detailed effects. Dou enjoyed a lifetime of professional and commercial success as a painter of domestic scenes of mothers and their children, scholars, astronomers, artists in their studios, portraits, still lifes, and religious hermits. Later generations of collectors and critics, however, did not always find Dou's bejeweled painting surfaces as praiseworthy.

In the first of the three scholarly essays in the exhibition catalogue, Arthur Wheelock charts from the seventeenth century to the twentieth century the changing critical and commercial suc-