Cartesianism Revisited[1]

Eric P. Lewis
Virginia Tech

In the summer of 2006 Daniel Garber opened the FME International Seminar in Early Modern Thought by commenting: "This has become *the* place to be." The unexplained utterance generated smiles among the small room full of scholars, and could easily have been written off as an innocent bit of self-lauding or an ironic reference to the remoteness—even obscurity—of the seminar's site.[2] The list of seminar participants contained half a dozen philosophers from prestigious universities dotting the globe. Their research garnered a wide, if not deep, following. However, the dozen or so others listed on the program included graduate students, and tenured and non-tenured faculty who labored in greater obscurity in several academic disciplines. Together, these scholars seemed an unlikely group to define the remote town in Romania (at least at that moment) as "*the* place to be" for researchers of early modern thought.

The seminar title, "Disseminating Knowledge in the Seventeenth Century: Centers and Peripheries in the Republic of Letters," though innocuous enough, is indicative of a style of philosophical research that until fairly recently remained marginalized within the majority of English

1. This article discusses several recently published works about the reception of Descartes in the seventeenth century. It argues that the categories traditionally used by modern philosophers to define the early modern period have been corrupted by the studies and works represented here. The result is not just a more nuanced view of early modern philosophy, but also a substantially different picture of the intellectual landscape. The editors of the books in this review share a similar methodological approach to their subject, an approach that separates them from a more analytical style of philosophy that is practiced by many of their colleagues. The publications under review are: Ariew and Garber 2002, Schmaltz 2002, Schmaltz 2005, and Lennon 2003.

2. The seminar was held in the town of Bran, Romania, best known for the castle associated with Bram Stoker's Dracula.

Perspectives on Science 2007, vol. 15, no. 4

speaking philosophy departments.[3] The fact that Garber, chair of the department of philosophy at Princeton, could confidently make his opening proclamation underscored a methodological struggle to which he successfully dedicated a career. Garber recently explained:

> What my generation of historians was reacting against was a bundle of practices that characterized the writing of the history of philosophy in the period: the tendency to substitute rational reconstructions of a philosopher's views for the views themselves; the tendency to focus on an extremely narrow group of figures (Descartes, Spinoza, and Leibniz, Locke, Berkeley, and Hume in my period); . . . the tendency to treat the philosophical positions as if they were those presented by contemporaries; and on and on and on." (Garber 2004, 2.)

The young and old present at the seminar likely wished that more of Garber's generation acted in concert with him; yet the emphasis of "peripheries" and "disseminating knowledge" is precisely the result of this philosophical style.

Similar conferences have cropped up over the last decade, often self-consciously struggling with the terminology of "outsiders" and "peripheries" as they have explored the role of the contemporaries of Descartes, Hobbes, Spinoza and Leibniz.[4] Philosophers such as Walter Charleton, John Davies, Bernardo Telesio, Pierre-Daniel Huet, Pierre-Sylvain Regis, and Robert Desgabets, to name a few, were in no conventional way "outside" their respective intellectual communities, yet they have been largely excluded from modern discourse about early modern philosophy.[5] The participants of these conferences typically focus much less on the perceived internal coherence of a text such as Descartes' *Meditations* than on understanding the text through the reactions of the author's contemporaries; or, conversely, understanding a primary philosopher as a reaction to his contemporaries. They share an assumption that lay behind Garber's criticism:

3. I call this a "style" of philosophy because I wish to avoid creating false dichotomies. As will be discussed, recent research into late scholasticism and the reception of Cartesian thought demonstrates a rich spectrum of views that challenge the dichotomies traditionally drawn. Likewise, modern methods of research span a spectrum that can best be described in terms of tendencies.

4. Participants at a colloquium titled "Outsiders in Early Modern Philosophy," The Warburg Institute, London, Fall 2003, discussed the fallacy of calling the subjects of their research "outsiders" when many were at the center of their intellectual community.

5. We might also successfully apply the terms "outsiders" and "peripheries" in a self-reflective way. The methodological struggle precipitated by Garber and others has, at times, elicited attempts to ostracize those whose research has had a greater contextual focus.

researchers can better recover the meaning of a text when their efforts are applied to intellectual context. The fact that Garber proclaimed to a group of scholars, united in their study of "centers *and* peripheries," that they were in "the *place* to be" is nothing if not ironic as these scholars and their research subjects become better recognized on the "inside" of their respective philosophical circles.

No shortage of words has been spilled by philosophers concerning the merits of this increased emphasis on context.[6] The late Margaret Wilson called Garber and Michael Ayers to task for comments they wrote in the introduction to *The Cambridge History of Seventeenth-Century Philosophy.* As editors, Garber and Ayers claimed that commentators in the "analytic tradition" not only ignored the philosophical complexities of their subjects and "distorted [philosophy's] achievements, but also often denied themselves the tools necessary for the interpretation of the very words and sentences they continue to expound" (Garber and Ayers 1998, 4).[7] For her part, Wilson promoted a "softening of the ideological division, rather than to advocate any general thesis, factual or normative, about the relation of philosophy and history" (Wilson 1992, 195). But Wilson worried that the "detail and professionalism . . . of the sort desired for their volume by the *Cambridge History* editors . . . can tend to discourage "use" of historical figures by contemporary philosophers of a certain conscientiousness" (Wilson 1992, 205). She quoted David Lewis who admitted that he had not discussed Leibniz's views about the plurality of worlds in a recent work because he lacked the expertise to confidently represent the philosopher's ideas on the subject. Lewis had the choice between publishing something that he admitted might be "undeserving of others' attention," or sparing philosophers from those pages. Ostensibly, he had a further choice: to devote much more attention to Leibniz's work on the topic. But Lewis said that after reading "what serious historians of philosophy" had to say, he gave up because of the lack of consensus among them (Wilson 1992, 204). He apparently had little desire to tackle the primary sources himself and instead appealed to "serious" historians of philosophy, whomever they might be. Pragmatic concerns thus trumped, in this case, any discussion of Leibniz's contribution to the issue of the plurality of worlds. Wilson lamented that Lewis failed to stray from his narrower philosophical project because the demands of current historical research were so high. Lewis

6. A conference titled: "Do Historians and Philosophers of Science Have Anything to Say to Each Other?" was recently held at Duke University, March 2007.

7. Wilson's criticisms were published in *The Philosophical Review,* January 1992, well prior to the actual publication of the volume that contained Garber and Ayer's comments. Garber (2004) later characterized his comments above as a "cartoon version of the "analytic" history of philosophy" and a "useful demon to posit."

simply left his reader to wonder how (or why) he would have used Leibniz in his work if there had been a consensus on his doctrine of the plurality of worlds, and if we should consider this shortage of words problematic.

Beyond the pedagogical issues facing philosophers working in early modern history, Bernard Williams claimed that the two different styles of research inevitably yielded incompatible products "in rather the way that Impressionism, by exploring as intensely as possible the surface effects of light, was thereby debarred from giving as much information about structure as was accessible to some other styles of painting" (Williams 1994, 20).[8] Though Williams did not explicitly tell his reader which of the two styles was analogous with Impressionism, his claim that the more historically inclined "naturally looks sideways to the context of a philosopher's ideas" seemed to answer the question.

The negative connotations of a "sideways" look may be avoided if Williams meant that the resulting picture exists, or should exist, independently of what he calls "present problems" in philosophy. Context, in this case, may say something novel and interesting about the ideas of an historical figure such as Descartes, but tell the modern philosopher nothing (or worse—something distorting) pertaining to one's present philosophical objectives. However, if Williams is correct, doesn't this make the two "styles" irrelevant to each other?

In *Descartes Reinvented* (2005) Tom Sorell, like Wilson, purports to offer a reconciliation of sorts between philosophers and their more historically oriented colleagues. He rightfully states that his latest book does not belong "to the genre history of philosophy," but adds that it "lies somewhere between studies of Descartes' writings and their context and current work in philosophy of mind, metaphysics and epistemology" (Sorell 2005, xx). Sorell begins by making a distinction between what he calls "unreconstructed Cartesianism" and "innocent Cartesianism." He calls the former "Cartesianism as it is represented in Descartes himself" (Sorell 2005, x). Innocent Cartesianism, on the other hand, consists of the "reinterpretation, and sometimes the outright revision, of unreconstructed Cartesianism so as to meet some of the scruples of twentieth- and twenty-first century philosophy" (Sorell 2005, xiii). Although Williams' analogy raised the possibility of incommensurability, Sorell pays lip service to a perceived common ground between the two Descartes he recognizes.

8. Williams sometimes calls the differences in methods a difference in "approach" or "style." However, his distinction appears more qualitative. He labeled one style "the history of ideas" and the other "the history of philosophy." The latter he claimed "admits more systematic regimentation of the thought under discussion."

> Even where the claims of his modern detractors are poorly grounded in Descartes' text, or where they seem to be warranted only by a perverse reading, they belong to a kind of folk memory of Descartes in twentieth- and twenty-first-century philosophy that is important to understand in common with what the historical Descartes said. Calling attention to this common ground is likely to be far more effective in promoting a serious reevaluation of Cartesianism than trying to persuade modern critics of Descartes that they are so wrong about him that they must have some other philosopher in mind. (Sorell 2005, xxi.)

Unfortunately, as the works reviewed below suggest, the historical Descartes, or rather the phenomenon know as Cartesianism, tends to be more interesting and more complex than Sorell's unreconstructed Cartesianism.[9]

As we will see, the eclectic physician Walter Charleton, the French Cartesians Géraud de Cordemoy, François Bayle, Pierre-Sylvain Regis, Robert Desgabets, and Antoine Le Grand, don't fit most modern constructions of Cartesianism. Yet Descartes wrote for this audience: these were his contemporaries or near contemporaries, the people he hoped to persuade. They shared his concerns, critiqued his philosophical and theological views, offered solutions and criticisms, and created an intellectual climate obscured by the over-simplified dichotomies reiterated by so many modern commentators.[10] Research into these lesser-known philosophers has produced a very different understanding of the early modern era and continues to challenge the story of modern philosophy's debt to its past.

Daniel Garber, Roger Ariew, Tad Schmaltz, and Thomas Lennon, the authors and editors of the works under review here, all share a common re-

9. The issue of defining "Cartesianism" becomes more complicated still because Sorell often uses the term as "a philosophical folk memory outside of the history of philosophy, a folk memory largely created and sustained by those who are hostile to Cartesianism" (Sorell, xxi). It is this particular form of Cartesianism that he wishes to correct with a dose of something unreconstructed. But his narrow focus on Descartes *Meditations* (in a modern English translation) to create the "unreconstructed" version fails to address Garber's original objections. As we will see, the authors under review here use "Cartesianism" in very different ways. Consequently, Sorell rarely enters into conversation with historians of philosophy.

10. Pierre-Daniel Huet's *Censura Philosophiae Cartesianae,* now available in an English translation thanks to Thomas Lennon's efforts, is a comprehensive and often damning critique of Descartes' thought. Many of Huet's arguments anticipate critiques offered by the present generation of anti-Cartesians. It should be required reading for anyone worried about the methodological success of radical doubt, Descartes' proofs for the existence of God, the reliability of the cogito, or the circularity arising from his reliance on the criteria of clarity and distinctness.

search interest in the reception of Descartes' thought among his contemporaries. Roger Ariew recently produced a new and significantly revised translation of Pascal's *Pensées* (2005). The results of his research, which are published in a preceding article, challenge the reader to reconsider Pascal's supposed anti-Cartesianism. Ariew and Margorie Grene edited and translated Montaigne's once immensely popular *Apology for Raymond Sebond* (2003). These works follow *Descartes and the Last Scholastics* (1999), a collection of essays that together explore the varieties of Aristotelian thought available in the seventeenth century and the challenges they posed for Cartesianism. Ariew, with John Cottingham and the aforementioned Tom Sorell, also edited and published a similarly valuable selection of original works: *Descartes' Meditations: Background Source Materials* (1998). Although Ariew and Garber had not previously focused on the English reception of Descartes, the publication of the ten-volume *Descartes in Seventeenth-Century England* nicely dovetails with their ongoing interest in illuminating the intellectual context of Descartes' work.

In the introduction to *Descartes in 17th-Century England* Ariew and Garber modestly state that the purpose for publishing the ten-volume collection is to bring greater complexity to philosophical discussions too often limited to simple contrasts between the Continental Rationalist and British Empiricists. To accomplish this task the editors assembled twenty works falling under one of four categories: Descartes' Works in Translation, Biographies of Descartes, Critiques of Descartes, and Works by Cartesians in English Translation. They also added three works by the professed admirer of Descartes and advocate of Gassendi's atomism, Walter Charleton. All of these works are republished in their original pagination and print by Thoemmes Press, which conveniently scaled them to fit in the encyclopedia-style volumes. Except for Johannes Schuler's *Examinis philosophiae Renati Des-Cartes specimen* (1692), they are all English language texts, and few until now have been readily available to early modern students and scholars. The collection thus represents an important assemblage of largely unexploited primary source material.

The editors' voice is virtually silent in the collection, as it should be. Besides a short introduction that provides descriptive details about the selected authors and a brief sketch of their published works, the editors speak only through their choice of texts. Ariew and Garber included three original works and a (likely) translation by the eclectic physician Walter Charleton (1620–1707). Charleton's *The darkness of atheism dispelled by the light of nature* (1652), *The immortality of the human soul, demonstrated by the light of nature* (1657) and *Natural history of the passions* (1674), expose the author's liberal yet selected use of Descartes' arguments and his pas-

sion for theology. The three works consume the greatest number of pages by any single author in the collection.

Charleton's prominence in the collection is justified by his illustrious medical career and prolific writings in natural philosophy, theology and medicine. Charleton earned his M.D. from Oxford in 1643, and later became physician in ordinary to Charles I. During the Civil War, he traveled to France where he met Thomas Hobbes and became familiar with the mechanistic philosophies of Descartes and Gassendi. He maintained close ties to the brothers Charles and William Cavendish as well as to Lady Cavendish, Duchess of Newcastle. Following the Restoration, he was appointed physician to Charles II, elected a member of the Royal Society of London and served as President of the Royal College of Physicians (1689–91).

Despite his prolific writing career, a highly regarded medical practice, and inclusion in the highest circles of the community of natural scientists in England, until recently Walter Charleton has been largely ignored by early modern scholars. In part this lack of attention can be attributed to the common view that he never developed a systematic philosophy nor maintained consistent metaphysical commitments. His name has been virtually absent from discussions concerning scientific methodology, though he has been falsely described as an anti-rationalist and advocate of metaphysical views akin to those held by Paracelsus (1493–1541) and Johannes Baptista van Helmont (1579–1644). Other accounts portray Charleton as a renaissance alchemical philosopher who converted to a mechanistic atomism after assimilating the work of Descartes and Gassendi.[11] He has also been classified by Stephen Shapin as a virtuoso and avid experimentalist in the fold of a like-minded Royal Society.

The first comprehensive attempt in English to understand Charleton in terms of his chosen profession, with a focus on his medical writings, is Emily Booth's *A Subtle and Mysterious Machine* (2005). Though other authors have noted the importance of the physician's commitment to a methodological eclecticism, none has mined his medical works to produce a nuanced account of the relationship between Charleton's profession and his broader philosophical commitments. Instead of focusing on his more general works of natural philosophy, including *Physiologia Epicuro-Gassendo-Charltoniana* (1654) for which he is best known in the secondary

11. Given Charleton's admitted admiration for Descartes, his (likely) translation of *Compendium musicae,* and a liberal use of Descartes' thought, the physician could easily be subsumed under the title "Cartesian." However, Charleton's self-proclaimed eclecticism and advocacy of a Gassendist atomism prohibits such a label.

literature, Booth exploits Charleton's often overlooked *Natural History* (1659), *Enquiries into Human Nature* (1680) and *Three Anatomic Lectures* (1683). She offers a corrective to his identification as a 'virtuoso' natural philosopher and reveals a Charleton very different from the collaborative experimentalist who embraced innovation in opposition to ancient authority.[12] Her account also corrects the description of Charleton as an unabashed convert to the mechanistic philosophy. Instead, she claims that the doctor avoided a general attempt to explain bodily functions with appeal to mechanical causes, though he sometimes tentatively agreed with specific mechanical descriptions. Particularly compelling is Booth's discussion of Charelton's translation and augmentation of Giovanni Alfonso Borelli's (1608–1679) *De motu animalium* in the former's *Three Anatomic Lectures.* Though *Lectures* preserved Borelli's largely mechanical description of the function of the heart, and even refuted the agency of fermentation included in Borelli's account, Charleton omitted the Italian's extensive mechanical and mathematical demonstrations. Booth exposes Charleton's willingness to use final causes, analogy, textual authority, and both deductive and inductive reasoning; thus his thoroughly eclectic approach to his subject.

Though Booth illustrates the physician's consistent methodological eclecticism, her claims that Charleton's identity "depended also upon the preservation of the traditional status of physicians (founded on sober judgment and classical learning)," and that his eclecticism "allowed him to reconcile an interest in modern developments with a devotion to the ancients" need a bit more examination. She does not, for instance, adequately tie the political struggles of the College and the chaotically complex English medical community to Charleton's eclecticism. It is not obvious that Charleton's eclecticism offers the solution Booth implies. For instance, his early writings in natural philosophy and theology may be easily read as direct challenges to tradition. Many of his contemporaries, Sir Kenelme Digby for instance, were by any account 'eclectic' in their assimilation of mechanism and ancient authority; but Charleton uniquely advocated multi-source borrowing. Booth may be correct about the political benefits eclecticism afforded Charleton, but the claim remains largely an assumption in her work.

A Subtle and Mysterious Machine is, nevertheless, an important contribution to the growing body of secondary literature about the English reception of French mechanistic thought, and its importance extends beyond

12. The characterization of Charleton as an advocate of "collaborative experimentalism," or as an anti-rationalist, follows too easily when one accepts the simple dichotomies Ariew and Garber wish to extinguish.

the narrower purpose of refuting simplistic and false characterizations of Charleton. The physician's voluminous writings in medicine, natural philosophy and theology, most of which have been given only cursory treatment to date, are finally becoming part of a greater discussion about the complexities of mechanistic thought and experimental practice in early modern England. As scholars such as Booth challenge current models of understanding early modern science, these mostly ignored texts will finally get the attention they deserve.

Booth's emphasis on the demands of Charleton's medical career can only aid in understanding his more generally philosophical works and how the physician assimilated Cartesian thought. *The darkness of atheism dispelled by the light of nature* (1652) reproduced Descartes' rationalist arguments for the existence of God, including Descartes' epistemological reliance on clear and distinct ideas, and the distinction between mind and body as extracted from the *Meditations* (1641). Charleton professed that Descartes "by vast excesses" surpassed all his objectors. But the physician also borrowed liberally from Epicurus, Democritus, and Gassendi, among others. He took care to refute the possibility of a random creation of the world from a chaos of atoms, only to conclude by advocating the hypothesis of atoms as the material principle of all bodies. Charleton included extensive discussions about man's free will, fate, and God's providence. As in earlier work, he justified his transgressions into theology with an attack on the authority of divines. He claimed that philosophers must take the lead in the battle against atheism; and to this end, he appealed to the French mechanists Descartes and Gassendi for inspiration. As a result, Charleton's appropriation of Descartes' arguments for God's existence and the immateriality of the soul represent the first renditions of Descartes' *Meditations* in English.

Descartes' influence on the English doctor preceded the 1652 attack on atheism, however. In his translation of John Baptist van Helmont's *Disputatio de magnetica vulnerum naturali et legitima curatione* (1634), Charleton revisited a topic which generated considerable controversy in the early decades of the seventeenth century. Scholarship on Charleton has tended to ignore the significance of *Ternary of Paradoxes* and attributed Charleton's interest in the remote cure of wounds to the waning influence of Renaissance alchemistic thought. No doubt Charleton felt van Helmont's work worthy of translation, but both his introduction and postscript to the translation reveal a significantly different commitment to matter theory, though both claimed that the cure could be explained naturalistically.[13]

13. This was an attempt to avoid the charge that the cure wrought by weapon salve required demonic assistance.

Charleton, unlike van Helmont, explained that blood on a weapon could have communication with the body of its origin through the emission of a continual stream of atoms between the two. With the application of a proper unguent to the weapon stained with the victim's blood, the wound could be healed. The atoms of blood remaining on a sword or other object, since they could be redivided almost infinitely, produced a healing effect over a great distance as they diffused in the air between their living source and the object. Charleton's atomistic explanation of how a wound could be cured by application of an unguent to the offending weapon reads quite differently from Helmont, who rejected any material connection. Distancing himself still farther from the traditional explanation of the cure, Charleton included nothing but disparaging remarks about the considered originator of the cure, Paracelsus. He even denied, against the near unanimous opinion, that Paracelsus invented the recipe for the healing powder. These contrasts between Helmont and Charleton suggest that the English doctor considered the occult issue fully explicable in terms of an exchange of material particles, though he retained much of the vocabulary of van Helmont and once referred to the atoms as "semi-immaterial." Charleton famously disavowed the effectiveness of the salve for curing wounds in *Physiologia* (1654), but his explanation of the cure in *Ternary* remained consistent with the explanation of several occult phenomena that the doctor translated from Gassendi and reproduced in the later work. Since Charleton referred to Descartes' rationalist method in the introduction of *Ternary* and directly referenced Descartes' *Discourse on Method,* one can conclude that his interest in reopening the occult topic at least coincided with his assimilation of French mechanistic thought, and was likely an attempt to apply the corpuscularian principles gleaned from Descartes as a solution to a phenomenon formally explicable as action at a distance.[14]

Charleton's interest in Descartes and the occult may have motivated the English translation of *Compendium musicae* (1653). Though the physician is not mentioned in the work itself, there are three voices represented in the English translation: the commentator William Brouncker (1620–84),

14. Modern research on Descartes has tended to either ignore or dissociated his mechanistic physics from issues of the occult. This tendency was not shared by his contemporaries. For instance, Claude Gadroys claimed that Descartes is like the "famous navigators who, discovering a new country, leave its cultivation to those who come later" (Preface to *Discours sur les influences des asters,* 1671, translated by Ariew). Gadroys extended Descartes' principles to the effects of astrology and talismans. Charleton and his friend Sir Kenelm Digby likewise use Descartes as motivation to explain the weapon salve, though Digby's debt to Descartes may be much less than enthusiasm for mechanistic explanations more generally. Several English astrologers and self-pronounced followers of Paracelsus were empowered in their explanations of occult phenomenon by the novel mechanistic philosophy.

Descartes, and the translator. In his edition of the *Abrégé de musique,* F. de Buzon concluded that Charleton translated the work (Descartes 1987, 38). Charleton was mentioned as the translator in the *Transcript of the Register of the Worshipful Company of Stationers; from 1640–1708 A.D.* (London 1913), vol. I, p. 402. Given Charleton's previous interest in Descartes, his interest in translating *Compendium* would not be a surprise. In addition to reproducing the English translation of Descartes, the editors of *Descartes in 17th-Century England* have added the "announcement for Renatus Des-Cartes excellent compendium of musick," which concludes with Descartes' opening comment from the *Compendium* about the sympathy of voices between friends and the antipathy of sounds created by two drums made alternately of sheep skin and wolf hide: "that a drum headed with a sheep's skin yields no sound though strucken, if another drum headed with a wolf's skin be beaten upon in the same room" (Ariew & Garber 2002, p. xxvii). Charleton would have had no reason to feel that Descartes' references to occult qualities were inconsistent with his mechanistic agenda, after all, Descartes' French version of the *Principles* (1647) offered the possibility of a corpuscularian explanation of why a corpse bleeds in the presence of its murderer and how thoughts can be exchanged telepathically. Unfortunately, these passages from the *Principles* rarely make it into contemporary English translations of Descartes. Yet these occult phenomena would have been of interest to the royal physician and his contemporaries.

Ariew and Garber chose not to republish the doctor's *Physiologia Epicuro-Gassendo-Charltoniana,* either because it is mostly a translation of parts of Gassendi's *Animadversiones* (1649), or because it was made available in a modern reprint edition in 1966. Yet this work represented Charleton's mitigated acceptance of the mechanistic philosophy and his rejection of plenism in favor of atoms and void space. Nevertheless, Charleton praised Descartes as the epitome of the class of novel philosophers, separately classified Gassendi as a 'renovator' of ancient Epicurean atomism and, despite the atomistic intent clearly manifest in his title, declared his own commitment to an eclectic methodology.

In *Natural History of the Passions* (1674), Charleton again praised Descartes, while he admitted to borrowing from the works of Hobbes and Gassendi as well. Yet the doctor translated several pages of Descartes' *Passions of the Soul* in an effort to refute his illustrious contemporary's claim that man had only one indivisible soul, and that its seat was located in the pineal gland. On the contrary, Charleton claimed that man had a corporeal, divisible, sensitive soul that was coextensive with the entire body. He likened this soul to a flame and claimed it was distributed throughout the body by the blood. He considered the immaterial rational soul conjoined with this sensitive soul, and he suggested that the rational soul could in-

teract with the corporeal soul because the later approached nearer the nature of spirit due to its flame-like constitution. Charleton thus lived up to his self-described eclecticism. He praised Descartes' innovation, attempted to describe 'occult' phenomena in terms of matter and motion, advocated Descartes' rationalist attempts at proving the existence of God and the immaterial of the soul, and brought Descartes into the English speaking world. Yet Charleton also criticized Descartes' account of the natural passions, preferred the hypothesis of atoms and void (thought he sometimes remained ambiguous over the extent of material divisibility), and, especially in his early work, referred to spiritual *(spiritus gorgonicus)* or seminal *(semen petrificum)* principles to explain the generation of bodies. He remained, like many of his contemporaries, deeply interested in alchemical recipes.

Charleton's sometimes inconsistent application of the novel mechanistic philosophies can be explained by his self-professed eclecticism. But unlike Charleton, Sir Kenelm Digby, an English Catholic who became widely known for use of the weapon salve and associated treatise, attempted to produce a single systematic corpuscularian physics. Digby cited Galileo, and to a lesser extent, Descartes in defense of his physical theories. However, as much as he repudiated scholastic rhetoric, Digby never tried to escape his Aristotelian heritage. Rather, he described his mechanistic physics in Aristotelian terminology. Ariew and Garber do not reproduce Digby's lengthy *Two Treatises* (1644) in their encyclopedia, but some discussion of the work is prudent for understanding the reception of mechanistic thought in England.

Of Bodies, by length the major part of *Two Treatises,* began with the claim that quantity was the first affection, and basis for all other affections of bodies. Digby warned his reader, in what sounded like a rejection of real qualities, that philosophical discourse easily goes awry when the true nature of things becomes equated with the conceptions framed in the mind. But the Catholic scholar used his notion of quantity, described in terms of divisibility, to interpret traditional Aristotelian arguments against atoms and both interstitial and extended vacuum. He adopted what he considered to be Aristotle's definitions of rarity and density (rare bodies are more divisible than dense ones) and added the notion of gravity, which for him had a special relation with dense bodies. From gravity, rarity, and density, Digby derived the four qualities hot, cold, moist and dry, and their associated elements. A body rare enough that gravity would not have an effect is dry. A moist body had gravity disproportionate to its density. Likewise, Digby established the qualities of hot and cold. Once he had done this, he explained phenomena in mechanistic terms and claimed that all operations of bodies were directly or indirectly a result of local motion. Despite

his arguments against atomism, Digby referred to atoms as the least sort of natural bodies, but not indivisibles. When describing how a fire consumes a harder body, a piece of wood for instance, Digby claimed that the fire penetrated the pores of the substance, pushing out the little bodies therein. The compounding effects resulted in the destruction of the wood as pieces of it were separated by the action of the fire atoms. If a dense body had no pores, fire would eventually affect it by wearing away the surface and bending the atoms (Digby 1669, 38). The action was thus described in terms of the motion of particles of one substance operating on the particles of another.

Light, however, did not always follow Digby's otherwise mechanical account of the actions of bodies. Although he counted it among "corporeall things" and argued that it was "no other thing but the nature and substance of fire" (Digby 1669, 48), he claimed that of all material things it came the closest to a spiritual nature. Since it was freed from the mixture of all other gross bodies; its sphere of activity, indeed its activity itself, exceeded that of other rare bodies such as fire. In order to explain his own version of the weapon salve, Digby laid out six principles "according to the method of geometrical demonstrations" (Digby 1669, 152). The powder of sympathy relied on the great sphere of activity created by light-permeated air to carry with it like substances: "if it happens that within the air there be found some dispersed atoms of the same nature with the body that draws them; such atoms are more powerfully attracted, than if they were bodies of a different nature" (Digby 1669, 173). The powder of sympathy could work, more or less mechanically, because of the attraction between like substances (blood) on the weapon and the wound it caused. Upon application of the medicine to the blood stained weapon, the atoms of the vitriol became mixed with, and inseparable from, the atoms of the blood. Sending off its own streams of atoms, the wound could 'reach' the now combined blood and vitriol on the weapon because the surrounding air, permeated by incessantly active light, formed a bridge of sorts between the weapon and wound. Thus the two like substances were reunited and the medicine brought in contact with the wound.

Digby realized that unless he could explain the attraction of like substances, his account would hardly be novel. Consequently, he based the resemblance of nature in bodies on weight, degree of rarity and density, and figure as he had explained in *Two Treatises.* Originally published in French, Digby later translated *Of the Powder of Sympathy* (1657) into English and appended it to the larger work. It thus provided, along with his treatise on plants, what he believed was a mechanical explanation of an otherwise occult phenomenon. The popularity of *Of the Powder of Sympathy* was well demonstrated by its frequent publication and translations. Even though

Walter Charleton published his translation of van Helmont seven years prior to Digby's discourse on the weapon salve, the physician acknowledged his Catholic contemporary as the "choicest flower" regarding the issue.

Digby offered his lengthy discussion on bodies as the prelude to a much shorter treatise on the soul. It has been suggested that Digby's interest in immortality, which seems to include lectures given at Gresham College on the revitiation of plants and the subsequent treatise, *A Discourse concerning the Vegetation of Plants* (1669), resulted from the sudden loss of his beloved wife Venetia Stanley in 1633. Regardless of his motivation, Digby's theory of spiritual substance resembled Descartes,' however, instead of reproducing Descartes' "rationalist" argument about distinct ideas of material and immaterial substances, Digby largely appealed to the failure of the corpuscularian account of nature to explain aspects of human behavior.

Descartes' metaphysics produced a substantially different, yet mostly sympathetic response from a loosely knit group of divines primarily associated with Emmanuel College, Cambridge. Though there is little consensus among scholars about the membership of the group known as Cambridge Platonists, Benjamin Whichote (1609–1683), Henry More (1614–1687), John Smith (1616–1652), and Ralph Cudworth (1617–1688) are generally referred to as key constituents of the group. Of these theologians only Whichote failed to exploit Cartesian dualism as evidence for the immortality of the soul. The divines generally adopted and modified Descartes' metaphysics to suit their own theological goals. In his earliest writings, *Philosophical Poems* (1647), Henry More expressed his interest in Cartesianism, and thus he should be counted as one of the first proponents of Descartes in England. More soon entered into correspondence with Descartes, presumably to convince his counterpart to reconsider his metaphysical claims, particularly concerning the relationship between body and soul. More accepted a qualified version of atomism, and equivocated Cartesian matter theory with Democritus' atomism. He argued that both body and soul were extended substances. Soul, however, could be penetrated but not divided. Body was impenetrable and divisible. Space was thus an attribute of spiritual substance, and matter shared in extension by subsisting in spirit. The coextension of matter and spirit provided More with an explanation of the motion of bodies: spirit thus became the principle of activity in all matter. More also believed that animals had souls. In his correspondence with Descartes, the divine insisted that the doctrine of omnipresence implied that God was extended and coextensive with infinite space. He closely identified space with God, though he was careful to avoid the pantheistic implications of a complete identity. While More maintained that matter was indefinitely divisible in thought and by God,

it still could be naturally indivisible. Eventually More became frustrated with Descartes' reluctance to revise his views and, in his later writing, presented Descartes as a dogmatist.

In his lifetime, Ralph Cudworth published one philosophical work, *True Intellectual System of the Universe* (1687). Cudworth, much like More, was principally concerned with proving the existence of God and demonstrating his wisdom and benevolence as Creator. To this end he attempted to extricate the corpuscularian philosophy from the taint of atheism, and he argued that an atomistic interpretation of mechanism actually led one to belief in God. Like Descartes, but showing a greater debt to Platonism, he adopted a rationalist epistemology. He described matter as extended and completely inert, and claimed that its principal attributes of divisibility, figure, position, motion and rest were deducible from the idea we have of it. He deviated from the simple dualism of Descartes by adopting a vitalistic hypothesis which he referred to as Plastic Nature, or an incorporeal medium between God and creation that carried out God's regular and orderly directives (in terms of motion) on matter. Thus Charleton, More and Cudworth, in adopting aspects of Cartesian matter theory, also positioned themselves against the implications of atheism they found so repulsive. More and Cudworth both directed their ire toward the materialism of Thomas Hobbes.

Margaret Cavendish, the Duchess of Newcastle, must be counted among one of Descartes' more vocal English critics. Although her life and work has generated a great deal of interest of late, her influence as a natural philosopher should be considered marginal. Until recently her reputation survived primarily as a result of her biography of her late husband *The Life of the Thrice Noble High and Puissant Prince William Cavendishe, Duke, Marquess, and Earl of Newcastle* (1667). The biography was translated by Walter Charleton into Latin and republished in 1668. Nevertheless, Cavendish wrote prolifically, developed her own natural philosophy, and at various times offered unsympathetic critiques of scholastics and moderns (including Descartes, Hobbes, More and van Helmont) alike. Cavendish's metaphysics changed dramatically during her publishing career: she eventually rejected atomism in favor of a form of monistic plenism. Matter, she thought, could explain all natural phenomena, and she rejected the comprehensibility of any non-material substance. She considered matter of two different types however: self-moving and not self-moving. She further subdivided moving matter into that which operated freely, or without the "burden" of other not self-moving parts; and that which moves with such burden. This distinction, one she called a distinction of "degrees," allowed her to differentiate between rational (freely self-moving), sensitive (burdened self-moving) and inanimate matter (not self-moving). Armed with

her classifications (or "degrees") of matter, she thought she could give a materialistic explanation to rational thought, sense perception and the interaction of inanimate bodies. Cavendish also argued that all of nature had life and knowledge, though only those parts with greater liberty and purity had "rational perception." Despite her simple ontology, Cavendish did not always seem prepared to give up the existence of real qualities. In *Observations upon Experimental Philosophy* (1666), a point-by-point critique of Robert Hook's *Micrographia* (1665) and the empiricist method implicit therein, Cavendish criticized "some of our modern Philosophers" who denied that color resided in an object of perception. She claimed that figure and color were both in the object itself and in the eye. Cavendish thus provided a unique, if not utterly comprehensible, alternative to the mechanistic dualism of Descartes and others. With the exception of her husband, her contemporaries had few and unsympathetic words about her philosophical labors.

Ariew and Garber do not include works by More, Digby, Cudworth, or Cavendish in their collection. It would be difficult to classify Digby as either a Cartesian or a critic of Descartes, though in some sense he bridges this seemingly contradictory gap. He could be described rather as a committed mechanist who grounded his project in scholastic tradition. More's work, as well as secondary scholarship about his philosophy and the Cambridge Platonists, is widely available to scholars. The plethora of studies recently issued about Margaret Cavendish's role in early modern science, and the subsequent reprints of her major works, makes her absence inconspicuous here as well.

The editors provide a rich arrangement of Descartes' critics, however. Edward Howard's *Remarks on the new philosophy of Des-Cartes* (1700) reflected the author's late-century nationalistic biases. Howard gave a thorough and systematic attack on Descartes' method, theory of matter, definition of the soul, and even the heliocentric theory of the solar system. He claimed that Francis Bacon provided an "experimental confutation of the failings of [Descartes]" and rejected Descartes' rationalist method, noting, "that nothing is in the intellect, which was not first in the senses" (Howard 1700, d4). He also belittled Descartes' mathematical skills, suggesting that the Frenchman plagiarized from the works of Thomas Harriot.

Also included in the collection is John Davies' *Reflections upon Monsieur Des Cartes' Discourse of a Method* (1654). Davies claimed that the work was a translation of an anonymous French author. Indeed it is difficult to know which John Davies is the claimed translator here. Regardless of the origin of the work, the author unsympathetically rejected Descartes' method in favor of Aristotle's syllogism, criticized Descartes' arguments of the exis-

tence of God by saying that the idea I have of a more perfect nature is not more perfect than I, and he rejected the use of the cogito as a first principle. Davies' conclusion chastised Descartes, asking if he composed the *Discourse* while awake or asleep.

Closing out the English critics, Ariew and Garber include Cambridge Professor Johannes Schuler's *Examinis philosophiae Renati Des-Cartes specimen* (1685) and English translations by the French critics of Descartes: Ignace Gaston Pardies' *A Discourse of Local Motion* (1670) and Gabriel Daniel's popular and satirical *A Voyage to the World of Cartesius* (1692). The translator of the later work, alluding to the popularity of Descartes' philosophy in Parisian salons, claimed that his purpose for rendering Daniel in English was to please the minds of English ladies whose French counterparts "pride[d] themselves more in being accounted partisans of a sect, than leaders in dress and fashion" (Daniel 1692, A3).

In the final volume of their set, Ariew and Garber include the English translations of Cartesians Geraud de Cordemoy and François Bayle. Cordemoy's first work, *A philosophical discourse concerning speech . . .* (1668) attempted to differentiate between actions that could be ascribed to the soul and those that could be accounted for by the physical organs or, rather, between reason made manifest in speech and the mechanistic responses of animals which are endowed with voice. The second work reprinted here, *A discourse written to a learned frier . . .* (1670) likewise considers the relationship between man and brute animals, but the author presented his argument as a Cartesian exegesis of Genesis, concluding that animals were mere machines while men were uniquely endowed with immortal souls. Despite Cordemoy's self-professed commitment to Descartes' metaphysics, in *Le discernement du corps et de l'ame* (1666), a work apparently never rendered in English, the author departed significantly from Descartes. Although he accepted Descartes' definition of body as "extended substance," he claimed that it was indivisible, and he allowed for the possibility of void space. Matter, he claimed, was an aggregate of body and could be divided. Thus Cordemoy championed atomism and yet considered himself a follower of Descartes.

The final work reproduced by the editors, François Bayle's *The general systeme of the Cartesian philosophy* (1670) survives only in the English translation, though several references to a text with the Latin title *Systema generale philosophiae* can be found. The English translation, however, claims to have been translated from a French text or manuscript, also unfound. Although Bayle's work remains largely unknown by modern philosophers, he wrote prolifically on subjects ranging from medicine, the Eucharist and Cartesian metaphysics. He received a doctorate in medicine from the University of Cahors and eventually found employment as a member of the

Faculty of Medicine at Toulouse. If Fermat's letters to Oldenburg are to be believed, Bayle's intellectual reputation was well established in Toulouse by 1668. Bayle met and lectured with Pierre-Sylvain Regis at the Cartesian Conferences in Toulouse from 1665 to 1671. There has been some speculation about Bayle's influence on Locke,[15] and Locke's journal entries mention several of Bayle's works. At one time Locke's library held seven of the French doctor's texts. Though it remains difficult to find direct influence on Locke's philosophy, Bayle's wide reputation as a Cartesian and empiricist are well established.

General System roughly followed the style and order Descartes' *Principles.* It began with a truncated explanation of Descartes' metaphysics and established the existence of the self. Bayle reproduced both of Descartes' proofs for the existence of God, and God's guarantee of the epistemic veracity of clear and distinct ideas. However, when he outlined Descartes' proof for the existence of the external world, Bayle claimed that we not only have a clear and distinct idea of corporeal nature and of substance in general, but we also have clear and distinct ideas of certain particular bodies:

> Being most assured, that there is a God, and his Nature being such, that he cannot deceive us, we are certain, that we shall never erre in things we know clearly and distinctly. Wherefore having clear and distinct Idea's of the Corporeal Nature, or of Substance in general, and also in particular of some bodies which present themselves dayly to our mind by the senses; and knowing besides, that we are not the Causes of those Idea's, since we often have them against our will; we must necessarily conclude, that they are excited in us by sensible Beings that are without us and actually exist in the World; and that these Beings are really distinct from the Soul.[16] (Bayle 1670, pp. 71–72.)

Bayle thus applied Descartes' criterion of clear and distinct ideas much more broadly and established the epistemological basis for knowledge from the senses. Of the works reprinted by Ariew and Garber, only Bayle and Cordemoy have been published in modern editions, but neither are widely available. Bayle's work represents a particularly valuable exception to the pretended dichotomy between French rationalism and English em-

15. See Lennon 1992, 31–36.

16. Lennon claims that "Bayle's empiricism is not at all evident in his General Systeme" but becomes much more so in his later *Discours sur l'expérience et la raison* (1675). See Lennon 1992, 36–37. Nevertheless, the move to include particular bodies as things that we can have clear and distinct ideas about is rather radical.

piricism. It is appropriately republished here alongside the work of the Cartesian atomist Cordemoy.[17]

What is missing from the collection? Four works may seem conspicuous in their absence: Samuel Parker's *Disputationes de Deo et providentia divina* (1678), The Franciscan Antoine Le Grand's *Apologia pro Renato Des-Cartes contra Samulem Parkerum* (a response to Parker), his *Entire Body of Philosophy according to the Principles of the famous Renate Descartes* (1694), and *Rohault's system of natural philosophy* (1697) as translated and augmented by John Clarke. The last two of these works are quite large. They were also popular and not difficult to find in one of their various editions. Parker's *Disputationes* and Le Grand's *Apologia,* since neither text is in English, would be out of place in the collection. Although perhaps too large, any one of the English editions of *Rohault's system of natural philosophy* would make a fine compliment to the collection. In each subsequent printing, John Clarke added commentary notes taken from his interpretation of Isaac Newton's philosophy. In its later editions, Clarke's lower margin comments significantly displaced the Cartesian text. The work thus became a dialogue between a French interpreter of Descartes and an English representative of Newton. Despite Clarke's correctives, the translator generally presented the two texts as philosophically consistent with each another.

The collection of texts assembled by Ariew and Garber, including those they discuss in their introduction but do not include, show the many faces of Cartesianism in England and blur boundaries between Descartes' followers and his critics. In some cases it seems enough to call oneself indebted to Descartes to qualify as a Cartesian, as is the case of Digby, or, perhaps, Charleton. By accepting matter as extended substance, Digby portrayed himself as a mechanist even though he resorted to an Aristotelian ontology. In Charleton's case, he praised Descartes but settled on an atomism borrowed from Gassendi. Similarly, Cordemoy could be described as a Cartesian atomist who gave an occasionalist answer to the mind-body problem. Other 'critics' of Descartes often read much of his work sympathetically. More, Cudworth, and Charleton all saw Descartes as an ally in their battle to prove the existence of God and the immortality of the soul, though the two former Englishmen departed radically from Descartes when addressing the mind-body relationship. Other authors were much less eclectic in their response to Descartes. Howard, Daniel, Davies, and Pardies all launched comprehensive criticisms, though Par-

17. Bayle's English translation of *General System* was originally published in 1670 with a translation of Cordemoy.

dies evidently developed a reputation as a "Cartesian sympathizer." This fate could not be ascribed to the more sardonic Davies and Howard.

Classifying the English commentators by religious affiliation explains little about the reception of Descartes in England. Perhaps More's Latitudinarian theology predisposed him to adopt aspects of the novel philosophy. Certainly Descartes' dualism looked more appealing than Hobbes' materialism to many divines. The mechanical philosophy of Descartes also appealed to the Catholic Digby and his friend Charleton, who both used it for their own theological agendas, and their respective naturalistic explanations of the weapons salve. Thus Descartes' arrival in England changed natural philosophy by creating a variety of disparate interpretations that further blurred the lines between the scholastic tradition and the new mechanistic philosophy.

Cartesians and their critics in France also escape easy characterization, yet trends counter-intuitive to modern sensibilities emerge. No work in English makes this point better than Tad Schmaltz's *Radical Cartesianism* (2002). Schmaltz specifically addresses his book to philosophers not so accustomed to wandering "far from the beaten path." Yet he begins with a subject many of his less historically inclined colleagues may find of questionable value: the 1671 decree from Louis XIV intended to subdue the perceived threat posed by Descartes' metaphysics to "the explanation of our mysteries." The particularly problematic "mystery" was, of course, the Eucharist and the doctrine of Transubstantiation as codified in 1551 at the thirteenth session of the Council of Trent. One can only imagine a sigh of disapproval from some readers as they begin the first chapter. The introduction, after all, promises that even though the research goes "even farther afield to explore what is, for Anglo-American scholars, at least, the unfamiliar terrain of the Radical Cartesianism of Desgabets and Regis" (Schmaltz 2002, 19), the less historically inclined reader shall find something of philosophical relevance.[18] Nevertheless, Schmaltz delivers on his promise.

The historical importance of the Eucharist cannot be denied, and Schmaltz does an admirable job describing how the complexities of competing Eucharistic theologies informed seventeenth century debates about Cartesian matter theory. Although one can find a surprising lack of consensus among Descartes' contemporaries concerning the specifics of Eucharistic change, Aristotle's hylemorphic theory provided the basis for

18. The reader is told: "there may be those who share my interest in both the historical and the philosophical aspects of Cartesianism." Those readers are encouraged to read the work "from start to finish." But Schmaltz suggests that those "who favor rational reconstructions of positions" may want to skip the historical narratives, and thus the chapter on the Eucharist, which sandwich the more detailed philosophical discussion in the middle.

the orthodoxy of "real presence": the accidents (species) of the bread and wine continued to exist although the underlying matter changed to Christ's body and blood. Thus the consecrated bread and wine *are* body and blood, but not perceived as such by the senses.[19] Rhetoric in *Meditations* demonstrates Descartes' self-awareness that any explicit denial of real qualities may provoke accusations of Eucharistic heresy. Arnauld complained that "according to the author's doctrines it seems that the Church's teaching concerning the sacred mysteries of the Eucharist cannot remain completely intact" (Descartes 1964–74, 7: 217), so Descartes reminded his sympathetic critic that he had not denied that real accidents exist, but merely supposed that he did not have knowledge of them. He added that his claim that modes are intelligible only through a substance "should not be taken to imply any denial that they can be separated from a substance by the power of God" (Descartes 1964–74, 3: 785). But Descartes' rhetorical flourishes did little to soothe his critics, and by 1663 his works found their place on the *Index of Prohibited Books* "until corrected."

Immediately prior to Louis' 1671 decree, an anonymous text *Considérations sur l'état présent* appeared in Amsterdam. The text, Schmaltz tells us, argued against the view attributed to Scotus and his followers that miracle of the Eucharist occurred as a result of God's annihilation of the matter of the bread and wine. But instead of simply supporting a competing "scholastic" explanation, the text offered a solution that appears to be taken from Descartes' unpublished correspondence with the young Jesuit Mesland: that "the matter of the bread is changed into the body of Jesus Christ by its substantial union to His soul and to His divine person" (Schmaltz 2002, p. 33).[20] In due course we learn that the author, Robert Desgabets, and later, Peirre-Sylvain Regis (1632–1707), through protracted defense

19. Ironically, Aristotle's doctrine of hylemorphism had been subjected to condemnation in 1277 because it supposedly denied the miracle of the Eucharist. In response to these perceived shortcomings of Aristotle's doctrine and the Condemnations of 1277, medieval scholars went to great lengths to prove their orthodoxy. The ripple effect continued throughout the seventeenth century. For instance, Scipion Dupleix, tutor to Henry IV's son and king's historian in the service of Cardinal Richelieu, attacked Thomas Aquinas and his followers for denying that "God can make prime matter subsist without any form." Dupleix insisted that if, as "all true Christians believe," God can make the accidents of bread subsist without the bread, then God could also do the reverse. Dupleix claimed that Scotus and others "convict Saint Thomas out of his own mouth" (Ariew, 1998, 119).

20. Schmaltz indicates that Desgabets, the author of the text, is "concerned here about defending a more Thomistic account of transubstantiation." Thomas explained that God preserved the quantity of the host, and that the affinity of the other accidents with quantity allowed that they could be persevered supernaturally despite the material change. I have less confidence than Schmaltz that Scotus was truly committed to a theory of annihilation, but that point is largely irrelevant since the view was prevalent and attributed to Scotus in the seventeenth century. Nevertheless, Schmaltz demonstrates how Desgabets

of Descartes' Eucharist theology and God's creation of eternal truths, developed a form of Cartesianism that is counter-intuitive to our modern sensibilities.

Specifically, Desgabets defended the following three theses in his reconstruction of Descartes: 1) the indefectibility of matter; 2) the idea of body requires the real existence of its object; 3) all human thought requires a union between the body and soul. The first proposition followed from Desgabets' interpretation of Descartes' doctrine of eternal truths and the anti-annihilistic position he took to defend against Eucharistic heresy. Descartes held that God's will was unconstrained even by logical necessity. However, once created, eternal truths were immutable since God's will does not change. The result, as interpreted by Desgabets, was that matter would not, or could not, be destroyed. Consequently, the real presence of Christ in the Eucharist host could not occur by annihilation of the matter of the bread and wine, the doctrine most closely associated with Scotus. Schmaltz explains that the ostensibly anti-dualist claim that even pure thoughts require a body can be identified with Desgabets' response to an Auvergne physician Pastel who claimed that the most Descartes could say concerning real presence is that Christ's soul is united to the bread "as an assisting from, and in the manner which an angel is in a bodily phantasm" (Schmaltz 2002, 38). Desgabets answered that the soul has an essential, not accidental connection to the human body: "Since a body is a human body just in case it is united with a human soul, according to Desgabets, one can say that the bread becomes Christ's body after consecration" (Schmaltz 2002, 39). Propositions one and three are thus directly linked to Desgabets' attempts to create a more orthodox explanation of the Eucharist while remaining consistent with Descartes' doctrine of eternal truths. They are also a continuation of philosophical problems rooted in medieval discussions about matter, space, and place. The second proposition, Desgabets believed, followed from the temporal nature of human thought and was directly linked to the indefectibility of matter. Desgabets considered, as many philosophers do today, that one of the primary "faults" of Descartes was his failure to acknowledge that all human thoughts depend on a union of soul and body.[21]

Schmaltz weaves the very complex details of Desgabets' empiricist and realist Cartesianism into the equally complex dialogues involving his clos-

---

could simultaneously link Thomas' appeal to the preservation of the quantity of the bread with Descartes' response to Arnauld in the "Fourth Replies" and a seemingly contradictory correspondence with Mesland.

21. Desgabets considered the other "fault" to be Descartes' failure to recognize that our ideas of substances presuppose their existence outside our mind.

est follower, Regis, and the famous Cartesians Arnauld, Rohault, and Melebranche. Along the way, Schmaltz adds several nifty graphical representations of the various philosophical and theological commitments of his actors to keep the reader on track. The result is a rich tapestry of Cartesians whose philosophical commitments, in isolation, often seem both very modern and very un-Cartesian. Yet as far as Desgabets and Regis roam from Descartes on certain epistemological issues, they remain at the core committed to Descartes' doctrine of eternal truths and a normative program to correct Descartes' philosophy of "some faults" as well as to extend his principles to phenomena left untouched by their mentor. Although Schmaltz claims that after Regis' death "Desgabets' views ceased to play any serious role in discussions of Cartesianism" (Schmaltz 2002, 9), there is a sense in which *Radical Cartesianism* proves the opposite point: Philosophers such as François Bayle, Arnauld, Malebranche and Rohault constructed their own versions of Cartesianism at least in part as a response to Desgabets and Regis.[22] Certainly following Pierre-Daniel Huet's acrimonious response to Regis in his fifth edition of *Censura Philosophiae Cartesianae* (1694), the long-term impact of Desgabets' empirical Cartesianism was assured.[23] Schmaltz should be commended for bringing this philosophical dialogue to the Anglo-American community of philosophers and historians.

Although Schmaltz emphasizes theological condemnation in his description of the genesis of Desgabets' empiricism, ambiguities in Descartes' texts justify a reevaluation of his rationalist epistemology. Descartes noted in the last part of the *Discourse on Method* that experiment [*expérience*] should play an essential part in determining how any given phenomenon depended on principles that are "so simple and general." More famously, in *Principles of Philosophy* III, 46 Descartes acknowledged a sort of underdetermination thesis: "Seeing that these parts [of matter] could have been regulated by God in an infinity of diverse ways; experience alone should teach us which of all these ways He chose. This is why we are now at liberty to assume anything we please, provided that everything we shall de-

22. Schmaltz provokes a discussion about what constitutes a "radical Cartesian." Clearly Desgabets and Regis both saw themselves as followers of Descartes and were seen by their contemporaries as such. But others, such as François Bayle, radically altered Descartes and considered themselves as part of his legacy. Bayle's empiricism grew even more radical than Desgabets' and Regis'. The former turned to the senses for the source of clear and distinct ideas. Desgabets simply rejected radical doubt and dispensed with Descartes' first two *Meditations.*

23. Huet's first published *Censura* in 1689, but his motivation appears to be Malebranche's *Search After Truth* (1674). Leibniz wrote to Huet in 1692 and proposed adding his own criticism to a future edition of *Censura.*

duce from it is entirely in conformity with experience." Descartes' correspondence also affirms the philosopher's interest in scientific experiment. There are thus internal reasons to question any rigidly rationalist interpretation of Descartes' epistemology. The life and works of Desgabets, Regis, and François Bayle instantiate the importance of the internal ambiguities regardless of the theological and political trouble generated as a result of Descartes' publications.[24]

The last chapter of *Radical Cartesianism* is devoted to one of Descartes' and Cartesianism's most devastating critics, the erudite Pierre-Daniel Huet. Huet's self-described intellectual life made him an unlikely critic of Descartes. He claimed to have "for many years closely engaged in the study of Cartesianism," adding that he "long wandered in the mazes of this reasoning delirium, till mature years and a full examination of the system from its foundations compelled [him] to renounce it" (Lennon 2003, 24). Thomas Lennon claims that Malebranche's disdain for humanist values, manifest in his *Search After Truth,* likely motivated Huet to re-evaluate his relationship with Cartesianism. Nevertheless, by the time Huet finished his first edition of *Censura philosophiae cartesianae* (1689) his sympathies for Descartes' philosophy were deeply buried.

Since the publication of Schmaltz's *Radical Cartesianism,* Thomas Lennon has translated and published Huet's *Censura Philosophiae Cartesianae* into English for the first time.[25] The translation relies on the fifth edition of *Censura* published in 1694. This later edition contains Huet's corrections and significant expansions made in response to Regis' *Système de philosophie* (1690) and, most obviously, *Réponse au livre qui a pour titre P. Huetii . . . Censura Philosophiae Cartesianae* (1691).[26] Thus Lennon's translation implicitly embodies a fierce debate among Cartesians and anti-

24. Roger Ariew notes that empiricism predominated among Cartesians in the second half of the seventeenth century. He adds Bernard Lamy and Jacques Du Roure to the list of Cartesian empiricists. See Ariew 2006.

25. *Censura* follows a line of other primary works Lennon has made available in English. Patricia Ann Easton and Lennon published François Bayle's *General System* and *Discourse* together in 1992. P. J. Olscamp and Lennon also translated and published Malebranche's *Search After Truth* and *Elucidations of the Search After Truth* in 1997. Together, these works provide English-speaking philosophers a rich set of resources for understanding French Cartesianism and its historic and philosophical importance.

26. Schmaltz downplays the significance of Huet's response to Regis in the 1694 edition of *Censura:* "Although Huet made several notes in his copy of Regis' *Rèponse* that were incorporated into the 1694 edition of *Censura,* he never responded in print to Regis" (Schmaltz, 2002, 233). Lennon, on the other hand, says: "Huet was led by Regis' *Rèsponse* to publish a much-expanded edition of the *Censura* of 1694, in which he interpoleated rebuttals of Regis' replies to the first chapter, which is on the Cartesian doubt" (Schmaltz, 2005, 66).

Cartesians, and represents the most thoroughly developed philosophical criticisms of Descartes and Regis presented by Huet. Elsewhere, Lennon does not hide his sentiments about the veracity of the arguments found in *Censura:* he calls Huet's criticisms "the most comprehensive, unrelenting and devastating reception Descartes' philosophy ever received" (Lennon 2005, 64).

If Lennon is correct, we may assume that modern anti-Cartesian commentators should find something of significance in Huet's work.[27] Huet, like many more modern critics, shares an inordinate focus on the epistemological issues concerning the method of doubt and the cogito. This is particularly true of the revised 1694 edition of *Censura* where the first two chapters devoted to the subject comprise over half the text. So why did Huet change the emphasis of anti-Cartesianism from more explicitly theological considerations to the epistemological foundations of Descartes' system?

Gassendi, Hobbes, and Bourdin, the author of the Seventh Objections, all criticized Descartes' use of hyperbolic doubt in the *Meditations,* and to varying degrees, Descartes addressed their concerns in his respective Responses. But Huet took hyperbolic doubt to be the Achilles heal of Descartes' system—a corrupt foundation. Here again, Descartes could not escape the theological implications of his epistemology. In October of 1691, Archbishop Harlay presented the members of the Paris philosophy faculty with a formulary condemning eleven propositions. The first read: "One must rid oneself of all kinds of prejudices and doubt everything before being certain of any knowledge." It was followed by 2: "One must doubt whether there is a God until one has a clear and distinct knowledge of it;" and 3: "We do not know whether God did not create us such that we are always deceived in the very things that appear the clearest." The first two propositions imply that Descartes' reader, should he become unable to extract himself from hyperbolic doubt, could end up falling into the pit of atheism. The nature of Descartes' skepticism thus became a point of focus, and Huet exploited an ambiguity therein.

Huet's criticism of Descartes' method of doubt in the first edition of *Censura* echoes the concerns of Bourdin in the Seventh Objections. Huet claimed that Descartes held "that everything is not just uncertain, but false" (Lennon 2005 69). He emphasized the distinction, used by Regis,

27. Huet's *Censura* is critical of Descartes' matter theory and its failure to account for the Eucharist. He writes: "What is more serious is the following, that his doctrine entirely upsets the holiest sacrament of the Eucharist . . . It is so clear and obvious that, according to the judgement of equitable people, Cartesians have not found, and will never find, any response to it" (Lennon, 2003, 179). But Huet is much more concerned with epistemological failures of Descartes' philosophy.

between doubting something and taking it to be false, and developed the distinction into a core criticism of Descartes' philosophy. Although the *Meditations* famously used radical doubt to strip away one's preconceived beliefs, Descartes was less than consistent when discussing the reality of that doubt and the extent of its application. For instance, Lennon reminds us, Descartes himself seems to suggest that his "metaphysical" doubt should not be applied to practical life. "He makes a similar claim in the Synopsis that 'no sane person has ever doubted [that here really is a world, and that human beings have bodies and so on]'." Lennon adds: "Here [Descartes] says that the point of his arguments resolving such doubts is not to establish the truth of things doubted, but rather to show the relatively lesser strength of those arguments and lesser certainty of what they establish" (Lennon 2005, 64). The extent and sincerity of Descartes' doubt can thus be called into question.

Regis objected to Huet's interpretation that Descartes' doubt required not merely that one consider things uncertain, but rather false. Desgabets' protégé instead claimed that Descartes' doubt was methodological or feigned, not real. Huet, tipping his hat to his own skeptical commitments, argued that Descartes had good reason to doubt; Descartes' text supported his reading of Descartes; and that the doubt was very real. But as long as Descartes considered all things false, he could not, according to Huet, ever establish the cogito. In attempting to overcome the skepticism of his hyperbolic doubt, Descartes only strengthened it by not ruling out the possibility of "universal divine deception." Huet thus maintained that Descartes' constructive program was disingenuous because, though he began as a skeptic, he resorted to dogmatism given his failure to emancipate himself from his own skeptical dilemma. Unlike true skeptics, who remain true to their principles, Descartes "pretends to pretend, lest he be forced to expose the faults of sincere doubt" (Huet 1694: 82/from Lennon 2005, 72). Consequently, if Regis interpreted Descartes correctly, Descartes' fabricated doubt must be considered dishonest. If the doubt were real, as Huet maintained it should be, Descartes only pretended to overcome it; so he remained disingenuous. According to Huet then, true skeptics were both more consistent and intellectually honest.

Lennon claims that Huet anticipates "the familiar Popkin thesis of Descartes the skeptic *malgré lui*" (Lennon 2005, 71). Where Popkin had Descartes beginning as a dogmatist and ending as a skeptic because he was unable to escape his own doubts, Huet's Descartes begins as a skeptic and resorts to dogmatism for the same reasons. Lennon says: "Nonetheless, the result in a secondary, internal dialectic is skepticism, indeed skepticism *malgré lui,* because dogmatism fails on the grounds just mentioned, ultimately that universal divine deception cannot be ruled out" (Lennon

2005, 71). Huet attacked virtually every aspect of Descartes' epistemology and metaphysics. Many of these arguments have strong affinities with far more recent anti-Cartesian literature. Yet few philosophers have referred to these works.[28] Tad Schmaltz's and Thomas Lennon's portrayal of the evolutions of Cartesian and anti-Cartesian thought in mid to late seventeenth century France, particularly with regards to the purity (or lack thereof) of the intellect, probabilism, the relation of ideas to the external world, and the use or rejection of hyperbolic doubt, beg the question of how far many recent critiques of Descartes have strayed from their seventeenth century counterparts.

The histories of the reception of Descartes offered anew by Garber, Ariew, Schmaltz and Lennon not only suggest that certain presentist concerns have been anticipated, but also that the traditional categories many philosophers use to teach and understand early modern science have been applied inappropriately.[29] The dichotomy between French rationalism and English empiricism, for example, fails as an accurate description of an historical episode.[30] Indeed these authors reveal that Cartesian empiricism is a significant, if not dominant, philosophical force in France in the middle of the seventeenth century. The works of Charleton, Digby and More, to name three of the most prominent authors, suggest that the English reception of Descartes fits standard dichotomies no better. One need not look for long to find Cartesian atomists, Cartesian Newtonians, Newtonian occultists, and Aristotelian mechanists.[31] The original works made

28. Huet's accusations seem to imply a Strausian read-between-the-lines style of interpretation, and suggest an atheist reading of Descartes.

29. François Poullain de la Barre's *Three Cartesian Feminist Treatises* (2002), annotated by Marcelle Maistre Welch and translated by Vivien Bosley, represent another important addition to Cartesian literature made available to Anglo-American philosophers and historians of feminism.

30. Exposing the mutability of terms is fundamentally an historical exercise with important implications for philosophers. We should consider, for instance, why "Cartesian" has been often divorced from its historical roots and what the implications are for this impoverished use. The recent *Historical Dictionary of Descartes and Cartesian Philosophy,* 2003, by Ariew, Dennis Des Chene, Douglas M. Jesseph, Schmaltz and Theo Verbeek provides 'definitions' of terms commonly used by Descartes and Cartesians, demonstrating the ambiguities of their use as well as the context specific meaning. In many cases *Historical Dictionary* exposes the non-equivalency between how terms have been used by Descartes and his contemporaries, and modern commentators attempting to reconstruct Descartes' philosophy.

31. Paul Chamberlen, for instance, published *A Philosophical Essay Upon Actions on Distant Subject* (1715). He dedicated the work to the Royal Society. A major portion of the work attempted to explain "according to the principles of the new philosophy, and Sir Isaac Newton's Laws of Motion" why a nose successfully transplanted on a man fell off one day in Brussels on the occasion of its donor's death.

available by Garber, Ariew, and Lennon, as well as commentaries on those works now available in English, make the ripe history of Cartesianism easily accessible to Anglo-American philosophers. A less impoverished understanding of how contemporaries exploited, corrected, and criticized Descartes may not at first sight be useful to many modern philosophers; however, we may still hope that these 'new' narratives replace the naïve reconstructions of our recent past and fall on fertile philosophical soil.

References

Ariew, R. 2006. "Cartesian Empiricism." *Revue roumaine de philosophie* 50: 71–85.

———. 1999. *Descartes and the Last Scholastics.* Ithaca: Cornell University Press.

Ariew, R. and Garber, D., Eds. 2002. *Descartes in Seventeenth-Century England.* 10 Vols. Bristol: Thoemmes Press.

Ariew, R., Cottingham, J., and Sorell, T., Eds. 1998. *Descartes' Meditations: Background Source Materials.* Cambridge: Cambridge University Press.

Ariew, R., Des Chene, D., Jesseph, D., Schmaltz, T., and Verbeek, T. 2003. *Historical Dictionary of Descartes and Cartesian Philosophy.* Lanham, Maryland: The Scarecrow Press.

Bayle, François. 1670. *The General Systeme of the Cartesian Philosophy.* London.

Booth, Emily. 2005. *'A Subtle and Mysterious Machine' The Medical World of Walter Charleton (1619–1707).* Dordrecht: Springer.

Chamberlen, Paul. 1715. *A Philosophical Essay Upon Actions on Distant Subjects.* London.

Charleton, Walter. 1674. *Natural history of the passions.* London.

———. 1657. *The immortality of the human soul, demonstrated by the light of nature.* London.

———. 1654. *Physiologia Epicuro-Gassendo-Charltoniana.* London.

———. 1652. *The darkness of atheism dispelled by the light of nature.* London.

———. 1650. *Ternary of Paradoxes.* London.

Cordemoy, Géraud de. 1670. *A Discourse Written To a Learned Frier.* London.

———. 1668. *A Philosophicall Discourse Concerning Speech.* London.

Descartes, René. 1984–91. *The Philosophical Writings of Descartes.* Vols. 1 and 2, trans. J. Cottingham, R. Stoothoff, and D. Murdoch. Vol. 3, trans. J. Cottingham, R. Stoothoff, D. Murdoch, and Anthony Kenny. Cambridge: Cambridge University Press.

———. 1983. *Principles of Philosophy.* Trans. V. R. Miller and R. P. Miller. Dordrecht: Reidel.

———. 1964–74. *Oeuvres de Descartes.* Ed. C. Adam and P. Tannery. 2nd ed. Paris: Vrin.
Digby, Kenelm. 1661. *A Discourse concerning the Vegetation of Plants.* London.
———. 1658. *A Late Discourse . . . Touching the cure of wounds by the powder of sympathy.* London.
———. 1644. *Two Treatises in the one which, The Nature of Bodies; in the other, The Nature of Mans Soule, is looked into . . .* London.
Garber, Daniel. 2004. "Philosophy and the Scientific Revolution." Pp. 1–17 in *Teaching New Histories of Philosophy.* Princeton: University Center for Human Values.
Garber, D. and Ayers, M. 1998. *The Cambridge History of Seventeenth-Century Philosophy.* 2 Vols. Cambridge: Cambridge University Press.
Cavendish, Margaret. 1668. *Grounds of Natural Philosophy.* London.
———.1667. *The Life of . . . William Cavendish, Duke, Marquess, and Earl of Newcastle.* London.
———. 1666. *The Description of a New World, called the Blazing World.* London.
———. 1666. *Observations Upon Experimental Philosophy.* London.
———. 1664. *Philosophical Letters.* London.
———. 1655. *The Philosophical and Physical Opinions.* London.
Clucas, Stephen. 1994. "The Atomism of the Cavendish Circle: A Reappraisal." *The Seventeenth Century,* 9.2: 247–73.
Daniel, Gabriel. 1692. *A Voyage to the World of Cartesius.* London.
Davies, John. 1654. *Reflections upon Monsieur Des Cartes' Discourse of a Method.* London.
Howard, Edward. 1700. *Remarks on the New Philosophy of Des-Cartes.* London.
Huet, Pierre-Daniel. (1694) 2003. *Against Cartesian Philosophy.* Translated by Thomas Lennon. Amherst: Humanity Books.
Lennon, Thomas M. 2005. "Huet on the reality of Cartesian doubt." Pp. 63–79 in *Receptions of Descartes.* London: Routledge.
Lennon, Thomas M., and Patricia Ann Easton. 1992. *The Cartesian Empiricism of François Bayle.* New York: Garland.
Lewis, David. 1986. *On the Plurality of Worlds.* Oxford: Basil Blackwell.
Pardies, Ignace Gaston. 1670. *A Discourse of Local Motion.* London.
Pascal, Blaise. (1670) 2005. *Pansées.* Translated and edited by R. Ariew. Indianapolis: Hackett Publishing Company.
Schmaltz, Tad M. 2005. "French Cartesianism in context: the Paris Formulary and Regis' Usage." Pp. 80–96 in *Receptions of Descartes.* London: Routledge.

———. 2002. *Radical Cartesianism.* Cambridge: Cambridge University Press.

Schulero, Johanne. 1685. *Examinis philosophiae Renati Des-Cartes specimen.* London.

Shapin, Steven. 1994. *A Social History of Truth. Chicago: The University of Chicago Press.*

Sorell, Tom. 2005. *Descartes Reinvented.* Cambridge: Cambridge University Press.

Williams, Bernard. 1994. "Descartes and the Historiography of Philosophy." Pp. 19–27 in *Reason, Will, and Sensation: Studies in Descartes' Metaphysics.* Oxford: Clarendon Press.

Wilson, Margaret D. 1992. "History of Philosophy in Philosophy Today; and the Case of the Sensible Qualities." *The Philosophical Review,* Vol. 101, No. 1: 191–243.