

Descartes at School: His *Rules* as a Jesuit Study Manual

ABRAM KAPLAN, Harvard University

René Descartes's "Regulae ad Directionem Ingenii" (Rules for the direction of the mind) is a satirical study manual concerned with invention in the humanist sense of the discovery of arguments in texts, not the discovery of novelties in nature. Descartes employed Jesuit pedagogical techniques and an extensive technical vocabulary shared by Aristotelian philosophy and classical rhetoric to criticize the shortcomings of Scholastic philosophy. Although it felt like philosophy to its practitioners, technical dialectic appeared from the outside as a classroom exercise of commonplacing, fueled by schoolroom rivalry and vanity. The interplay of play and seriousness in the "Regulae" challenges standard philosophical hermeneutics.

INTRODUCTION

HOW MIGHT RENÉ Descartes's (1596–1650) contemporaries, beneficiaries of humanist preparatory education, have read his *Regulae ad Directionem Ingenii* (Rules for the direction of the mind, likely 1620s)? My aim in this article is to offer an interpretation of the *Regulae* rooted in the Jesuit pedagogy Descartes himself experienced. Historians of philosophy and of science tend to look to the *Regulae* for its discussions of investigative method and cognitive procedure. Longer and more detailed than related discussions in the *Discours de la méthode* (Discourse on method, 1637), more focused on the discovery of particular truths than the *Meditationes de Philosophia Prima* (Meditations on first philosophy, 1641), Descartes's rules for directing the mind seem to offer particular insight into Descartes's thoughts on the scientific method. My interpretation situates Descartes's methodological and procedural language within a

Many thanks to Brother Kenneth Cardwell, FSC; Tom Miller; Dan Blank; and Ann Blair for discussing early drafts of this article. Thanks to Richard Oosterhoff and two anonymous *RQ* reviewers for comments that greatly improved the argument, and to Jessica Lynn Wolfe for helping me sort through them. Thanks to Raphaële Garrod, Theo Verbeek, and Richard Oosterhoff for sharing preprints during the revisions. Thanks to Dylan Kenny for discussing the Apuleius reference. Thanks to Jeff Castle for attentive querying.

Renaissance Quarterly 75 (2022): 46–87 © The Author(s), 2022. Published by the Renaissance Society of America.

doi: 10.1017/rqx.2021.330

humanist, rather than natural philosophical, context. Specifically, I claim that Descartes's discussion of discovery has as much to do with the construction of arguments and with the commonplaces in which they are seated as with the identification of new truths through the study of nature. At stake in Descartes's remarks is less scientific method than a subject of central concern to classical rhetoric and dialectic: the *inventio* (discovery) of arguments. ¹

Recent scholarship about Descartes's humanism has emphasized the visual dimensions of Cartesian rhetoric. Matthew Jones has interpreted Descartes's conception of "evidence" in terms of *enargeia*, the specific vividness of rhetorical and poetic speech that makes absent things seem present before one's eyes.² Melissa Lo has recently discussed Descartes's use of figures to communicate his natural philosophy to polite readers.³ Scholars who focus on the later *Meditationes* rightly notice Descartes's condemnation of the senses as deceptive.⁴ Yet Descartes relied on both vivid description and printed engravings in order to explain and persuade.⁵ If interest in Descartes's illustrations reflects materialist trends in the historiography of early modern science, focus on seeing also reflects Descartes's familiarity with Jesuit rhetoric, with its emphasis on accommodation through the controlled use of perspective and its creation of "moral paintings." Descartes studied rhetoric with the Jesuits at La Flèche and, in his writings, adapted it to ends both epistemological and communicative.⁷

Manifesting his accommodation to different readers, Descartes's words carry different meanings depending on the expertise and expectations that each individual brings to the text. To take one example that will figure below, to a Scholastic philosopher the Latin word *locus* meant "place" in the technical sense discussed by Aristotle and other natural philosophers. But to a humanist,

¹ That Descartes's famous method was oriented to sorting through commonplaces was already suggested by Goyet, 625.

² Jones, 55–86, discussing Quintilian, 3:60 (*Institutio oratoria* 6.2.29–32). On *enargeia*, see Lausberg, 359–61, s.v. *evidentia*.

³ Lo; see also Zittel; Cavaillé, 1991, 127–80.

⁴ See, inter alia, Hatfield, 1986; Menn, 220–32.

⁵ Descartes used images to lend reality to the entities of his natural philosophy: see Cahné; Galison.

⁶ See Blanchard; for moral paintings, see Le Moyne.

⁷ On Descartes's study of Jesuit rhetoric, see Gaukroger; and, stressing the connection between Jesuit rhetoric and *raison d'état* in late sixteenth-century France, Blanchard, 228–34. In 1654 the scholar Meric Casaubon already connected Descartes's method to Jesuit theology: see Jones, 55.

⁸ See Descartes's *Oeuvres* (listed by title in the bibliography and cited hereafter as *Oeuvres*), 8.1:48–49; for discussion, see Ariew, 47–48, 87–92.

the term just as easily meant textual "passage," that place in a classical work that could be cited, alluded to, or extracted. Indeed, in the context of humanist discussions of invention, topics (topica in Latin, from the Greek word meaning "places"), and dialectic, this meaning would have been more ready to hand. Cicero himself had played on the double meaning of locus in his De oratore (On the orator), referring at once to physical places where gold was buried and textual loci in Aristotle's Topica. Humanism dominated preparatory education in the sixteenth and seventeenth centuries, and many students, not just those of the Jesuits, would have been exposed to both meanings of locus and other terms common to philosophy and rhetoric. Classical and Jesuit rhetoric had a name for the rhetorical figure that involved using the same word with two different or contrary meanings: anaclasis. My interest here is in Descartes's creation of anaclasis through the exploitation of the competing technical vocabularies of humanism and rhetoric, on one hand, and of Scholastic philosophy, on the other.

The humanist meanings have largely been overlooked by the scholarship. This inattention can be explained in part on disciplinary grounds. Descartes's Latin texts have typically been studied by scholars whose training is in philosophy. Throughout the twentieth century, the *Regulae* drew interest as a pioneering investigation of the philosophical foundations of natural science, and more recently scholars have sharpened this picture by locating the *Regulae* and Descartes's other writings in the discursive context of Scholastic Aristotelianism. But increasing attention to the Scholastic context can overwhelm sensitivity to the humanist one. Accordingly, while today's philosophers are primed to notice just those meanings that Descartes intended to communicate to Scholastic readers, the humanist semantic field is less ready to hand. Seventeenth-century philosophers, owing to their education and to increasing humanist influences at the university, would have been familiar

⁹ For discussion, see Moss; Goyet.

¹⁰ Cicero, 1942, 1:322 (*De oratore* 2.41.174). This passage and the double meaning of *loco-rum* in it were brought to my attention by Fantham, 152.

¹¹ On humanist pedagogy at the Paris *collège* as context for the Jesuit curriculum, see Codina Mir; on humanist preparatory education more generally, see Grafton and Jardine.

¹² See the definition of "anaclasis" in Caussin, 257; Lausberg, 297–98, discusses the term under the heading *reflexio*.

¹³ See, e.g., Heidegger, 101. For a more recent approach to the *Regulae* as a work of scientific method, see Garber, 2001, 33–51. For a nuanced view of method as mythic speech, see Schuster. Putting Descartes in a Scholastic context, see Ariew; and, foundationally, Gilson.

¹⁴ For an exception, see the impressive study of Rabouin, which puts Descartes in the context of both Scholastic and humanist study of mathematics; see Rabouin, 16–21, on the twentieth-century historiography.

with humanist practices for making sense of ancient texts.¹⁵ Yet, like modern readers, they were habituated to hear that register of meanings referring not to learned experience but to questions raised and answered in the context of Aristotelian philosophy. Efforts to reconstruct the philosophical context of Descartes's manuscript can obscure Descartes's investment in an intellectual community that both overlapped with Scholasticism and fashioned itself as an alternative to it.¹⁶

Meanwhile, scholars of Renaissance humanism have not always brought a historical perspective to their analyses of Descartes's style. A recent study of Descartes's Latin helpfully identifies the Latin of the Meditationes as an instance of "loose style," giving the impression of spontaneity and seriousness, as opposed to both florid Ciceronian Latin and the clipped, forceful Atticism of Justus Lipsius (1547–1606) and Michel de Montaigne (1533–92). But the tendency remains to measure Descartes's Latin against classical standards. 17 Admittedly, classical Latin was the standard for Renaissance humanists, and it supplied many watchwords for combatants against medieval barbarisms. 18 But Desiderius Erasmus (1466-1536) already recognized that there were different ways to emulate ancient style, and the subject continued to be discussed by French humanists at the turn of the seventeenth century. 19 As is known, Descartes railed against imitating the ancients and holding up antiquity as a standard in mathematics and natural philosophy. Why assume, then, that his efforts at "writing in Latin, not in Neo-Latin" simply manifested a stylistic classicism at odds with his broader rejection of antiquity as touchstone?²⁰ Divergences from classical Latin are not errors to be excused but choices to be understood. As Descartes knew, styles and rhetorical figures are productive of particular effects on particular audiences; they are used to particular ends.

James Secord's call for historians of science to understand scientific knowledge as the result of communicative action emphasizes the dependence of communication on both writer and reader.²¹ Within the historiography this call has coincided with an explosion of histories focusing on acts

¹⁵ Humanism at the university has been a subject of much recent scholarship; see Oosterhoff, 2018, 20.

¹⁶ On the earlier antagonism of the humanists to the Scholastics, see Martin.

¹⁷ See Vermeulen, 368–72: "sins . . . against classical Latinity" and "not impeccable." These remarks suggest that classical Latin remains the automatic standard.

¹⁸ On humanism as a matter of Latin style, see Witt.

¹⁹ On Erasmus, see Eden, 64–78. For later discussions, see remarks about *imitatio adulta* (mature imitation) in Fumaroli, 287–94, and, connecting mature style to Erasmus, 667–71.

²⁰ For the judgment, see Beyssade, 56.

²¹ Secord.

of reception.²² Here I focus on the other end of this process: the literary creation that precedes knowledge-making communication. Like other humanists, the Jesuits looked to the discipline of rhetoric in order to understand the communicative structure enabling knowledge acquisition. A decisive feature of classical rhetoric was its attention to audience as the locus of understanding: writers were habituated in the practices of imagining readers with varying capacities, addressing them, and manipulating their affects. ²³ Because of its interest in the layered text as an expression of differences between readers, the scholarly literature on esoteric writing should be helpful here.²⁴ Yet studies of Descartes's esotericism in the early modern period typically take the narrow goal of demonstrating Descartes's atheism.²⁵ More broadly, the dominant tradition of esoteric hermeneutics, stemming from Leo Strauss, seems committed to a formulaic two-level sociology of "the wise' and 'the vulgar." Disconnected from the particular social and cultural institutions of any given time, this hierarchy is unable to capture how the aim of perspectival communication is realized differently depending on the context.²⁶ In the case of the early modern period in particular, neither the wide range of expertises nor the availability of rhetorical concepts for understanding communication enters into the analysis. Here I show how Descartes used the distinct terminological fields of Scholasticism and rhetoric in his efforts to communicate with variously inclined readers.

Some preliminary remarks about the text are in order. The *Regulae* exists in an editio princeps (1701) and a published Dutch translation (1684), both based on a lost manuscript, a manuscript in Hannover, and a much shorter manuscript in Cambridge.²⁷ At its longest, it consists of eighteen rules and titles for an additional three. Some lacunae are explicitly marked.²⁸ The existence

 $^{^{22}}$ See, programmatically, Jardine and Grafton; for an instance of the reception of a modern text, see Raphael.

²³ Most writing about early modern accommodation focuses on intellectual, not affective, accommodation, but excitement about Aristotle's *Rhetoric* had much to do with the latter. While Cypriano Soárez's basic rhetoric textbook did not focus on the passions, later writers, including Nicolas Caussin, added to Jesuit rhetorical training the study of passions and mores. See Dainville, 25–26.

²⁴ On esotericism in a history-of-science context, see Vermeir; on secrecy in publication, see Long; for the history of esotericism as a literary strategy more generally, see Melzer.

²⁵ See Loeb; Hallyn.

²⁶ Strauss, 34.

²⁷ See Descartes, 1966. The Cambridge manuscript was rediscovered nearly ten years ago, but its contents have not been made public.

²⁸ See *Oeuvres*, 10:428, 434, and 468, where lacunae are marked identically in the editio princeps and the Hannover manuscript. See Descartes, 1966, 53, 81.

of the shorter Cambridge manuscript suggests that Descartes, in an instance of so-called scribal publication, circulated the work in manuscript. Scholars judge that Descartes wrote the *Regulae* over ten years beginning around 1618; efforts to date the composition have largely been internal, based on questions of doctrine that this paper maintains are less determinative than a rhetorical chain extended across parts of the text typically dated to different periods. The periodization literature will surely be overhauled with the eventual publication of the Cambridge manuscript; this article contests the hermeneutic commitments on which periodization has been based.

Beyond this introduction, the article has five sections and a conclusion. In the first, I indicate the limits of the Scholastic interpretation of the *Regulae* by describing Descartes's critique of Scholastic philosophy, and I argue that Descartes engaged in Scholastic disputation and dialectic as a form of rhetoric directed at his Scholastic audience rather than as a means for practicing philosophy. In the second section, "Composition of the Classroom," I argue that Descartes made the Jesuit schoolroom setting central to the *Regulae*, and that Descartes used that setting to lend new meanings to old words. In the third section, I return to the ambiguity of *locus*, which serves as an example of enumeration, illustrating the Cartesian method of *inventio* as applied to the Cartesian text. In the fourth section, "Commonplacing in the Cave," I explain how Descartes used anaclasis to compare the sociology and epistemology of Scholastic philosophy to that of the Jesuit classroom. The fifth section reads the *Regulae* as a study manual in Augustinian hermeneutics. The conclusion offers a hypothesis about the actual use of the text.

DIALECTIC AS RHETORIC

Descartes was explicit about his intention to adapt dialectic for rhetorical purposes. In a sense, he believed that it had already been done. Sixteenth-century professors of philosophical logic had worked to reform dialectic through an admixture of classical rhetoric. They looked to rhetoric and topics in order to reorient Scholastic dialectic—away from the subtleties of syllogisms and toward persuasive arguments—and they held up common understanding and the practical life as standards for distinguishing the persuasive from the overly nice.²⁹ The Jesuit *ratio studiorum* (curriculum) that Descartes followed at La Flèche prescribed three years of philosophy study, and Jesuit authors like Pedro da Fonseca (1528–99) wrote textbooks that fused humanism to Scholasticism to satisfy this need.³⁰

 ²⁹ See Schmidt-Biggemann; Mack. Descartes's place in the history of humanist dialectic has also been discussed by Bruyère, 386–90; Robinet; Garrod, 2016, 151–206; Oosterhoff, 2020.
³⁰ Societas Iesu, 124–30. On Fonseca, see Fumaroli, 145n206; Gaukroger, 53; Jones, 67. On Descartes's education at La Flèche, see Gaukroger, 38–61.

For his part, Descartes demurred at the inherited distinction between true, if oversubtle, syllogisms and probable, persuasive enthymemes. He insisted that dialectic as practiced by the Scholastics—which he encountered in the Coimbra commentaries (1592–1606) on Aristotle developed by the Jesuits—was also oriented to persuasion.³¹ "Common dialectic," Descartes complained in the tenth rule, "is entirely useless to those who desire to investigate the truth of things." Not even the dialecticians themselves could learn from it: its only use was to "lay out more easily for others arguments [that were] already known."³² These arguments were typically known even to those others as well, since they shared an education. The syllogistic forms of dialectical argument served to display and even to compel assent, but not to discover truth. "We have pointed out that the truth often escapes from these chains," Descartes deadpanned, "while meanwhile those themselves who use them remain entangled in them."³³ The fact that philosophical dialectic was useful only for trapping humans meant that it was not philosophical at all. "It has to be transferred from philosophy to rhetoric," Descartes claimed.³⁴

In practice, dialectic was already mere rhetoric. Descartes's intervention was to effect this transfer on his own terms, to make dialectic serve his purposes. By using Scholastic terminology and argument, Descartes sought to entangle philosophers in his writings. Sophie Weeks has recently written about the English philosopher Francis Bacon's (1561–1626) efforts to communicate with readers in a world characterized by "universal madness." He saw Scholastic philosophy in particular as "a kind of art of madness" that "enslaved us to words." Similarly, in the *Discours* Descartes characterized the Scholastic "mode of philosophizing" as an art of obscurity: "the obscurity of distinctions and principles they use is the reason why they can speak about all things just as brazenly as if they knew them, and support everything they say about them against the most subtle and skilled people, without anyone having means of convincing them." Bacon and Descartes offered not just similar diagnoses of Scholasticism's

³¹ On the central role of disputation in Coimbra pedagogy, see Casalini, 12–13, 73–76.

³² Oeuvres, 10:406: "vulgarem Dialecticam omnino esse inutilem rerum veritatem investigare cupientibus, sed prodesse tantummodo interdum posse ad rationes iam cognitas facilius aliis exponendas." Unless otherwise noted, all translations in this article are mine. In translating the *Regulae* I consulted translations by Heffernan and Clarke. On the orientation of Scholastic philosophy, cf. N. Jardine on a contemporary form of Scholastic argument purportedly directed to discovery.

³³ Oeuvres, 10:406: "quippe advertimus elabi saepe veritatem ex istis vinculis, dum interim illi ipsi, qui usi sunt, in iisdem manent irretiti." On the *vinculum*, see Cahné, 47–48.

³⁴ Oeuvres, 10:406: "ac proinde illam ex Philosophia ad Rhetoricam esse transferendam."

³⁵ Bacon, 1857–61, 3:530: "artemque quandam insaniae componere, nosque verbis addicere." I draw the translation from Weeks, 3.

³⁶ Oeuvres, 6:70–71: "l'obscurité des distinctions & des principes dont ils se servent, est cause qu'ils peuvent parler de toutes choses aussy hardiment que s'ils les sçavoient, & soutenir

failures but also similar remedies, including the novel use of inherited terminology and theses.³⁷ Descartes redefined key terms and reinterpreted key questions in order to redirect mental habits: Jean-Luc Marion has discussed the "refurbishings that find strictly Cartesian meanings in apparently Aristotelian significations."³⁸ It was by such means that Descartes hoped the philosophers would, as he told the Minim friar Marin Mersenne (1588–1648), "accustom themselves insensibly to my principles and recognize the truth in them before they perceive that they destroy those of Aristotle."³⁹ It is not that undermining the principles of Aristotelian philosophy would cause the structure to collapse.⁴⁰ Descartes hoped to retain, and repurpose, that structure.

Rather than focusing on how Descartes transferred the terminology of metaphysics and natural philosophy from Aristotelian to Cartesian philosophy, I am here interested in Descartes's transfer of dialectical terminology out of philosophy and into rhetoric. For Bacon, basic tendencies in philosophizing—everything from an obsession with final causes to "excessive composition and division"—could be attributed to specific passions or appetites that had to be checked.⁴¹ Descartes too recognized the compelling force of philosophical disputation on certain personalities; in a later section, I discuss his use of Scholastic terminology and dialectical practice to this end. For now, I want to bring to light a different frequency of Cartesian resonances.

COMPOSITION OF THE CLASSROOM

In early modern textual contexts both humanist and Scholastic, discovery was overwhelmingly a matter of locating already extant knowledge, not creating new knowledge. Descartes was at the forefront of efforts to direct the instruments of discovery toward genuine novelties. Already underway in the sixteenth

tout ce qu'ils en disent contre les plus subtiles & les plus habiles, sans qu'on ait moyen de les convaincre."

³⁷ On Bacon's diffusion in 1620s France, see Cassan.

³⁸ Marion, 117. For a study of Bacon's redefinition of form, see Pérez-Ramos, 65–132. Bacon is clear about the work of redefinition: Bacon, 1996–, 11:88 (*Novum Organum* 1.51).

³⁹ *Oeuvres*, 3:298: "s'accoûtumeront insensiblement à mes principes, & en reconnoistront la verité avant que de s'appercevoir qu'ils détrisent ceux d'Aristote."

⁴⁰ Cf. Garber, 2001, 222–23. Descartes's rhetorical strategies vis-à-vis Scholasticism are discussed in Cavaillé, 1994.

⁴¹ Bacon, 1996–, 11:80–93. I quote the translation from 93 (*Novum Organum* 1.44–58, quotation from 58).

⁴² See Garrod, 2016, 2–10; Kraemer and Zedelmaier.

⁴³ On humanist textual discovery in Bacon's work, see L. Jardine.

century, such efforts became more widespread at the beginning of the seventeenth—for instance, with the articulation of *desiderata* through the wish-list genre. With the *Discours* and its essays Descartes explicitly located himself within such efforts. Earlier interpretations of the *Regulae* manuscript have seen its discussions of invention as concerned with novelties. But this is an imperfect characterization even of Descartes's efforts to communicate with Scholastics: those philosophers sought to create persuasive arguments about old questions. To be sure, Descartes offered his own mathematical invention as an alternative discourse, one that directed itself to soluble problems and broached them with sufficient resources to settle the question. Descartes's manner of formulating problems in the *Regulae* reflected the Renaissance tradition of Aristotelian topics. But the topical tradition is not merely of genealogical interest here. Descartes's rules, I claim, were also directed directly to textual study. Descartes's rules are rules—not just about how to discover, but about how to read.

As Ann Moss has pointed out, the Jesuit curriculum excluded the topical dialectic characteristic of Northern humanist education in favor of a legal theory of argument derived from Quintilian. Still, the standard textbook of Jesuit rhetoric included the subject, introducing the locus as the "seat of the argument." This definition is characteristic of Rudolph Agricola's (1444-85) topical dialectic, if not of Erasmus's later reframing of the *locus* as a *locus communis* (commonplace).⁴⁶ Reflecting the essentially disputative nature of philosophy and dialectic in Jesuit pedagogy, the much republished De Arte Rhetorica (On the rhetorical art, 1568) of Cypriano Soárez (1524–93) explained a *locus* not as a commonplace drawn from classical writings but as one of several "places whence planted arguments are uprooted," a definition tailor-made for dialectical disputers. ⁴⁷ He counted sixteen ways to overturn an argument: some "from definitions, others from an enumeration of parts, others from notation, others are called etymologies, others from the genus, others from the form, others from similitude, others from the difference, others from the contrary, others from attributes," etc. 48 A contemporary of Descartes who taught rhetoric at La Flèche, Nicolas Caussin (1583-1651) used locus to mean "excerpted passage" in his Eloquentiae Sacrae et Humanae Parallela

⁴⁴ See Keller.

⁴⁵ This is argued in Cifoletti, 293–340.

⁴⁶ See Moss, 174–75, and, discussing Soárez's definition, 177n65. For Erasmus's reframing, see Schmidt-Biggemann, 19. Particular topics, such as the hunt or commerce, could also be *loci*.

⁴⁷ This text was part of the Jesuit curriculum: see Societas Iesu, 174.

 $^{^{48}}$ Soárez, fol. 4 v (1.14): "Loci, unde argumenta insita eruuntur, numero sunt sedecim: alia enim ducuntur à definitione, alia à partium enumeratione, alia à notatione, alia coniugata appellantur, alia ex genere, alia ex forma, alia ex similtudine, alia ex differentia, alia ex contrario, alia ex adiunctis." Flynn is an English translation of the 1568 edition of this text. I give book and chapter numbers because the editions differ widely in format.

Libri (Parallel books of sacred and human eloquence, 1619), which also became a standard of Jesuit rhetoric.⁴⁹ Students of the Jesuits trained rigorously in *inventio* (in the sense of finding arguments) and in the disputation of places. They were also exposed to the widespread collection of commonplaces from old texts.⁵⁰

Several key words of Soárez's rhetoric became key words of the Regulae. These included not just inventio and enumeratio (enumeration) but also dispositio (arrangement), defined as the "distribution of discovered things in order," and ingenium (mind), a natural endowment for thinking, only some parts of which could be "polished by art." 51 In his programmatic Bibliotheca Selecta (Well-chosen books, 1593) and elsewhere, Antonio Possevino (1533-1611) framed cultivating the mind and training the faculty of judgment as central aims of Jesuit pedagogy.⁵² Just as the first book of Possevino's Bibliotheca concerned the "goal, means, and impediments of studies," so Descartes took up those same subjects in the first part of his manuscript.⁵³ Descartes either invoked Possevino's formulation or, more likely, simply referred to the ratio studiorum: "the goal of studies [Studiorum finis] should be the direction of the mind toward the formation of solid and true judgments about all of the things that occur to it," he wrote.⁵⁴ Against such a background, the first line of the Regulae apparently refers to textual study, not the investigation of natural things. The Regulae was an analogue to Jesuit directions for pedagogy.

My point here is not to establish, as Giovanna Cifoletti and Matthew Jones already have, that rhetoric and topics served Descartes in his efforts to frame an epistemology of science in the *Regulae*.⁵⁵ To be sure, the *Regulae* aimed to draw readers from the text-based studies in which they had been trained to the investigation of things that he preferred. My interest here is specifically in the mechanism of that redirection as it occurred within the context of humanist studies, as opposed to the more rarefied contexts of natural and first philosophy. That

⁴⁹ See Caussin, e.g., 60, 64, 76; on Caussin's life, see Conte.

⁵⁰ On *inventio* in Soárez's rhetoric, see Soárez, fol. 4^{r-v} (1.11–12).

⁵¹ Soárez, fol. 2^v (1.7): "Dispositio est rerum inventarum in ordinem distributio"; fol. 3^r (1.8): "ab arte limari." Recent scholars emphasize the corporeality, natural specificity to the individual, and trainability of the *ingenium*: see Marr et al. On *loci* and *inventio*, see Goyet; Garrod, 2016.

⁵² See Fumaroli, 179–81.

⁵³ Possevino, sig. *2^v. Also seeing Possevino behind Descartes's formulation is Garrod, 2020, 191–94.

⁵⁴ *Oeuvres*, 10:359: "Studiorum finis esse debet ingenii directio ad solida & vera, de iis omnibus quae occurrunt, proferenda iudicia."

⁵⁵ See Cifoletti, 305–20, on the topical provenance of "the notion of problem" in the *Regulae*; Jones, 66–81, on the rhetorical roots of Descartes's understanding of definition and deduction.

mechanism involved the recognition of rhetorical terminology as such by readers for whom these terms would have carried specific, localized meanings distinct from their philosophical use.

These meanings were localized in the classroom, and they could therefore have been recognized by students. But not only by current students: since Jesuit institutions trained for public life, classroom meanings would have been recognized by many in the rising class of *honnêtes gens* (gentlepersons), who served at the court and populated the earliest salons. Heanwhile, as I noted earlier, humanism was sufficiently entrenched at the university and in preparatory education that Scholastics were also familiar with the vocabulary of humanist textual study. Indeed, Jesuit writers in particular reconciled the two traditions by elaborating a Scholastic version of dialectic. However, Aristotelian philosophy sufficiently occupied the minds of its practitioners that Scholastic terminology, although acquired later, came to overshadow the earlier rhetorical lexicon and so altered the perception of it. Readers at both the court and the university needed to be called back to the classroom.

Descartes effected this recall through a *compositio loci* (composition of place), an act of imaginary self-location. Saint Ignatius of Loyola (1491–1556) had framed composition of place as a preparatory step to the Jesuit spiritual exercises that Descartes later took as a model for his own *Meditationes*. By depicting those aspects of the classroom that students were happy to be free of, Descartes helped former students call to mind the meanings proper to that setting. "We are now released from the oath that bound us to the master's words," Descartes wrote early in the *Regulae*, "and, at a mature enough age, we have finally withdrawn our hand from under the rod." Readers with humanist educations would have recognized the classical quotations with which Descartes paradoxically declared his independence from his education. In his first epistle, the Roman poet Horace declared his intention to set aside his earlier satiric verses in favor of the study of truth. Yet he refused to follow any particular school. "I am bound to swear to the words of no master," he claimed. Descartes played the satirist Juvenal against Horace, stressing that his present

⁵⁶ On public life as the destination of Jesuit-trained students, see Fumaroli, 245–46.

⁵⁷ Fonseca's work is notable in this regard; on his dialectic and that of Eustachius a Sancto Paulo (1573–1640), see Garrod, 2016, 85–96.

⁵⁸ See Fabre; Dekoninck, 2005, 145–61. On the *Meditationes* as spiritual exercises, see Rorty; Hatfield, 1986.

⁵⁹ Oeuvres, 10:364: "illo iam soluti sumus sacramento, quod ad verba Magistri nos adstringebat, & tandem aetate satis matura manum ferulae subduximus."

⁶⁰ See Horace, 252 (*Epistles* 1.1.14): "nullius addictus iurare in verba magistri." This reference was noticed by Charles Adam: see *Oeuvres*, 10:364. On Horace's use of satire as philosophical critique, see Highet, 30–35.

independence followed a formative period of servitude not merely to teachers but to classroom rhetorical exercises. "We have also withdrawn our hands from under the rod," he pleaded.⁶¹ For both poets freedom from authority followed from familiarity with authorities: Horace and Juvenal underscored the ease with which they domiciled themselves in the works of earlier writers in order to achieve their own aims.⁶² Descartes did the same, clothing his arguments against Scholasticism and schooling in language and imagery that he borrowed from philosophy and the classroom.

By alluding to Horace and Juvenal, Descartes situated the Regulae in the classical tradition of learned satire and at the same time identified his means of liberation with the robust Renaissance tradition of paradox. 63 Students of the Jesuits would have been particularly well prepared to recognize the Regulae as a satire because play was a central feature of Jesuit pedagogy. In particular, as Jacqueline Lacotte has discussed, students learned how to learn by playing at being a student: Latin was taught in part through the performance of dialogues, such as those by Jacobus Pontanus (1542-1626), whose subject matter was the classroom itself.⁶⁴ The Jesuit classroom was thus a world apart, one characterized explicitly by its own experiences, different from those of the real world but still constituting an instance of lived life. 65 It was ripe for the sort of compositio loci that Descartes employed. Meanwhile, satirizing a pedagogical manual fit neatly within the Jesuit paradigm for rhetorical and philosophical education: both the invention and delivery of speeches on rhetorical themes and the back-and-forth of Scholastic disputation were organized around the principle of aemulatio, of rivalrous play in pursuit of excellence.⁶⁶ The Regulae directs this rivalry at Descartes's teachers: it elevates standard features of pedagogical manuals, such as instructions for commonplacing, to the level of an art of thinking that might rival Aristotelian epistemology of science.⁶⁷ But readers who

⁶¹ See Juvenal and Persius, 132 (*Satires* 1.1.15–16): "et nos ergo manum ferulae subduximus."

⁶² Horace, 250–52 (*Epistles* 1.1.13–19); Juvenal and Persius, 130 (*Satires* 1.1.4–9). On the ancient relationship between rhetorical accommodation and the home, see Eden, 27–39.

⁶³ On the tradition of Renaissance paradox and its subversive effects, see Colie, 1966. Quoting satirists was a standard means of declaring one's own satirical intentions: see Highet, 16.

⁶⁴ See Pontanus.

⁶⁵ See Lacotte, 260–62.

⁶⁶ Lacotte, 255–56. The elements of the classroom that Descartes recalled were widespread enough that readers from other backgrounds could also have followed along with Descartes's imaginative play. See, e.g., Bushnell, 71–72, on the relationship between play, emulation, and authority in English preparatory education.

⁶⁷ On mixed genres, see Colie, 1973, 76–102. On the *Regulae* as a treatise of method, see Oosterhoff, 2020.

failed to notice the composition of place, or who were too beholden to their teachers to entertain the subversion, were shut out of the game.

Descartes's invitation to engage in satire entailed appeals both to pleasure and to vanity. First, merely recognizing the satire would have brought back to former students the sense of fellowship, even conspiratorial intimacy, that Latin-speaking life at the school offered. Further, the Regulae was an occasion for readers to demonstrate their own excellence through a sort of aemulatio.⁶⁸ Owing to their capacious education in both rhetoric and philosophy and their unusual pedagogy, former students of the Jesuits were well primed to recognize the double meanings of amphibolous words shared between rhetoric and natural philosophy and to engage in the play that recognition enabled. 69 Such play brought pleasure: on this, Descartes, the Jesuits, and Quintilian agreed. "I have always placed the greatest pleasure of studies not in the reasons having been heard from others," Descartes wrote, "but in those having been sought with my own industry."70 According to Quintilian, encounters with ambiguous wordplay could give the impression of having made discoveries through one's own industry: "some audiences also enjoy these things, because they delight in their own cleverness when they understand them, and rejoice as if they had not so much heard them as thought of them for themselves."71 The hunt was part of the pleasure, and this was true specifically not in the investigation of nature but in the study of texts: nature's order may have been incommensurate with the human mind and its search for final causes, as Bacon believed, but human orders were not.⁷² Hiding the meaning was a way of drawing readers in.⁷³

In the first two rules Descartes used classroom elements to set up the *compositio loci* and so bring rhetorical meanings to mind. Thereafter, his main strategy for communicating the satire was to rely on the controlled use of Latin.

⁶⁸ See *Oeuvres*, 10:363.

⁶⁹ On *amphiboly*, see Lausberg, 466: "*amphibolia* . . . is a special kind of *obscuritas*, since it not only leads into the dark, but leaves a choice between two meanings. It thus gives the possibility of deliberate play with *ambiguitas*. . . . Ingenious play between an obvious and an underlying meaning . . . also belongs here." Lausberg cites Quintilian: see Quintilian, 3:86 and 3:336–38 (*Institutio oratoria* 6.3.48 and 8.2.20–21).

⁷⁰ *Oeuvres*, 10:403: "summam studiorum voluptatem, non in audiendis aliorum rationibus, sed in iisdem propria industria inveniendis semper posuerim."

⁷¹ "Sed auditoribus etiam nonnullis grata sunt haec, quae cum intellexerunt acumine suo delectantur, et gaudent non quasi audierint sed quasi invenerint": I use the translation in Quintilian, 3:338–39 (*Institutio oratoria* 8.2.21).

⁷² Bacon, 1996–, 11:74 (*Novum Organum* 1.26); for discussion, see Weeks, 17–18. This conviction entails an opposition, not a kinship, between "jokes of nature" and "jokes of knowledge": cf. Findlen, 1990, 324–25.

⁷³ On science and the hunt, see Eamon, 269–300.

Specifically, Descartes used Scholastic terms in classical ways, whether by drawing from rhetorical terminology itself or by relying on etymology.⁷⁴ Rhetorical and etymological meanings, rather than the more "common" Scholastic ones, shaped Descartes's use of the terminology he shared with the schools:

Lest someone by chance be excited by the new use of the saying "intuition" and of others of the sort that I am forced to remove from their common signification in the same way, I here point out generally that I am not completely thinking of the way each of these appellations may have been usurped in the schools in the most recent times, because it would be very difficult to use these same names and to mean profoundly different things, but I am only advertising what each word signifies in Latin, so that, whenever proper ones [propria] are missing, I shall transfer to my sense those [illa transferam ad meum sensum] which seem to be the most apt.⁷⁵

Reflecting their disciplinary formation as philosophers, recent translators express discomfort with the ambiguity of technical terminology, assuming that readers might be "disturbed" (so Clarke) or "put off" (Heffernan). Heffernan) by Descartes's construction is more open: readers might be "excited" (*moveantur*) by Descartes's language, moved in various directions, whether toward the Scholastic meanings that Descartes is not thinking of "completely," but only in part, or to the other, "Latin" meanings toward which he wants to direct the attention. Descartes's instructions do not serve only to temper enthusiasm. They also seek to explain the exciting phenomenon.

Using the same expressions to mean profoundly different things is difficult, but Descartes has managed it—with no less ease than he has managed the opposite feat of using four different words for *word* in a single sentence. Spoofing obscurantist Scholastic distinctions about words, the feat tells readers to look beyond the word to the thing it signifies. In the Augustinian theory of signs that anchored Jesuit semiology and informed the picture making at the center of Jesuit rhetoric, *transferre* was the term used to describe the figurative use of

⁷⁴ On Descartes's use of etymology to convey meaning, see Cahné, 39–45.

⁷⁵ Oeuvres, 10:369: "Caeterum ne qui forte moveantur vocis intuitus novo usu, aliarumque, quas eodem modo in sequentibus cogar a vulgari significatione removere, hic generaliter admoneo, me non plane cogitare, quomodo quaeque vocabula his ultimis temporibus fuerint in scholis usurpata, quia difficillimum foret iisdem nominibus uti, & penitus diversa sentire; sed me tantum advertere, quid singula verba Latine significent, ut, quoties propria desunt, illa transferam ad meum sensum, quae mihi videntur aptissima."

⁷⁶ See Descartes, 2003, 123; Descartes, 1998, 81.

⁷⁷ On the meaning of *movere* in the context of humanist rhetoric and study, see Goyet, 471–75.

⁷⁸ These are vox (voice), vocabulum (appellation), nomen (name), and verbum (word).

language and linguistic imagery.⁷⁹ Soárez used the distinction between literal (*proprium*) and figurative (*translata* or *figurata*) meanings to equate *translatio* with metaphor.⁸⁰ He paraphrased Quintilian: "Translation is when a name or word is transferred out of one place in which it is proper into another in which a proper one is lacking or the transferred one is better than the proper." Necessity of expression required the speaker to transfer words between domains. "For if the thing does not have its own name and proper word," Soárez explained, "like a foot in a ship, necessity compels that you assume from elsewhere that which you do not have."⁸¹ Descartes followed Soárez. Just as he transferred dialectic to rhetoric in general, he also transferred specific words: whenever "proper" words were missing, he would "transfer" the most fitting words "to my sense." Later references to "my sense" in the *Regulae* recall this use of *sentire*.

AN EXAMPLE OF ENUMERATION

"By intuition," Descartes wrote in a famous passage, "I understand not the uncertain faith of the senses or the deceitful judgment of the badly composing imagination but the conception of a pure and attentive mind." Even Descartes's word for "understand," *intelligo*, echoed the semantic register of reading (*legere*) elsewhere put into play bespeaking the collection (*colligere*) of the different states of certainty of different disciplines. The adjective with which Descartes characterized intuition, "attentive," tends in the *Regulae* to characterize acts of reading: in the "too attentive reading" of the humanists; in the reader "who, attentive, looks back to my sense" in making sense of Descartes's text; or even in Descartes's heuristic procedure, resonant with reading. "Before we equip ourselves for certain determined questions," Descartes wrote, "first it is right, without any culling [*delectu*], to collect [*colligere*] truths met with spontaneously, and after that to

⁷⁹ On the Jesuit reception of Augustinian sign theory, see Dekoninck, 2016, esp. 75 on *signa translata* as God's signs; on Jesuit image theory more broadly, see Dekoninck, 2005.

⁸⁰ On this distinction as used by Augustine, see Eden, 59.

⁸¹ Soárez, fols. 33^v–34^r (3.9): "Est autem translatio cum nomen, aut verbum transfertur ex eo loco in quo proprium est in eum, in quo proprium deest, aut translatum proprio melius est. . . . Nam si res suum nomen & proprium vocabulum non habet, ut pes in navi . . . necessitas cogit, quod non habeas, aliunde sumere." The first sentence comes from Quintilian, 3:426 (*Institutio oratoria* 8.6.5); the second is a paraphrase of Cicero, 1942, 2:124 (*De oratore* 3.40.159). On "a foot in a ship," see perhaps Aristotle, 1938, 50 (*Categoriae* 7a7).

⁸² Oeuvres, 10:368: "Per intuitum intelligo, non fluctuantem sensuum fidem, vel male componentis imaginationis iudicium fallax; sed mentis purae et attentae . . . conceptum." I understand conceptions as cognitive constructions in the manner indicated below.

⁸³ See *Oeuvres*, 10:365.

see, in a sensible way [sensim], whether certain others might be deduced from them. . . . Then when this is done, one has to look back attentively to the truths that have been found."84 The Latin meanings of Descartes's dialectic arrive, if they arrive, with the clarity and suddenness of mathematical truths. They are intuited. But such intuitions are hard to come by.

Descartes's proposed alternative to intuition is deduction based on enumeration. Intuition is characterized by the immediacy of evidence.85 In a deduction, by contrast, "a motion or a certain succession is taken up" that issues eventually in a tissue of inferences.⁸⁶ The "weave of inferences out of which are born those series of things to be sought after" can always be examined by "certain method." 87 But the integrity of deduction is threatened by the difficulty of taking a synoptic view of the connected inferences: "Since it is not easy to review them all together, and, moreover, since they do not so much have to be held in memory as to be distinguished by a certain acumen of the mind, a certain thing has to be sought for forming the mind in such a way that it might immediately notice them whenever there is need."88 Organizing, surveying, and exploiting the particulars collected from books and nature was a major challenge for Renaissance humanists, and they developed a range of tools both cognitive and material for doing so.⁸⁹ For Descartes too, remedying the shortcomings of memory involved the development of tools for surveying, collecting, and ordering. Deduction "sometimes" occurs by bringing together such a "long weave of inferences," he complained, that by the time one arrives, "we do not easily recall the whole itinerary."90 Writers from Cicero to the Jesuit rhetoric

⁸⁴ *Oeuvres*, 10:366: "nimis attenta lectione"; 10:374: "quicumque tamen attente respexerit ad meum sensum"; 10:384: "antequam ad determinatas aliquas quaestiones nos accingamus, prius oportere absque ullo delectu colligere sponte obvias veritates, & sensim postea videre utrum aliquae aliae ex istis deduci possint. . . . Quo deinde facto, attente reflectendum est ad inventas veritates." Cf. 10:416, connecting this vocabulary with that of *concipere*.

⁸⁵ On this aspect of intuition in Descartes's mathematics, connecting evidence with rhetorical *enargeia*, see Jones, 64–65.

⁸⁶ *Oeuvres*, 10:370: "quod in hac [sc. deductione] motus sive successio quaedam concipiatur." The sources give *hoc*, not *hac*, but editors prefer the latter: see Descartes, 1966, 9.

⁸⁷ *Oeuvres*, 10:383: "Atque talis est ubique consequentiarum contextus, ex quo nascuntur illae rerum quaerendarum series . . . ut certa methodo possit examinari." *Contextus* has to be "weave": cf. the imagery in 10:404; and cf. Eden, 54–55.

⁸⁸ *Oeuvres*, 10:383–84: "Quia vero non facile est cunctas recensere, & praeterea, quia non tam memoria retinendae sunt, quam acumine quodam ingenii dignoscendae, quaerendum est aliquid ad ingenia ita formanda, ut illas, quoties opus erit, statim animadvertant."

⁸⁹ Blair.

⁹⁰ Oeuvres, 10:387: "Hoc enim fit interdum per tam longum consequentiarum contextum, ut, cum ad illas devenimus, non facile recordemur totius itineris."

teacher Caussin saw *enumeratio* as a procedure that remedied just such forgetting when it happened to the audiences of orations. In his treatise *De inventione* (On invention), Cicero characterized enumeration as that part of speech "through which things having been said in a scattered and diffuse way are gathered in one place and laid out under a single glance, for the sake of remembering" what has been said. ⁹¹ Descartes saw in enumeration a procedure that might bring together diffuse particulars.

Although its importance for deductions may have been lamentable, memory figured centrally both in the discovery of inferences and in their ordered enumeration. Similarly, locating the Latin meaning of Descartes's Scholastic sentences requires collecting earlier intuitions and discoveries, and "looking back" to the senses Descartes has imbued in old words. Deduction of Descartes's sense depends on the use of memory as a repository of possible meanings. In the case of identifying Descartes's sense, the enumeration has to be "sufficient." The best I can do is review the possible meanings that Latin words might have. "If we should wish to read writing which has been covered in unknown characters," Descartes explained, "no order appears here, certainly, but we shall feign one nevertheless, not only in order to examine all the prejudices which can be held about individual letters or words or sentences, but also in order to arrange them in such a way that we may know, by enumeration, whatever can be deduced from them."93 The prejudices I hold about individual words and sentences are the meanings they can have: these meanings include the senses that particular disciplines give not just certain words but even entire phrases.

An example from natural philosophy is instructive. Consider a provisional statement of the Aristotelian definition of *place*: "locum esse superficiem corporis ambientis" ("place is the surface of the surrounding body"). 94 Descartes found the definition worse than useless. "The literati are accustomed to being so

⁹¹ Cicero, 1949, 146 (*De inventione* 1.52.98): "Enumeratio est per quam res disperse et diffuse dictae unum in locum coguntur et reminiscendi causa unum sub aspectum subiciuntur." Cf. Caussin, 148; for discussion, see Jones, 69, 78. Soárez agreed that *enumeratio* served as an aid to memory: see Soárez, fol. 31^r (2.27).

⁹² See Oeuvres, 10:389-91.

⁹³ *Oeuvres*, 10:404–05: "si velimus legere scripturam ignotis characteribus velatam, nullus quidem ordo hic apparet, sed tamen aliquem fingemus, tum ad examinanda omnia praeiudicia, quae circa singulas notas, aut verba, aut sententias haberi possunt, tum etiam ad illa ita disponenda, ut per enumerationem cognoscamus quidquid ex illis potest deduci."

⁹⁴ This was a typical Latin translation of Aristotle's *Physics* 4.4, 212a6: see Aristotle, 1957b, 312. But as a definition of place, it was contested, including by the Conimbricenses. See, e.g., Soares Lusitano, 243 (Tractatus 5, Disputatio 1 "De loco," Sectio 1 "De natura loci," §5): "The Coimbra Fathers assert that the surface of the surrounding body is not place."

ingenious," he complained, "that they find a way of being blinded even in those things which are evident per se and never unknown to peasants." The definition of place is one such example. Such efforts "to expound things known per se by something more evident"—an impossibility—succeed "either in explaining something else," Descartes wrote, "or nothing at all." What place is, is obvious to everyone: "Who does not perceive the whole of that, whatever it is, according to which [some thing] is changed, while we move a place? And who is it who conceives the same thing, when it is said to him, place is the surface of the surrounding body?"95 Philosophically speaking, Descartes considered such definitions to be either wrong or incomprehensible, and certainly useless for the explanation of simple natures knowable per se by intuition. "Things of this sort are to be explained by no definitions at any time," Descartes concluded, "lest we should lay hold of composed things in place of simple ones." Instead, "those things only which are set apart from all others have to be intuited attentively by each and by the light of his/ her mind."96 Composed things, like the Aristotelian definition of place as the surface of a surrounding body, have to be understood from simple ones. The Aristotelian practice of definition instead assumes that simple things like place can be better understood through their composed definitions.

I want to compose *place*, to put together its Aristotelian definition from its parts. What, then, would a humanist understand by *locus* (place) or by *corpus* (body)? Surely one possibility would be to understand *place* as referring to those strongholds of rhetorical demolition and to those passages, common or otherwise, that occupied scholarly attention and filled scholarly and rhetorical notebooks and compositions. ⁹⁷ And *corpus* was used often enough to refer to a textual corpus, the body of work of an author. As with the double meaning of *locus*, once again Cicero himself played with the amphiboly of the term—for instance, in a sentence that characterized the decorum of both physical and textual bodies. ⁹⁸

⁹⁵ Oeuvres, 10:426: "quia saepe litterati tam ingeniosi esse solent, ut invenerint modum caecutiendi etiam in illis quae per se evidentia sunt atque a rusticis nunquam ignorantur; quod illis accidit, quotiescumque res istas per se notas per aliquid evidentius tentant exponere: vel enim aliud explicant, vel nihil omnino; nam quis non percipit illud omne quodcumque est, secundum quod immutatur, dum mutamus locum, & quis est qui conciperet eandem rem, cum dicitur illi, locum esse superficiem corporis ambientis?"

⁹⁶ Oeuvres, 10:426–27: "nullis unquam definitionibus eiusmodi res esse explicandas, ne loco simplicium compositas apprehendamus; sed illas tantum, ab aliis omnibus secretas, attente ab unoquoque & pro lumine ingenii sui esse intuendas."

⁹⁷ Cf. Robinet, 211.

⁹⁸ Cicero, *De officiis* 1.36.130 (Cicero, 1913, 132): "The dignity of form has to be maintained with goodness of color, color with exercises of the body." Not just a feature of complexion, "color" was a general rhetorical term for ornaments of speech. For discussion, see Fantham, 165.

Meanwhile, *ambientis* (surrounding) could refer to those texts, by Aristotle and others, that humanists found everywhere and with which they were surrounded: "Who does not perceive the whole of that, whatever it is, according to which [some thing] is changed, while we move a place? And who is it who would conceive the same thing, when it is said to him, *place is the surface of the surrounding body*?" When Descartes moves a commonplace from Aristotle to his own work, everyone perceives the original; everyone conceives Aristotle. Descartes hoped to transfer this definition, as a composed thing, to his own end. By telling his readers to focus on the Latin meanings of individual words, he gave them the means to compose *place* anew, to give a new meaning to an old sentence. In this way, while Scholastics may have used definition to explain "nothing at all," Descartes used definition to explain "something else."

While such secondary meanings as the textual meaning of *locus* were widely known in principle, calling them to mind in such a foreign context was another matter. Jesuit education made this kind of recognition easier. In Jacobus Pontanus's widely diffused book of pedagogical dialogues, Progymnasmata Latinitatis, sive Dialogi (Exercises of Latin, or dialogues, 1588-94), the word locus was learned in the context of a classroom argument in which one student sits in another's seat: he is enjoined by the teacher to offer arguments in defense of his place. 99 Descartes, too, played on the relationship between seat and place in the classroom setting. Alluding to a discussion of Socrates in Apuleius's Florida (Bouquet), Descartes claimed that there is "no one so dull of mind" that he does not perceive "that he, when seated, differs in a certain mode from himself, when he stands on his feet." But if all perceive the difference, "not all separate equally distinctly the nature of situation from that remainder which is contained in this thought," Descartes continued. 100 In the referenced passage, the Roman humorist Apuleius stressed the kinship between insight and listening, rather than looking, and he suggested that humans were often blinded by their attention to the immediate context. Similarly, Descartes's text—specifically, his word choice—once again carries a secondary, literary meaning. A sedes (seat) was another word for the locus that served as the foundation of an argument: "It is permitted to define place to be the seat of the argument," wrote

⁹⁹ Pontanus, 69–72. The dialogue reads like an introduction to the treasury of military and economic vocabulary used to describe scholarly work.

¹⁰⁰ *Oeuvres*, 10:425–26: "Nemo enim tam hebeti ingenio est, qui non percipiat se, dum sedet, aliquo modo differre a se ipso, dum pedibus insistit; sed non omnes aeque distincte separant naturam situs a reliquo eo quod in illa cogitatione continetur, nec possunt asserere nihil tunc immutari praeter situm." See Lee, 37 (Apuleius, *Florida* 2.6–7); the allusion is in Descartes's use of the verbs *hebere*, *asserere*, and, immediately thereafter, the rare verb *caecutire*.

Cicero in the *Topics*.¹⁰¹ Soárez repeated this definition in his own textbook.¹⁰² A foot, *pes*, meanwhile, is a measure of Latin poetry.¹⁰³ As Soárez noted explicitly, the difference between seated and feeted arguments is the difference between prose and poetry.¹⁰⁴ This was indeed a difference of "mode," as Descartes observed, since poetry was measured in meter, whereas prose was measured in rhythm or "oratorical number."¹⁰⁵ One can easily imagine adolescent students of the Jesuits making just such a play on words after encountering *locus* in its classroom, humanist, and finally Aristotelian contexts. (Why is Peripatetic philosophy an oxymoron? Because disputations are made in seats, not in feets!) Emulating the Jesuit method of playful education, Descartes displaced Aristotle's serious definition of place into a classroom setting, where the distinction between sitting and standing took on a practical meaning pertaining to classroom compositions, rather than a theoretical meaning pertaining to Socrates's posture.¹⁰⁶

In the thirteenth rule Descartes took up the definition of place once again. Here he framed it explicitly as a "difficulty consisting in obscurity of speech," which in Descartes's text it surely was. The definition of place is the third example of such difficulties; the first is the well-known riddle of the Sphinx, whose solution depends on double meanings in the word *foot*. ¹⁰⁷ Descartes characterized the Sphinx's riddle as one of those "attacks artfully discovered for circumventing minds." ¹⁰⁸ In line with modern readings, Heffernan illustrates such riddles with present-day mathematical examples, including the prisoner's dilemma. ¹⁰⁹ Yet this is precisely wrong. Mathematical examples, here as elsewhere in the *Regulae*, are far from Descartes's "sense" even when they are on his lips: "whoever looks back attentively at my sense," he wrote earlier in the text, "will easily perceive that I am thinking of nothing less than common math-

¹⁰¹ Cicero, 1949, 386 (*Topics* 2.8): "Itaque licet definire locum esse argumenti sedem."

¹⁰² See Soárez, fol. 4^v (1.12).

 $^{^{103}}$ See discussion in Soárez, fol. $51^{\rm v}$ (3.38).

¹⁰⁴ Soárez, fol. 49^r (3.32).

 $^{^{105}}$ On "mode," see Soárez, fol. $50^{\rm r}$ (3.34); on "number," see fol. $50^{\rm r-v}$ (3.35–36) and $52^{\rm r-v}$ (3.39–40). An interpretation of Descartes's use of *numerus* (number) elsewhere in the text here presents itself, but I cannot pursue it here.

¹⁰⁶ Aristotle, 1938, 48 (Categoriae 6b11–14).

¹⁰⁷ Oeuvres, 10:433.

¹⁰⁸ Oeuvres, 10:435: "in aenigmatis aliisque petitionibus artificiose inventis ad ingenia circumvenienda." On *petitio* as attacks, picking up the earlier use of *accingamus*, cf. *Oeuvres*, 10:432.

¹⁰⁹ See Descartes, 1998, 173n318.

ematics here."110 For Descartes, the clarity and evidence of mathematics derived not just from the certainty of its results but from the typical precision of its technical language. In his engagements with the Scholastic philosophers, Descartes looked to mathematics to check the Hydra-like multiplicity of Scholastic terminology. Mathematics may have been hard, but its aim was not circumvention. By contrast, the kinds of riddles Descartes had in mind here were those where human artifice introduced ambiguity and where the solution derived from analogous meanings, not from simple and reduced ones.¹¹¹ "One must not think that the word *foot* signifies exclusively the real feet of animals," Descartes wrote, but "one also has to see whether it can be transferred to other things." 112 By assuming that I know which meaning of a word Descartes is using, I prevent myself from recognizing alternative possibilities. I bring too much to the text: "We have to be careful not to suppose more things and more strict things than are given" in the question, Descartes claimed, including in solving questions where "something seems to be supposed as if it were certain, which no certain reason, but an inveterate opinion, persuades us of."113 No suppositions were more inveterate than the Scholastic ones. Escaping not the biological infancy of the organism but the cognitive infancy of the species, Descartes concluded, required setting aside inherited opinions that entailed false suppositions about the meanings of words.

Descartes explicitly opposed his own use of orderly series to the philosophical division according to categories. "All things can be arranged in certain series," he wrote, "not, indeed, insofar as they are referred to some genus of being, just as the philosophers have divided them into their categories, but insofar as some can be known from others." For practitioners of humanist dialectic, the

¹¹⁰ Oeuvres, 10:374: "quicumque tamen attente respexerit ad meum sensum, facile percipiet me nihil minus quam de vulgari Mathematica hic cogitare."

¹¹¹ On riddles in Jesuit pedagogy, cf. Societas Iesu, 170.

¹¹² Oeuvres, 10:435: "in aenigmate Sphingis, non putandum est, pedis nomen veros tantum animalium pedes significare, sed videndum etiam, utrum ad alia quaedam possit transferri." In Aristotelian metaphysics, counting (hence the numeration of the Sphinx's riddle) depends on a basic identity of the counted objects: all feet are counted as feet. The Sphinx's riddle is puzzling because non-feet have to be counted as feet and because times of the day have to be counted as times of life. Both of these puzzles are not just not mathematical but anti-mathematical, in the sense that they privilege those figurative meanings from which mathematics abstracts away.

¹¹³ Oeuvres, 10:435: "Cavendum est, ne plura & strictiora, quam data sint, supponamus, . . interdum etiam in aliis quaestionibus, quando ad illas solvendas aliquid quasi certum supponi videtur, quod nulla nobis certa ratio, sed inveterata opinio persuasit."

¹¹⁴ Oeuvres, 10:381: "res omnes per quasdam series posse disponi, non quidem in quantum ad aliquod genus entis referuntur, sicut illas Philosophi in categorias suas diviserunt, sed in quantum unae ex aliis cognosci possunt."

meanings of a word could be ascertained, in Ann Moss's words, "by running it through all the dialectical places where it will fit," particularly through the categories of Aristotelian logic: substance, quantity, quality, relation, place, time, position, condition, action, and passion. Descartes redirected this standard dialectical procedure to his own purpose, inviting readers to grasp these predicates in the terms of their rhetorical education and so recognize semantic possibilities outside the typical philosophical range. These particular discoveries had to be strung together like "all the rings of a rather long chain" without allowing even the smallest to pass by: overhasty seekers "frequently do not run through the entire chain of intermediate inferences very accurately," Descartes warned. 116

The cognitive act of "running through" (*percurrere*) was at the center of Descartes's procedure for converting deduction by enumerated parts into an intuition of the whole. Where rhetorical writers saw enumeration as a part of speech that remedied memory failures on the part of listeners, running through was an inward procedure, useful for ameliorating the speaker's memory. The Jesuit textbook author Soárez believed that the "rapid motion of the soul and the *ingenium*" that rhetorical performance required could be "inflamed and agitated, but not seeded or granted, by art. So too could art—the art of memory—exercise that part of the mind. Soárez quoted Quintilian: when places are organized, signed, and fixed in the soul, "thought can run through all of its parts in order without hesitation or delay. Descartes agreed that training and rapid motion could be used to supplement failures of intuition. But where for Soárez running through served the oratorical purpose of making memory available for speech, for Descartes it produced the intuitions that depended on collecting and arranging.

Most commentators interpret Descartes's earlier claim that common mathematics was far from his thought to mean that Descartes had another mathematics in mind. On the contrary, Descartes cast numbers and figures as an *integumentum* (covering) that served "to clothe and equip this teaching so that it might be more accommodated to the human mind." 120 Here,

¹¹⁵ See Moss, 144; Aristotle, 1938, 16–18 (Categoriae 1b25–27).

¹¹⁶ Oeuvres, 10:388: "frequenter enim illi . . . non omnem conclusionum intermediarum catenationem tam accurate percurrunt"; 10:389: "longioris alicuius catenae omnes annulos."

¹¹⁷ On Descartes and the art of memory, see Rossi, 123–28.

 $^{^{118}}$ Soárez, fol. 3 r (1.8), "& animi, & ingenii celeres quidam motus. . . . Quae accendi, ac commoveri arte possunt, inseri quidem, & donari ab arte non possunt omnia."

¹¹⁹ Soárez, fols. 58^v–59^r (3.54): "Haec animo diligenter sunt affigenda, ut sine cunctatione, ac mora partes eius omnes cogitatio possit ordine percurrere." *Ordine* is Soárez's addition: cf. Quintilian, 5:66 (*Institutio oratoria* 11.2.18).

¹²⁰ *Oeuvres*, 10:374: "Integumentum vero dici . . . ita vestire & ornare [sc. hanc doctrinam], ut humano ingenio accommodatior esse possit." Cicero used this term to describe a literary text that concealed its treasures: see Cicero, 1942, 1:110 (*De oratore* 1.35.161).

Descartes used the language of clothing to characterize the *habitudo* (condition) between magnitudes. ¹²¹ These conditions were the material of enumeration: "I will run through them several times by a certain continuous motion of the imagination," Descartes explained, "intuiting each and at the same time crossing over to others," and repeat this procedure until almost no parts of the enumeration were left in the memory. ¹²² Such enumeration had to be "sufficient." Descartes nowhere gave an adequate technical definition of this word. But for humanists, etymology was sufficient: enumeration was *sub-ficiens*, entailing an act of substitution wherein etymologically better-founded meanings—typically rhetorical ones—were put in place of Scholastic ones. ¹²³

The rhetorical figure of using a single word with two different meanings is called *anaclasis*. It was widely used by dramatists in the seventeenth century in the context of exchanges where the use of the term by the respondent lent new significance to its initial use. Descartes's use was perhaps more informed by that of Saint Augustine, who used the effect in prose to contrast profane and Christian meanings of the same term. ¹²⁴ For all his remarks about the multiple meanings of his own Latin terminology, Descartes never explicitly claimed to be using anaclasis—what rhetor, indeed, would openly discuss his or her use of figures as such? Instead, Descartes employed imagery from optics to discuss his amphibolous use of Latin. As Jean-Vincent Blanchard has discussed, optics furnished the basic metaphors for Jesuit rhetorical theory, from perspective as a metaphor for discourse in general to mirrors as an image for both distortion and the resolution of distorted images. Lenses worked this way too: "it collects and

¹²¹ Habitudo was the Aristotelian category into which medieval and Renaissance mathematicians subsumed mathematical ratios; see Boethius, 137 (*De institutione arithmetica* 2.40). Aristotle's examples of the category had to do with clothing: see Aristotle, 1938, 80 (*Categoriae* 11b13–14). Accordingly, the term was often translated as "clothing" and could be associated explicitly with *integumentum*. See Robinet, 96. On magnitudes and concepts, cf. *Oeuvres*, 10:409–10.

¹²² Oeuvres, 10:388: "Quamobrem illas continuo quodam imaginationis motu singula intuentis simul & ad alia transeuntis aliquoties percurram." Scholars have been puzzled by the use of "imagination," even emending it to "thought," but Descartes's word choice makes sense within the reading developed here.

¹²³ On Descartes's use of the Latin *sub-* and *super-* prefixes, see Cahné, 39. On the Scholastic meaning of the term, see Chenu.

¹²⁴ For discussion of the figure, see Lausberg, 297–98, citing examples from *Cid* and *Polyeucte*. Lausberg identifies one goal of anaclasis as clarifying the speaker's *voluntas* in contradistinction to the word; on the distinction between *scriptum* and *voluntas* in Augustinian hermeneutics, see Eden, 58. For Augustine's use of the figure, see Mohrmann, 1935, 41–43; Mohrmann, 1958.

arranges," declared one engraving. 125 One line stood out for its power to collect lines and redirect them to a single point: the anaclastic. Descartes framed a search for "that line which, in dioptrics, they call anaclastic, in which, it is clear, parallel lines are so refracted that after the refraction they all intersect in one point." 126 Descartes's discussion of the search for the anaclasic curve in optics is itself an anaclasis. 127 Its second meaning is precisely the search for rhetorical (rather than optical) anaclasis, for those secondary meanings that have to be enumerated and strung together in a chain.

Related optical terms similarly bore two meanings. As the rhetoric professor Caussin pointed out in the *Eloquentiae*... Libri, in Latin anaclasis could be called reflexio (reflection); modern rhetorical dictionaries also give refractio (refraction) as a possibility. 128 These terms literally mean "a bending back" (reflexio and anaclasis) or "a breaking up" (refractio), again with reversion implied by the re-. Descartes diverged from standard usage of the figure by making recognition of the second meaning depend more on the reader's decision to reread than on his own consecutive use of a term with two evidently different meanings. A recent study of Descartes's Latin observes that Descartes's "recurring use of 'reflectere ad' in the sense of 'to consider,' 'to think over' is quite unclassical."129 This divergence makes sense in the context of Descartes's parallel employment of "anaclasis" in its rhetorical and optical senses. When Descartes used the expression reflectere ad, he intended attuned readers—coincidentally, they came from La Flèche—to go back to his text with his own "sense" in mind, to reread for secondary meanings. Enumeration involved such a return: once collection was done, Descartes explained, "one has to look back attentively to the truths that have been found."130 These truths were found in the Cartesian text. Looking through them gives insight into Descartes's meaning: "He will pursue the others in this way in order until he

^{125 &}quot;Colligit et collocat": see Blanchard, 155-82 (quotation on 170).

¹²⁶ Oeuvres, 10:393–94: "Si, v. g., quaerat aliquis solius Mathematicae studiosus lineam illam, quam in Dioptrica anaclasticam vocant, in qua scilicet radii paralleli ita refringantur, ut omnes post refractionem se in uno puncto intersecent."

¹²⁷ On Descartes's investigations of the anaclastic curve as an object in dioptrics, see Schuster, 603–18.

¹²⁸ See Caussin, 257. Lausberg, 296–98, gives *distinctio* (distinction) and *reflexio* as possibilities; Ueding et al., 1:482–83 (these are column, not page, numbers) gives both *reflexio* and *refractio*. Note that *distinctio* came to receive wide use in Descartes's *Meditationes* and *Principia Philosophiae* (Principles of philosophy, 1644) in the context of "clear" and "distinct" as distinct epistemological ideals.

¹²⁹ Vermeulen, 371–72.

 $^{^{130}}$ See *Oeuvres* 10:374. "Reflectere ad" is frequently used in conjunction with "percurrere": see *Oeuvres*, 10:407, 409.

comes to the anaclastic itself," Descartes concluded. ¹³¹ A further meaning of the *corpus ambiens* thus presents itself: it is this text here, the Cartesian text one has in hand, a writing covered in unknown characters.

COMMONPLACING IN THE CAVE

In the Regulae Descartes took up pedagogical aemulatio in a striking way: he satirized philosophical education with a mock study manual that both incorporated and transcended the principles and practices espoused by his teachers. This section discusses the critical edge of Descartes's satire. Descartes agreed with Bacon that the central failures of Scholastic philosophy were its worship of Aristotle and its disputation practices, oriented to words rather than things. 132 By locating philosophy in its proper context, the classroom, Descartes revealed Scholastic philosophy for what it truly was: a practice of commonplacing. Philosophers understood corpus as body and locus as place, but they would not see beyond these Scholastic meanings to the real things, the Aristotelian work and the passage from it, that the words also signified. Although such texts and passages were part of their daily experience, their advanced education prevented them from recognizing how humanism circumscribed their philosophy. As Descartes would later write in the *Discours*, "They seem to me similar to a blind man who, in order to fight without disadvantage against someone who sees, would have made him come down to the back of some very dark cave." 133 By embedding a discussion of the true epistemology of Scholastic philosophy within a surface of Scholastic terminology, Descartes's anaclasis mimetically represented the Scholastic philosophers' willful blindness to their context.

In a well-known discussion of sense, imagination, and understanding, Descartes used anaclasis to put Scholasticism in its place. Over the course of two pages, Descartes compared the senses to a piece of wax and the sensory apparatus to a mechanism for transferring impressions from the wax to the mind. Not a true account of the cognitive apparatus, the comparison was an image that explained "what mode of conceiving" the cognitive capacity would be "most useful for my purpose." How are Cartesian conceptions arrived at? Descartes began: "One has, then, to conceive, first, that all the

 $^{^{131}}$ Oeuvres, 10:395: "& ita ordine caetera persequetur, donec ad ipsam anaclasticam pervenerit."

¹³² On respect for Aristotle in Jesuit pedagogy, see Societas Iesu, 124–25.

¹³³ Oeuvres, 6:71.

¹³⁴ Oeuvres, 10:412: "quisnam modus concipiendi illud omne, quod in nobis est ad res cognoscendas, sit maxime utilis ad meum institutum."

external senses, insofar as they are parts of the body, even if we do apply them to objects by an action—namely, by local motion—still sense, properly, merely by a passion, in the same way in which wax receives a figure from a seal." 135 When the external sense is moved by an object, Descartes explained, the figure it receives is carried onward to the common sense even "without the transit of any real entity" from one to the other. 136 Descartes compared this conveyance of sense to the movement of the upper end of a pen, which traces the same "differences of motions in the air" as the lower part traces on the paper, even though "I should conceive that nothing real transmigrates from one end to the other."137 The common sense, in turn, functions like a seal for "forming the same figures or ideas, purified from the external senses and coming without a body, on the fancy or imagination as though on wax."138 On one hand, the fancy itself can move the nerves—for instance, in animals, which have no higher cognitive faculty. On the other, the faculty of knowing also receives figures directly from the common sense, or else draws them from the fancy, whose retentive power "is called memory." 139 Depending on whether and with what aim it applies itself to the common sense or the imagination, the cognitive power can be said—Descartes wrote—to see, to remember, or to imagine. But "if it acts alone" it is said to understand. 140

On its surface, Descartes's account of sensation engaged philosophers largely on their terms. Just as he anchored his discussion of place in an Aristotelian commonplace, so Descartes's physical account of the impression and transmission of a figure to the mind employed concepts from Renaissance psychology that would have been readily accessible to Scholastics. Descartes would pursue this strategy in a modified way in the essay on optics that he published in 1637 with the *Discours*. There, Descartes mocked the Scholastic concept of

¹³⁵ Oeuvres, 10:412: "Concipiendum est igitur, primo, sensus omnes externos, in quantum sunt partes corporis, etiamsi illos applicemus ad objecta per actionem, nempe per motum localem, proprie tamen sentire per passionem tantum, eadem ratione qua cera recipit figuram a sigillo."

¹³⁶ Oeuvres, 10:414: "absque ullius entis reali transitu ab uno ad aliud."

¹³⁷ Oeuvres, 10:414: "illas omnes motuum diversitates etiam a superiori eius parte in aere designari, etiamsi nihil reale ab uno extremo ad aliud transmigrare concipiam." On *transmigrare* (transmigrate), cf. *transitus* (transit) on the same page: Descartes described cognitive function using terminology for passage to or through the afterlife.

¹³⁸ Oeuvres, 10:414: "sensum communem fungi etiam vice sigilli ad easdem figuras vel ideas, a sensibus externis puras & sine corpore venientes in phantasia vel imaginatione veluti in cera formandas."

 $^{^{139}}$ *Oeuvres*, 10:414: "tuncque eadem est quae memoria appellatur." On the intellect, see 10:415.

¹⁴⁰ Oeuvres, 10:416: "si denique sola agat, dicitur intelligere."

"intentional species" transmitted directly from an object to the mind, and he interrogated the hypothesis of resemblance between image and object that that concept expressed. 141 The account of apprehension in the *Regulae*, reserving central roles for the imagination and the common sense, was even closer to the framework of Renaissance psychology than the later account. 142

Just like the Scholastic meaning of Aristotle's commonplace did not exhaust Descartes's account of place, the Scholastic signification did not exhaust his account of sensation. Some readers have assimilated Descartes's discussion of the wax impression to the much more famous discussion of the piece of wax from the *Meditationes*: held to a candle, the piece changes shape, but its substance remains the same. 143 But in reading cera (wax) without the context provided by that later text, readers would have more likely imagined a wax writing tablet of the sort encountered not in real life but in reading ancient literature. 144 The effect is enhanced a page later, where Descartes depicts himself writing with a pen. Preparing the student's pen and paper was the subject of one more of the pedagogical dialogues of Pontanus with which students of the Jesuits first learned Latin. 145 Not just an account of sensation and memory as physiological processes, Descartes's image of the mind as a wax tablet would have reminded his readers of the processes of transcription and memorization central to humanist education. Descartes's image parodied justifications for keeping a commonplace notebook.

In his *De Ratione Libros cum Profectu Legendi Libellus* (A little book on how to read with profit, 1614), the Jesuit pedagogue Francesco Sacchini (1570–1625) adduced the malleability of the mind as a justification for attentive reading. "The human mind is soft, and just as though it were made from wax: it is easily figured [*figuratur*] with that form by which it is impressed," Sacchini wrote. 146 The malleability of the mind explained why commonplacing was not simply a means of compiling an external treasury of quotations. As Ann Blair has discussed, note-taking and commonplacing actually served the creation of internal memories by impressing the copied passages on the mind. Both Sacchini and (writing slightly later) Jeremias Drexel (1581–1638) "agreed

¹⁴¹ See Caton, 90–97; Hatfield, 1992, esp. 349–56; Fichant, esp. 38–48. Scholars disagree about the extent of Descartes's continuity with earlier traditions. Intentional species and their metaphysical equivalent, "substantial forms," were the most important doctrinal point of disagreement between the Cartesians and the Scholastics: see Roux, 70–71.

¹⁴² Sepper, 28–35; see also Schuster, 314–20.

¹⁴³ See *Oeuvres*, 7:30.

¹⁴⁴ By the seventeenth century, notes were typically taken on paper: see Blair, 63–65.

¹⁴⁵ See Pontanus, 39–42. The word for pen in both cases was *calamus*.

¹⁴⁶ Sacchini, 16: "Molle, & quasi cereum est humanum ingenium: ad eam facile formam, ad quam apprimitur, figuratur." See also Blair, 70.

that 'what is copied is impressed on the mind more thoroughly': specifically, taking notes prevented one from rushing while reading and thus aided retention and understanding."147 Students of the Jesuits would have been instructed by their teachers that writing out passages with a pen served to impress them more thoroughly in the mind. Perhaps Descartes even drew his image of the upper end of the pen from his teachers. "Who would think there is less connection between the parts of the human body than there is between the parts of a pen?" he asked—one can see a possible provenance of this analogy in on-the-fly justifications for note-taking. 148 Ultimately, Descartes's image of the wax mind came not from Sacchini but from the classical tradition: Aristotle had used the impression of a seal as an image of memory, and Quintilian's discussion of the subject brought together wax impressions and wax tablets. 149 Referring to both, Descartes showed off his own good memory of notable commonplaces. In another play on words probably derived from his student days, the "local motion"—or, rather, "locus-related motion [motum localem]"—that Descartes had in mind was not (just) the movement of a seal through space but the movement of a locus from its original setting in Aristotle or Horace to a new one. 150

By associating the heights of Scholastic metaphysics with the surface of the text, while making classroom meanings depend on an act of recognition, Descartes inverted the expected pedagogical hierarchy that placed the trivial learning of the classroom below the rarefied heights of Aristotelian philosophy. Scholastic philosophers lived not in a tower that dominated basic learning but in a cave dug deep beneath it: the cognitive hegemony of Scholastic philosophy depended on a naturalization of bookish practices whose use that philosophy rendered invisible, and on an engrained *aemulatio* that led to ever greater obscurity. By relegating the schoolroom to the background, Descartes emphasized the philosophers' blindness to the institutional presuppositions of their own practice: they spent their whole lives in school, but failed to recognize its basic framework when it stared them in the face. What passed for cognition among Scholastic philosophers was really just commonplacing.

By engaging with the Scholastic philosophers on one level while critiquing them on another, Descartes hoped both to exploit and to undermine the

 $^{^{147}}$ Blair, 77. See Sacchini, 66: "Deinde ipsa quoque scriptio & intelligentiam iuvat, & altius menti res imprimit."

¹⁴⁸ Note that the word *altius* can mean both "deeper" and, apposite to the analogy between the mind and the top of the pen, "higher." Cf. Sacchini, 72.

¹⁴⁹ See Aristotle, 1957a, 294 (*De memoria et reminiscentia* 450a30–32); Quintilian, 3:60–74 (*Institutio oratoria* 11.2.4, 21, 32).

¹⁵⁰ On motus here, cf. Oeuvres, 10:370.

institutions of philosophy. *Aemulatio* and its motivating affect, vanity, were at the center of both efforts. By emulating Scholastic terminology and methods, Descartes hoped that rivalry would compel the philosophers to engage with, and so legitimate, his writings. Not possible for an unpublished text, such an outcome was indeed the result of Descartes's closest engagement with Scholastic philosophy: the *Meditationes* was published with a set of objections and replies that naturalized Cartesian philosophy within Scholastic practices of disputation. Such a gambit was not disingenuous, since even if Scholastics could not contribute to the advancement of learning, they could at least firm up its foundations. Scholastic justifications for the use of math and experiment in the study of nature offered practitioners of the art of dialectic a substitute for Aristotelian natural philosophy; by giving philosophers such a foundational role, he flattered their self-conception as being engaged with fundamental questions. The *Regulae* merely anticipated this gambit, which Descartes realized with remarkable success elsewhere. 152

The alternative kind of philosophy that Descartes offered honnêtes gens was also rooted in their vanity. A caricature of Scholastic philosophers as pedantic and bookish, which circulated widely among the salon class at the end of the seventeenth century, arguably did as much to promote the Cartesian philosophy as did actual arguments for or against intentional species and substantial forms. 153 By dismissing the Scholastics as pedants, the salon class felt satisfied in its implicit refusal to engage with the details of Scholastic arguments. Polite readers' disdain for Scholastic philosophy was not based on a judgment of Aristotelian ideas; it was extrapolated from a judgment of the Aristotelian persona. And though the "school of Montaigne" that many francophone readers attended aimed to cultivate the faculty of judgment, even this judgment of Scholastic pedantry was rather borrowed from Montaigne, Descartes, and other writers than made on the basis of experience. 154 "They flatter themselves to have on their side great geniuses and people of the highest quality," wrote one critic of late seventeenth-century society Cartesians. 155 The same could have been said of the Scholastics and Aristotle. The rivalry and vanity of the honnêtes gens mirrored the same tendencies in the philosophers.

¹⁵¹ Compare the rather different approach of Galileo Galilei discussed by Biagioli, 211–44.

¹⁵² Cf. Garber, 1992, 54; Garrod, 2016, 170.

 $^{^{153}}$ Roux offers an excellent account of the relationship between intellectual and sociological dimensions of Cartesian and Scholastic philosophy in the late seventeenth century.

¹⁵⁴ On the "school of Montaigne," see Boutcher.

¹⁵⁵ [Rochon], 215: "Ils se flattent d'avoir dans leur party des grans Genies & des personnes de la plus haute qualité." The text seems to have been written by the barely attested Jesuit Antoine Rochon (dates unknown). Both the work and the passage were drawn to my attention by Roux, 67n35.

Cartesian hermeneutics is not a question of identifying particular corpora of texts or registers of meanings—social contexts—with particular readerships. ¹⁵⁶ The Scholastics lacked insight, not education; they had the books but lacked the mind. How could it be restored or trained? The specific virtue of the *ingenium* that aided discovery of Descartes's play was *sagacitas* (sagacity), and in the tenth rule, Descartes explained how to train it: by studying weaving and embroidery and playing number games. ¹⁵⁷ To be sure, such regimented tasks may indeed contribute to the apprehension of order. But Descartes's image also points back to the "weave of inferences" that make up not just any deduction but the enumerations that reveal the satire. The *Regulae* itself trains the *ingenium* and promotes *sagacitas* for those readers who play along with its rhetorical meanings.

THE REGULAE AS A STUDY MANUAL

At this point the playful interpretation of the *Regulae* might seem to lack genuine intellectual interest. Descartes's play performed a critical function with respect to regnant institutions of learning, but the insight that Scholastic cognition was really a sort of commonplacing loses its force when it, too, becomes the sort of commonplace that sectarian Cartesians passed about. To be sure, even if Descartes's rhetorical play served purely critical purposes, it would still fit within a broader tradition of sixteenth-century scientific play. ¹⁵⁸ Yet in my view something more is going on. Descartes's playful emulation of Jesuit study manuals did not serve just to reveal the classroom foundations of Aristotelian philosophy. It also drew attention to the real use of the *Regulae* as a study manual that offered a lesson for sagacious minds in a particular kind of attentive reading.

Learning this lesson entailed recognizing a hermeneutical vocabulary that Descartes used throughout his text, the source of which was Descartes's favorite Christian philosopher, Augustine of Hippo. In the widely diffused *De doctrina Christiana* (On Christian teaching), Augustine had distinguished two axes for establishing the meaning of a text: the distinction between the letter of a text and its spirit, and the distinction between literal and figurative meanings. 159

¹⁵⁶ Cf. Skinner, 49.

¹⁵⁷ On sagacitas, see Marr et al., 122.

¹⁵⁸ See Findlen, 1998.

¹⁵⁹ On the distinction between the letter and the spirit, see Augustine, 1995, 140–46 (*De doctrina Christiana* 3.5.9–3.9.13). On the figurative and the literal, see also Augustine, 1995, 146–58 (*De doctrina Christina* 3.10.14–3.18.26). On the diffusion of this text in the Renaissance, see Fumaroli, 70. For elucidating discussion of the two distinctions in Augustine's hermeneutics, see Eden, 56–63.

These distinctions were later adopted by Jesuit hermeneutics. 160 As centuries of readers have recognized, familiarity with some of Augustine's writings can make some of Descartes's most striking formulations—from the cogito on down seem less original. 161 Stephen Menn has recently emphasized the Augustinian pedigree of the spiritual exercise of "withdrawing the mind from the senses" that began the *Meditationes*. In Menn's words, when applied to the self this exercise "refines my naïve concept of myself," leaving in place only the higher understanding of the self as a res cogitans (thinking thing). But more generally, the exercise served to purify basic philosophical principles "from the images or pictures that might support a corporealist interpretation."162 Rather than understanding this act of purification as a form of metaphysical exercise, however, I see it operating as a hermeneutic practice performed on corporeal images in the Augustinian or Cartesian text. "It is, then, a miserable kind of spiritual slavery to interpret signs as things," Augustine wrote in the De doctrina Christiana, "and to be incapable of raising the mind's eye above the physical creation." ¹⁶³ Hermeneutic literalism was a form of enslavement to corporeal reality. But Christianity brought freedom by teaching gentile readers to "exercise their minds by the discipline of understanding them spiritually." 164 So, too, Descartes's Regulae offered an object lesson in the practice of Augustinian figurative reading. To wit, by exploiting the capacity of Scholastic terminology to refer at once to concepts in philosophy and in rhetoric, Descartes constructed the dual signification of the Regulae along the lines of the literal-figurative distinction he drew from Augustinian hermeneutics. Key terms had to be purified of their Scholastic connotations in order for their schoolroom meanings to become evident.

Descartes drew explicitly on Augustine's opposition between the literal (*propria*) and the figurative (*figurata* or *translata*) in order to theorize this exercise and discipline. ¹⁶⁵ As noted earlier, Descartes claimed that he had "transferred to my sense" those Latin words that he used in a non-Scholastic way "whenever proper ones are missing." Essentially an account of the transmission of a figure (*figura*) from the external senses to the mind, Descartes's image of the cognitive

¹⁶⁰ On the use of these distinctions in Jesuit hermeneutics, see Dekoninck, 2016, 76–78. On Augustine's importance for Caussin in particular, see Campbell.

¹⁶¹ The relevant *loci* from Descartes's correspondence are collected in Menn, 66n42.

 $^{^{162}}$ See Menn, 246–52, 394–96; quotations from 251 and 394. See also Hatfield, 1986, 51–54.

¹⁶³ Here and in the following quotation, I use the translation from R. P. H. Green: Augustine, 1995, 141 (*De doctrina Christiana* 3.5.9).

¹⁶⁴ Augustine, 1995, 145 (De doctrina Christiana 3.8.12).

¹⁶⁵ For uses of the verb *transferro* to single out figurative meanings as distinguished from literal ones, see Augustine, 1995, 70 (*De doctrina Christiana* 2.10.15), 132 (3.1.1).

apparatus explained how readers could discover the transferred sense of Cartesian terminology and, afterward, employ the transferred sense to arrive ultimately at the spiritual meaning that lay beyond both literal and figurative representations. Descartes's representation of cognition strikingly resembled an account of intellectual ascent in Augustine's Confessiones (Confessions). The Confessor recalled his own cognitive ascent "by degrees from bodies to the soul sensing through bodies, and thence to the interior power to which the senses of the body report exterior things."166 Descartes's similar account of sensory impression agreed that the interior power—Descartes called it the common sense—worked with a purified figure: it formed in the fancy "the same figures or ideas, purified from the external senses and coming without a body."167 Yet on its own this purification was merely preparatory, since even the disembodied figures had to be abandoned for pure cognition. "One has to conceive that the power through which we know things properly [proprie] is purely spiritual [pure spiritualem]," Descartes concluded, "and that it is no less distinct from the whole body than blood is from bone, or than the hand is from the eye." ¹⁶⁸ Distinct from the corporeal meaning, the spiritual meaning cannot exist without it: it depends on a purification of previously embodied signs. Still, understanding occurs only when the cognitive power "acts alone," independently of both sense and memory.

The balance of the twelfth rule enumerates procedures that can be readily interpreted at any of the three semantic levels I have identified up till now: as descriptions of a psychological process of apprehension (the Scholastic level); as rhetorical instructions for the creation of representations (the rhetorical level); and as steps in a discipline of hermeneutic purification (the Augustinian level). When the intellect concerns things "in which nothing is bodily or similar to the bodily," Descartes explained, "the senses have to be held off, and the imagination stripped of every distinct impression." Recalling the second meaning of *corpus* as "text," you can read this passage as a description of the rhetorical challenge of writing a text about an object far removed from the external meaning of the text. "Sense" (*sensus*) bore, in

¹⁶⁶ See Augustine, 1992, 1:84 (*Confessiones* 7.17): "atque ita gradatim a corporibus ad sentientem per corpus animam atque inde ad eius interiorem vim, cui sensus corporis exteriora nuntiaret, et quousque possunt bestiae."

¹⁶⁷ See *Oeuvres* 10:414.

¹⁶⁸ Oeuvres, 10:415: "denique, concipiendum est, vim illam, per quam res proprie cognoscimus, esse pure spiritualem, atque a toto corpore non minus distinctam, quam sit sanguis ab osse, vel manus ab oculo."

¹⁶⁹ Oeuvres, 10:416: "si intellectus de illis agat, in quibus nihil sit corporeum vel corporeo simile . . . esse arcendos sensus, atque imaginationem, quantum fieri poterit, omni impressione distincta exuendam."

Latin as in English, a double meaning: those external meanings (sensus) accessible to the five senses (sensus) have to be held at arm's length, and the readerly imagination will not be provided with any distinct representation of the object in question. But if the intellect wants to examine something "which can be referred to the body," Descartes continued, "then the idea of it has to be formed in the imagination as distinctly as it can be." To facilitate distinct idea formation, "the thing itself which this idea will represent has to be exhibited to the external senses."170 Descartes employed this very process in the Regulae in the passages I have discussed. To wit, the Jesuit schoolroom was exhibited quite forcefully to the external senses early on, and for the balance of the text, a distinct idea of that schoolroom carried in the imagination served as the hermeneutic referent of the rhetorical senses of the text. This was, recall, a signal instance of the Ignatian spiritual exercise of composition of place, which characteristically employed the imagination of corporeal things to bring absent, but essentially visible, places to mind. 171 But the process of hermeneutic purification has nothing bodily or similar to the bodily, and Descartes's particular textual statements are therefore of little help in recognizing it as a topic of discussion. Instead, the attentive reader recognizes it by reflecting on the practice of reading that grasping the schoolroom significations entails.

By privileging the classroom over the abstractions of Scholastic philosophy, Descartes effected a sort of reversal of the Augustinian hierarchy. For rather than escaping the carnal world in favor of a spiritual one, Descartes expected his readers first to return from the corrupt, falsely spiritual abstractions of the Aristotelians to the real world of shared experience. As I noted, the classroom was the matrix of Latin sense: it furnished the experiences that Latin words were first taught to communicate. But after returning from Aristotelian philosophy to the classroom, students had next to see that the rhetorical apparatus thus brought to their attention was being used to higher ends. In an act of etymological transfiguration, ascent from the carnal to the spiritual interpretation purified Scholastic intentional species (*species intentionalis*) into the attentive looking (*attente respicere*) that Descartes's text demands. ¹⁷² For Descartes intention is a property of minds, not things. Yet in an important sense the practice of

¹⁷⁰ *Oeuvres*, 10:416–17: "Si vero intellectus examinandum aliquid sibi proponat, quod referri possit ad corpus, eius idea, quam distinctissime poterit, in imaginatione est formanda; ad quod commodius praestandum, res ipsa quam haec idea repraesentabit, sensibus externis est exhibenda."

¹⁷¹ See Dekoninck, 2005, 146. Fabre, 75–120, discusses the relationship between memory and imagination in the *compositio loci*.

¹⁷² See *Oeuvres*, 10:374. The common roots are *specere*, to look at, and *tendere*, to extend. Cf. *Oeuvres*, 10:438, on *extensio* (extension) as a property of *corpora* (bodies, i.e., texts) related to *figura* (figure).

hermeneutic purification is closer to the philosophical ambitions of the Scholastics than to the playful emulation of the *honnêtes gens*. To be sure, the means of Augustinian figurative reading are fundamentally playful, since they depend—at least when applied to human rather than sacred texts—on games that writers consciously build into texts. And like the exercise of both Scholastic disputation and schoolroom emulation, playing the hermeneutic game requires not a small admixture of vanity. Yet the Augustinian spiritual reading at which figurative play aims is also serious. It seeks understanding, and it grasps that understanding in contrast to the false image of understanding that institutionally anchored learning peddles.

CONCLUSION

My aim with this article was to discuss how readers endowed with humanist education, especially beneficiaries of playful Jesuit education, would have understood Descartes's *Regulae*. I have found that Descartes employed Scholastic terminology and classic *loci* as rhetorical figures representing the foundational experiences of the classroom. Further, Descartes used these figures to instruct readers in the use of the very hermeneutical framework—the Augustinian doctrine of signs—with which Jesuit and other humanist Christian readers made sense of texts.

Readers today might wonder why Descartes employed such a strange method of figurative communication. Why not just come out with his criticism of the Scholastics? In fact, although Descartes's anti-Scholastic intentions were hardly dissembled in his work, scholars have brushed them aside and hurried on to close technical reconstructions of his arguments; he was wise to exploit rather than ignore the affects and institutions of the cave. Meanwhile, I have identified the *aemulatio* of the Jesuit classroom as a resource for communication with polite audiences. At the beginning of the *Discours* Descartes recalled how he excelled at such emulation: "I was in one of the most celebrated schools in Europe," he wrote, "I knew the judgments the others made of me, and I did not see that I was judged inferior to my classmates." In his published writings, Descartes continued to use *aemulatio* to promote the Cartesian philosophy as a sectarian enterprise opposed to Aristotelian Scholasticism.

But as late seventeenth-century writers complained, sectarian Cartesianism was not much better than sectarian Aristotelianism. If Augustinian

 $^{^{173}}$ Oeuvres, 6:5: "i'estois en l'une des plus celebres escholes de l'Europe . . . ie sçavois les iugemens que les autres faisoient de moy; & ie ne voyois point qu'on estimast inferieur a mes condisciples."

¹⁷⁴ For the *Meditationes*, see Menn, 45–48.

hermeneutics was really to serve the spiritual aim of dislodging pernicious cognitive habits, it could not be fully institutionalized. 175 Accordingly, Descartes presented his Augustinian commitments not doctrinally but implicitly. Attuned readers could glean Descartes's meanings about meaning through a reflection on his rhetorical practice. The *Regulae* satirized Jesuit study manuals, but it was itself a study manual of a different kind. Recognizing Descartes's emulation of the Jesuit classroom was, I hypothesize, itself an object lesson in the Augustinian spiritual hermeneutics that Descartes employed throughout the rest of his corpus. The *Regulae* offered rules for directing the mind in reading Descartes's own writings—in the *Discours* and essays, to be sure, but especially in the Latin texts that employed Scholastic terminology. And its decipherment served as an exercise for training the *ingenium* in the recognition of Cartesian meanings. I hypothesize that Descartes circulated the *Regulae* in manuscript form so that his close associates would know how to read his published writings.

To test this hypothesis, the spiritual hermeneutics of the *Regulae* should be extended to other texts in the Cartesian corpus. The *Meditationes* provides a ready example. Some readers will surely grant that Descartes's *Regulae* contains Augustinian elements while resisting my insistence that Augustine supplied Descartes with hermeneutical rather than metaphysical resources. Yet perhaps Descartes's effort to withdraw the mind "from the senses" in the *Meditationes* is itself a corporeal representation that stands in need of purification. To wit, Descartes may have had in mind not only sensory impressions but also meanings, received opinions that arrive—in a locution from the beginning of the *Meditationes*—"through the senses" rather than from them. ¹⁷⁶ To read *sensus* as meaning "the five senses" is to fail to withdraw the mind from those same senses; but to read *sensus* as meaning "meaning" is to succeed in withdrawing the mind both from the five senses and from received meanings. Descartes's readers are invited by this locution to read figuratively rather than literally.

Was Descartes the only writer to employ such a hermeneutics, or did the *Regulae* offer instruction in how to read texts by other writers? At a minimum, the central role of play in early modern literary culture and its clear use by Descartes in a markedly philosophical text brings into question the adequacy of standard philosophical hermeneutics when directed to early modern philosophical texts. The basic expectation that philosophy be technical, hence univocal, privileges serious meanings and suppresses playful ones: while sporadic play is admitted, the sustained coexistence of play and seriousness is not. The readings developed on such a premise are correct, but partial. Present-day and

¹⁷⁵ Menn, 69-70, contrasts Augustinian and Aristotelian philosophy on just this point.

¹⁷⁶ Oeuvres, 7:18: "vel a sensibus, vel per sensus accepi." For Descartes's comment on the passage, see *Oeuvres*, 5:146.

Scholastic philosophy share hermeneutic expectations. Is it thus any wonder that philosophers are so adept at reconstructing the readings that period philosophers with overriding Scholastic commitments would have developed? Such readers were one of Descartes's audiences, but not a privileged one. Descartes engaged with Scholastic philosophy, but he trained his mind on a diverse place.

BIBLIOGRAPHY

- Ariew, Roger. Descartes among the Scholastics. Leiden: Brill, 2011.
- Aristotle. Categories; On Interpretation; Prior Analytics. Trans. H. P. Cooke and Hugh Tredennick. Cambridge, MA: Harvard University Press, 1938.
- Aristotle. On the Soul; Parva Naturalia; On Breath. Trans. W. S. Hett. Cambridge, MA: Harvard University Press, 1957a.
- Aristotle. *Physics, Volume I: Books 1–4*. Trans. P. H. Wicksteed and F. M. Cornford. Cambridge, MA: Harvard University Press, 1957b.
- Augustine. Confessions. Ed. James J. O'Donnell. 3 vols. Oxford: Clarendon Press, 1992.
- Augustine. De doctrina Christiana. Trans. R. P. H. Green. Oxford: Clarendon Press, 1995.
- Bacon, Francis. *The Works of Francis Bacon*. Ed. James Spedding, Robert Leslie Ellis, and Douglas Denon Heath. 7 vols. London: Longman & co., etc., 1857–61.
- Bacon, Francis. *The Oxford Francis Bacon*. Ed. Michael Kiernan, Graham Rees, Alan Stewart, et al. 16 vols. Oxford: Oxford University Press, 1996–.
- Beyssade, Michelle. "Deux latinistes: Descartes et Spinoza." In Spinoza to the Letter: Studies in Words, Texts, and Books, ed. Fokke Akkerman and Piet Steenbakkers, 55–67. Leiden: Brill, 2005.
- Biagioli, Mario. Galileo, Courtier: The Practice of Science in the Culture of Absolutism. Chicago: University of Chicago Press, 1993.
- Blair, Ann. *Too Much to Know: Managing Scholarly Information before the Modern Age.* New Haven, CT: Yale University Press, 2010.
- Blanchard, Jean-Vincent. L'Optique du discours au XVII^e siècle: De la rhétorique des jésuites au style de la raison moderne (Descartes, Pascal). Laval: Les Presses de l'Université Laval, 2005.
- Boethius. De Institutione Arithmetica Libri Duo. De Institutione Musica Libri Quinque. Accedit Geometria Quae Fertur Boetii. Ed. Gottfried Friedlein. Leipzig: Teubner, 1867.
- Boutcher, Warren. *The School of Montaigne in Early Modern Europe.* 2 vols. Oxford: Oxford University Press, 2017.
- Bruyère, Nelly. Méthode et dialectique dans l'eouvre de La Ramée. Paris: J. Vrin, 1984.
- Bushnell, Rebecca W. A Culture of Teaching: Early Modern Humanism in Theory and Practice. Ithaca, NY: Cornell University Press, 1996.
- Cahné, Pierre-Alain. Un autre Descartes: Le philosophe et son langage. Paris: J. Vrin, 1980.
- Campbell, Stephen F., SJ. "Nicolas Caussin's 'Spirituality of Communication': A Meeting of Divine and Human Speech." *Renaissance Quarterly* 46.1 (1993): 44–70.
- Casalini, Cristiano. Aristotle in Coimbra: The "Cursus Conimbricensis" and the Education at the College of Arts. Trans. Luana Salvarani. London: Routledge, 2017.
- Cassan, Élodie, ed. Bacon et Descartes: Genèses de la modernité philosophique. Lyon: ENS Éditions, 2014.
- Caton, Hiram. *The Origin of Subjectivity: An Essay on Descartes*. New Haven, CT: Yale University Press, 1973.
- Caussin, Nicolas. *Eloquentiae Sacrae et Humanae Parallela Libri XVI*. Paris: Sebastian Chappelet, 1619.
- Cavaillé, Jean-Pierre. *Descartes: La fable du monde*. Paris: Éditions de l'École des Hautes Études en Sciences Sociales / J. Vrin, 1991.

- Cavaillé, Jean-Pierre. "Le plus éloquent philosophe des derniers temps': Les strategies d'auteur de René Descartes." *Annales: Histoire, Sciences Sociales* 49.2 (1994): 349–67.
- Chenu, Marie-Dominique. "Notes de lexicographie philosophique médiévale: Sufficiens." Revue des Sciences philosophiques et théologiques 22.2 (1933): 251–59.
- Cicero. On Duties. Trans. Walter Miller. Cambridge, MA: Harvard University Press, 1913.
- Cicero. *On the Orator*. Trans. E. W. Sutton and H. Rackham (vol. 1) and H. Rackham (vol. 2). 2 vols. Cambridge, MA: Harvard University Press, 1942.
- Cicero. On Invention; The Best Kind of Orator; Topics. Trans. H. M. Hubbell. Cambridge, MA: Harvard University Press, 1949.
- Cifoletti, Giovanna. "Mathematics and Rhetoric: Peletier and Gosselin and the Making of the French Algebraic Tradition." PhD diss., Princeton University, 1992.
- Codina Mir, Gabriel. Aux sources de la pédagogie des Jésuites: Le "Modus Parisiensis." Rome: Institutum Historicum S. I., 1968.
- Colie, Rosalie. *Paradoxia Epidemica: The Renaissance Tradition of Paradox*. Princeton, NJ: Princeton University Press, 1966.
- Colie, Rosalie. *The Resources of Kind: Genre-Theory in the Renaissance*. Ed. Barbara Lewalski. Berkeley: University of California Press, 1973.
- Conte, Sophie, ed. *Nicolas Caussin: Rhétorique et spiritualité à l'époque de Louis XIII*. Berlin: Lit Verlag, 2007.
- Dainville, François. "L'évolution de l'enseignement de la rhétorique au XVII^e siècle." XVII^e siècle: Bulletin de la Société d'étude du XVII^e siècle 80 (1968): 19–43.
- Dekoninck, Ralph. Ad imaginem: Statuts, fonctions et usages de l'image dans la littérature spirituelle jésuite du XVII^e siècle. Geneva: Droz, 2005.
- Dekoninck, Ralph. "The Jesuit Ars and Scientia Symbolica: From Richeome and Sandaeus to Masen and Ménestrier." In *Jesuit Image Theory*, ed. Wietse de Boer, Karl A. E. Enenkel, and Walter Melion, 74–88. Leiden: Brill, 2016.
- Descartes and the Ingenium: The Embodied Soul in Cartesianism. Ed. Raphaële Garrod, with Alexander Marr. Leiden: Brill, 2020.
- Descartes, René. *Regulae ad Directionem Ingenii*. Ed. Giovanni Crapulli. The Hague: Martinus Nijhoff, 1966.
- Descartes, René. Regulae ad Directionem Ingenii—Rules for the Direction of the Natural Intelligence; A Bilingual Edition of the Cartesian Treatise on Method. Ed. and trans. George Heffernan. Amsterdam: Rodopi, 1998.
- Descartes, René. *Discourse on Method and Related Writings*. Trans. Desmond Clarke. London: Penguin, 2003.
- Eamon, William. Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture. Princeton, NJ: Princeton University Press, 1994.
- Eden, Kathy. Hermeneutics and the Rhetorical Tradition: Chapters in the Ancient Legacy and Its Humanist Reception. New Haven, CT: Yale University Press, 1997.
- Essays on Descartes' "Meditations." Ed. Amélie Rorty. Berkeley: University of California Press, 1986.
- Fabre, Pierre-Antoine. *Ignace de Loyola: Le lieu de l'image*. Paris: Éditions de l'École des Hautes Études en Sciences Sociales / J. Vrin, 1992.

- Fantham, Elaine. Comparative Studies in Republican Latin Imagery. Toronto: University of Toronto Press, 1972.
- Findlen, Paula. "Jokes of Nature and Jokes of Knowledge: The Playfulness of Scientific Discourse in Early Modern Europe." *Renaissance Quarterly* 43.2 (1990): 292–331.
- Findlen, Paula. "Between Carnival and Lent: The Scientific Revolution at the Margins of Culture." *Configurations* 6.2 (1998): 243–67.
- Flynn, Lawrence J., SJ, trans. "The De Arte Rhetorica (1568) by Cyprian Soarez, SJ: A Translation with Introduction and Notes." PhD diss., University of Florida, 1955. https://ufdc.ufl.edu/AA00032920/00001/1x.
- Fumaroli, Marc. L'Âge de l'éloquence: Rhétorique et "res literaria" de la Renaissance au seuil de l'époque classique. 3rd ed. Geneva: Droz, 2009.
- Galison, Peter. "Descartes's Comparisons: From the Invisible to the Visible." *Isis* 75.2 (1984): 311–26.
- Garber, Daniel. Descartes' Metaphysical Physics. Chicago: University of Chicago Press, 1992.
- Garber, Daniel. Descartes Embodied: Reading Cartesian Philosophy through Cartesian Science. Cambridge: Cambridge University Press, 2001.
- Garrod, Raphaële. Cosmographical Novelties in French Renaissance Prose (1550–1630): Dialectic and Discovery. Turnhout: Brepols, 2016.
- Garrod, Raphaële. "La Politesse de L'esprit: Cartesian Pedagogy and the Ethics of Scholarly Exchanges." In *Descartes and the* Ingenium (2020), 184–203.
- Gaukroger, Stephen. Descartes: An Intellectual Biography. Oxford: Oxford University Press, 1995.
- Gilson, Étienne. Index scolastico-cartésien. 2nd ed. Paris: J. Vrin, 1979.
- Goyet, Francis. Le sublime du "lieu commun": L'invention rhétorique dans l'Antiquité et à la Renaissance. Paris: Honoré Champion, 1996.
- Grafton, Anthony, and Lisa Jardine. From Humanism to the Humanities: Education and the Liberal Arts in Fifteenth- and Sixteenth-Century Europe. Cambridge, MA: Harvard University Press, 1986.
- Hallyn, Fernand. Descartes: Dissimulation et ironie. Geneva: Droz, 2006.
- Hatfield, Gary. "The Senses and the Fleshless Eye: The *Meditations* as Cognitive Exercises." In *Essays on Descartes' "Meditations"* (1986), 45–76.
- Hatfield, Gary. "Descartes' Physiology and Its Relation to His Psychology." In *The Cambridge Companion to Descartes*, ed. John Cottingham, 335–70. Cambridge: Cambridge University Press, 1992.
- Heidegger, Martin. What is a Thing? Trans. W. B. Barton Jr. and Vera Deutsch. Chicago: Henry Regnery Company, 1967.
- Highet, Gilbert. The Anatomy of Satire. Princeton, NJ: Princeton University Press, 1962.
- Horace. Satires; Epistles; The Art of Poetry. Trans. H. Rushton Fairclough. Cambridge, MA: Harvard University Press, 1926.
- Jardine, Lisa. Francis Bacon: Discovery and the Art of Discourse. Cambridge: Cambridge University Press, 1974.
- Jardine, Lisa, and Anthony Grafton. "Studied for Action: How Gabriel Harvey Read His Livy." Past and Present 129 (1990): 30–78.

- Jardine, Nicholas. "Galileo's Road to Truth and the Demonstrative Regress." *Studies in the History and Philosophy of Science* 7.4 (1976): 277–318.
- Jones, Matthew L. *The Good Life in the Scientific Revolution: Descartes, Pascal, Leibniz, and the Cultivation of Virtue.* Chicago: University of Chicago Press, 2006.
- Juvenal, Persius. Juvenal and Persius. Ed. and trans. Susanna Morton Braund. Cambridge, MA: Harvard University Press, 2004.
- Keller, Vera. Knowledge and the Public Interest, 1575–1725. Cambridge: Cambridge University Press, 2015.
- Kraemer, Fabian, and Helmut Zedelmaier. "Instruments of Invention in Renaissance Europe: The Cases of Conrad Gesner and Ulisse Aldrovandi." *Intellectual History Review* 24.3 (2014): 321–41.
- Lacotte, Jacqueline. "La notion de 'jeu' dans la pédagogie des Jésuites au XVII^e siècle." *Revue des sciences humaines* 158 (1975): 251–65.
- Lausberg, Heinrich. Handbook of Literary Rhetoric: A Foundation for Literary Study. Trans. Matthew T. Bliss, Annemiek Jansen, and David E. Orton. Leiden: Brill, 1998.
- Lee, Benjamin Todd. Apuleius' "Florida": A Commentary. Berlin: De Gruyter, 2005.
- Le Moyne, Pierre. Les peintures morales, où les passions sont representees par tableaux, par characteres et par questions nouvelles et curieuses. Paris: Sebastien Cramoisy, 1640.
- Lo, Melissa. "The Picture Multiple: Figuring, Thinking, and Knowing in Descartes's *Essais* (1637)." *Journal of the History of Ideas* 78.3 (2017): 369–99.
- Loeb, Louis E. "Is There Radical Dissimulation in Descartes' *Meditations*?" In *Essays on Descartes' "Meditations"* (1986), 243–70.
- Long, Pamela O. Openness, Secrecy, Authorship: Technical Arts and the Culture of Knowledge from Antiquity to the Renaissance. Baltimore, MD: Johns Hopkins University Press, 2001.
- Mack, Peter. Renaissance Argument: Valla and Agricola in the Traditions of Rhetoric and Dialectic. Leiden: Brill, 1993.
- Marion, Jean-Luc. Sur l'ontologie grise de Descartes. Paris: J. Vrin, 2000.
- Marr, Alexander, Raphaële Garrod, José Ramón Marcaida, and Richard J. Oosterhoff. Logodaedalus: Word Histories of Ingenuity in Early Modern Europe. Pittsburgh, PA: University of Pittsburgh Press, 2018.
- Martin, Craig. Subverting Aristotle: Religion, History, and Philosophy in Early Modern Science. Baltimore, MD: Johns Hopkins University Press, 2014.
- Melzer, Arthur. *Philosophy between the Lines: The Lost History of Esoteric Writing*. Chicago: University of Chicago Press, 2014.
- Menn, Stephen. Descartes and Augustine. Cambridge: Cambridge University Press, 1998.
- Mohrmann, Christine. "Das Wortspiel in den Augustinischen Sermones." *Mnemosyne*, 3rd ser., 3.1 (1935): 33–61.
- Mohrmann, Christine. "Saint Augustin écrivain." Recherches Augustiniennes et Patristiques 1 (1958): 43–66.
- Moss, Ann. Printed Commonplace-Books and the Structuring of Renaissance Thoughts. Oxford: Clarendon Press, 1996.
- Oeuvres. René Descartes. Ed. Charles Adam and Paul Tannery. 11 vols. 2nd ed. Paris: J. Vrin, 1964–74.

- Oosterhoff, Richard J. Making Mathematical Culture: University and Print in the Circle of Lefèvre d'Étaples. Oxford: Oxford University Press, 2018.
- Oosterhoff, Richard J. "Methods of Ingenuity: The Renaissance Tradition behind Descartes's Regulae." In *Descartes and the* Ingenium (2020), 163–83.
- Pérez-Ramos, Antonio, Francis Bacon's Idea of Science and the Maker's Knowledge Tradition. Oxford: Clarendon Press, 1988.
- Pontanus, Jacobus. Progymnasmatum Latinitatis, sive Dialogorum Volumen Primum, cum Annotationibus de Rebus Literariis. 3rd ed. Ingolstadt: David Sartorius, 1589.
- Possevino, Antonio. Bibliotheca Seleca qua Agitur de Ratione Studiorum in Historia, in Disciplinis, in Salute Omnium Procuranda. Rome: Apostolic Press of the Vatican, 1593.
- Quintilian. *The Orator's Education*. Ed. and trans. Donald A. Russell. 5 vols. Cambridge, MA: Harvard University Press, 2001.
- Rabouin, David. *Mathesis universalis: L'idée de "mathématique universelle" d'Aristotle à Descartes.* Paris: Presses universitaires de France, 2009.
- Raphael, Renée. Reading Galileo: Scribal Technology and the "Two New Sciences." Baltimore, MD: Johns Hopkins University Press, 2017.
- Robinet, André. Aux sources de l'esprit cartésien: L'axe La Ramée-Descartes de la "Dialectique" de 1555 aux "Regulae." Paris: J. Vrin, 1996.
- [Rochon, Antoine]. Lettre d'un Philosophe à un Cartesian de ses amis. Paris: Thomas Jolly, 1672.
- Rorty, Amelie Oksenberg. "Experiments in Philosophic Genre: Descartes' Meditationes." Critical Inquiry 9.3 (1983): 545–64.
- Rossi, Paulo. Logic and the Art of Memory: The Quest for a Universal Language. Trans. Stephen Clucas. London: Continuum, 2000.
- Roux, Sophie. "An Empire Divided: French Natural Philosophy (1670–1690)." In *The Mechanization of Natural Philosophy*, ed. Daniel Garber and Sophie Roux, 55–95. Dordrecht: Springer, 2013.
- Sacchini, Francesco. De Ratione Libros cum Profectu Legendi Libellus deque Vitanda Moribus Noxia Lectione Oratio. Würzburg: Conrad Schwindtlauff, 1614.
- Schmidt-Biggemann, Wilhelm. *Topica universalis: Eine Modellgeschichte humanistischer und barocker Wissenschaft.* Hamburg: Felix Meiner Verlag, 1983.
- Schuster, John. Descartes-Agonistes: Physico-Mathematics, Method, and Corpuscular-Mechanism 1618–33. Dordrecht: Springer, 2013.
- Secord, James. "Knowledge in Transit." Isis 95.4 (2004): 654-72.
- Sepper, Dennis L. Descartes's Imagination: Proportion, Images, and the Activity of Thinking. Berkeley: University of California Press, 1996.
- Skinner, Quentin. "Meaning and Understanding in the History of Ideas." *History and Theory* 8.1 (1969): 3–53.
- Soares Lusitano, Francisco. *Cursus Philosophici Tomus secundus*. . . . Évora: Ex Typographia Academiae, 1668.
- Soárez, Cypriano. De Arte Rhetorica Libri Tres ex Aristotele, Cicerone, & Quintiliano Praecipuè Deprompti. Paris: Thomas Brumen, 1584.
- Societas Iesu. Ratio Studiorum: Plan raisonné et institution des études dans la Compagnie de Jésus. Trans. Léone Albrieux and Dolorès Pralon-Julia. Paris: Belin, 1997.
- Strauss, Leo. Persecution and the Art of Writing. Glencoe, IL: Free Press, 1952.

- Ueding, Gert, Gregor Kalivoda, et al., eds. *Historisches Wörterbuch der Rhetorik*. 12 vols. Tübingen: Max Niemeyer Verlag and (for vols. 10–12) Berlin: De Gruyter, 1992–2015.
- Vermeir, Koen. "Openness versus Secrecy? Historical and Historiographical Remarks." *British Journal for the History of Science* 45.2 (2012): 165–88.
- Vermeulen, Corinna. "La langue des doctes: Style and Strategy in Descartes's Latin Works." Humanistica Lovaniensia 64 (2015): 367–79.
- Weeks, Sophie. "Francis Bacon's Doctrine of Idols: A Diagnosis of 'Universal Madness." British Journal for the History of Science 52.1 (2019): 1–39.
- Witt, Ronald G. "In the Footsteps of the Ancients": The Origins of Humanism from Lovato to Bruni. Leiden: Brill, 2000.
- Zittel, Claus. Theatrum philosophicum: Descartes und die Rolle ästhetischer Formen in der Wissenschaft. Berlin: Akademie Verlag, 2009.