Introduction

In 1619 Martin Meurisse (1584–1644), a Franciscan professor of philosophy at the Grand Couvent des Cordeliers in Paris, became embroiled in a debate with the Protestant pastor François Oyseau (1545–1625) about the significance of the rituals of the mass. In the course of this dialogue, Oyseau repeatedly criticized Meurisse’s use of engraved allegories for the teaching of philosophy. When Meurisse attacked Oyseau as a poor logician, Oyseau replied that the friar was not competent to judge his knowledge of logic because he was “a logician only in picturing and copperplate engraving.” Oyseau then asked, “Are these [faulty conclusions] the consequences of the logic of copperplate engraving?” He was alluding to a series of illustrated thesis prints, or pedagogical broadsides incorporating both texts and images, that Meurisse had designed for his philosophy students to use at oral examinations called disputations. He condemned Meurisse’s use of “frivolous allegories” (ses Allegories frivolles) in philosophical explications, stating that “arguments founded on allegories are not demonstrations from which one can draw consequences and necessary conclusions.” In disparaging these broadsides, Oyseau reached beyond the topic of religious ritual, seemingly aiming to demean the friar by suggesting that his experience of engaging in academic logic was inadequate because it relied on visual materials.

Oyseau’s derogatory remarks draw our attention to the vital and controversial role of “visual thinking” in the early modern era. Through the study of late sixteenth- to early eighteenth-century visual representations of philosophy, this book shows that not only were philosophical definitions understood as contained “in” images, but, more important, their creation and reworking enabled teachers and their students to think through spatial constructs and visual commentaries as a way of articulating ideas. With the increased production of paper across Europe and with the refinement of printing technologies, it became increasingly common for philosophers and pedagogues to create, to study, and to disseminate drawings and prints, in order to grasp ideas and to transmit them to colleagues and students. Artists, in turn, drew inspiration from the writings and methods of philosophers in their works and collaborated with scholars or worked independently to
represent theoretical subjects. I am particularly interested in the interpretive role visual representation played in both conveying and challenging the ideas of Aristotle and his scholastic commentators. I focus on shifts in early modern accounts of perception, cognition, and the soul's relationship to the body. I also devote attention to the enduring influence of Aristotle's logic throughout this period.

The central thesis of this study is that in early modern Europe the viewing and creation of imagery functioned as important instruments of philosophical thought and teaching. Visual representations acted as essential tools for the generation of knowledge. Philosophers understood the viewing and making of visual representations as cognitive processes, and images often articulated ideas that could not quite be communicated in verbal language. Vision developed into the model of intelligibility, while drawings, prints, and the processes of looking at and designing visual representations became dominant metaphors for understanding human perception and characterizing the manner in which an observer gains and retains knowledge about the world. At the same time, the intense engagement with visual representations was accompanied by lingering doubts about their role in the creation and transmission of philosophical theories; the nature of these doubts, too, is my subject.

In recent years, the disciplines of art history and visual studies have grown increasingly preoccupied with the question of how artists utilize the mechanisms of image making and the pictorial space to think. Studies of the role of the image in early modern thought have often focused on theological and spiritual questions. Work on the “cerebral picturing” of Leonardo da Vinci (1492–1519) has been crucial for its delineation of the interconnections among the acts of drawing, thinking, and knowing in secular contexts. Scholars writing on Nicolas Poussin (1594–1665) have also studied the repeated references to the thoughts of his images. This book aims to broaden our understanding of visual thought in the early modern era by discussing its operation in previously unexplored, philosophical arenas. The issue of the relationship between image making and thinking has remained a matter of acute importance through the twentieth century and to the present day. Here I am thinking in particular of the debate on visual thinking in contemporary philosophy and the related developments in contemporary art that present art practice as a form of visual thinking. This study of early modern visual modes of thinking through philosophical ideas introduces precedents to more recent practices of visual thinking.

There are two particularly important mechanisms by which the making and study of imagery function as a mode of philosophical thought at this time. First, artists and philosophers use the space of the page to map theoretical relationships. Consequently, I argue that in creating and viewing these diagrams, students and teachers were thinking through the mechanism of spatial constructs. Second, in examining figurative images, I contend that these representations function through the mechanism of visual commentary. Both spatial constructs and visual commentaries are part of a common project of philosophical thinking through visual representation.

What is a “visual commentary”? In his Dictionnaire universel of 1690 Antoine Furetière (1619–1688) offers the following account of commentary:
An interpretation, gloss, addition that one makes to an obscure or difficult author to render it more intelligible, to supplement to that which he has not explained well, or which he assumed was known.14

The Académie française dictionary of 1694 defines a commentary as “an explanation, clarification, observations, and remarks on some author to explain and illustrate his work.”15 It is in these senses that I am employing the notion of visual exegesis.16 I am interested in uncovering the interpretations, explanations, and observations that visual commentaries provide on philosophy. I believe that in the switch from the discursive to the visual, there inevitably is some sort of shift or interpretation of meaning. I refer to these early modern philosophical pictures as “visual commentaries” in order to emphasize that they are not solely illustrating already-extant concepts; rather, they are offering new and enriching “additions” to philosophical ideas.

VISUAL ORDER

Historians of the early modern era have argued that Europeans experienced an “information explosion” between 1550 and 1750, related to a set of factors that included the rising production of printed books, travel and the discovery of new lands, the retrieval of ancient texts, and a passionate interest in gathering information.17 Over the last two to three decades, a new area of cultural history has developed that focuses on institutions of knowledge and seeks to understand how information has been organized and managed in the past.18 Scholars have studied a range of collections and learning aids including reference books, cabinets of curiosities, botanical gardens, archives, and encyclopedias that were employed during the early modern period and earlier to manage an overabundance of information.19 This book introduces visual counterparts to the textual strategies of selection, encapsulation, and recombination employed by Aristotelian and anti-Aristotelian scholars and students in this period.20 Many early modern philosophical images were the products of a particular moment in European history, when a method of transmitting knowledge aimed at optimizing efficiency through the clear presentation of information began to flourish. Although these visual representations helped to organize and transmit ever-expanding fields of knowledge, it is necessary to emphasize that they are not reductive in character. One of the aims of my study is to demonstrate that these images, rather than merely simplifying preexisting philosophical concepts, enrich theoretical knowledge by bringing it into visual form both in combination with words and independently of texts.

THE DOCUMENTS

The documents that are the subject of this study include prints and drawings from student lecture notebooks, alba amicorum (friendship albums), printed books, and broadsides. Most of the works that I discuss were produced in Paris, though I also present materials created in Rome, London, Leuven, Leiden, Halle, Speyer, Braunschweig, Mexico, and elsewhere, and I introduce scholars and artists who visited many of these
places. As prints and drawings were frequently exchanged across and beyond the European continent, I have found it fruitful to write a transnational study of philosophical visual representations.

The thesis prints produced between 1614 and 1618 by Meurisse in collaboration with the engraver Léonard Gaultier (1560/61–1635) are among the most important early modern images of philosophy, and in the chapters that follow I show how their inventive iconography inspired new visualizations of thought in a range of drawn and printed sources. These broadsides are annotated with quotations from the writings of classical and scholastic philosophers; they depict natural entities, landscapes, and architectural structures adorned with figures, animals, and objects. The first, a summary of logic entitled *Artificiosa totius logices descriptio* (Artful description of logic in its entirety), hereafter *Descriptio*, appeared in 1614 (see plate 1). The following year, Meurisse and Gaultier produced the *Clara totius physiologiae synopsis* (Clear synopsis of physics in its entirety), hereafter *Synopsis*, which visualizes Aristotelian natural philosophy (fig. 1). Their third philosophical broadside, the *Laurus metaphysica* (Laurel of metaphysics) of 1616, represents metaphysics; their fourth, *Tableau industrieux de toute la philosophie morale* (Artful table of moral philosophy in its entirety), hereafter *Tableau*, which appeared in 1618, depicts moral philosophy (figs. 2 and 3). In addition, this study devotes considerable attention to a fifth thesis print, entitled *Typus necessitatis logicae ad alias scientias capessendas* (Scheme of the necessity of logic for grasping the other branches of knowledge), hereafter *Typus*, that—as I show in chapter 2—was inspired by the *Descriptio* (see plate 2). Gaultier also engraved this broadside, which appeared in 1622 and was designed by the Carmelite philosophy professor Jean Chéron (1596–1673). Jean Messager (1572–1649) published the thesis prints of Meurisse, Chéron, and Gaultier.

Appendix 1 provides precise measurements of these and other philosophical broadsides, which are all impressive in scale; in fact, many consist of two large sheets of paper that have been glued together. I have included a photograph of the *Typus*, which measures 29.1 × 18.5 in. (74 × 47 cm), juxtaposed with a hand, measuring 7 × 4.3 in. (18 × 11 cm), to convey the monumental dimensions of these prints (fig. 4). Producing these extravagant engravings required a tremendous amount of work and close collaboration among Meurisse/Chéron, Gaultier, anonymous engravers of lettering, Messager, and patrons. The effort and significant cost expended to create these and other philosophical images attest to how highly prints were valued in the study and transmission of philosophy.

The broadsides of Meurisse, Chéron, and Gaultier had a relatively small-scale but international impact on the teaching of philosophy throughout the seventeenth and eighteenth centuries. The *Descriptio*, *Laurus metaphysica*, and *Tableau* were reproduced and translated into English by Richard Dey, a graduate of the University of Cambridge, in mid-seventeenth-century London, while a copy of Meurisse’s *Synopsis* was displayed at the anatomy theater of the University of Leiden by Ottho van Heurne (1577–1652), professor of medicine. Meurisse’s acclaim as a designer of illustrated broadsides was also reported by the Hungarian traveler Márton Szepsi Csombor (1594–1623) in his *Europica varietas* (1620), written, despite the Latin title, in his native language. In May
1618 Csombor arrived in France and soon reached Paris, where he immediately searched for Meurisse: "I was anxious above all else to become acquainted with the celebrated, renowned, and highly intelligent friar, who with great mastery put the entire philosophy course on a[n engraver's] plate."30

Even though these philosophical visualizations had an international reputation in the early modern period, the broadsides of Meurisse, Chéron, and Gaultier have been largely forgotten, and although there is great interest among intellectual historians today in challenges to Aristotelian orthodoxies during the so-called scientific revolution, no major study has focused on the visual documents integral to this epistemic shift. Some intellectual historians have claimed that visual representation was rarely used in Aristotelian scholastic philosophy education and thought,31 aligning the rise of image making in pedagogy and scholarship with the emergence of the new philosophies in the seventeenth and eighteenth centuries. In recent years, a newly emerging and rich body of scholarship has started to explore the frescoes, oil paintings, prints, and drawings relating to the works of anti-Aristotelian philosophers such as Galileo Galilei (1564–1642) and Thomas Hobbes (1588–1679).32 In this book I argue that these studies consider only part of a larger story, and that artworks and the production of visual materials were, in fact, vital in the early modern intellectual movements that embraced and developed Aristotelian thought, as evidenced by the multiplicity of visual representations found among pedagogical and scholarly materials from the period.

It is appropriate that not only the "new" philosophers but also Aristotelian scholastic thinkers made use of pedagogical images, since Aristotle himself employed visual representations when giving his lectures. He mentions a diagram exhibiting contrary vices and virtues in the *Nicomachean Ethics* (2.7, 1107a32–33). Tables are included in the *Eudemian Ethics* (2.3, 1220b36–1221a) and in *On Interpretation* (13, 22a22–31). His biology lectures imply that he made use of anatomical diagrams; and from his other writings it is clear that he employed maps and star charts.33 He also speaks of the manifold uses of drawing in the *Politics* (8.3, 1337b23) and even suggests that it might be included among the standard fields of education: reading, writing, gymnastic exercises, and music. Furthermore, he argues that our primary mode of apprehending the world is through our senses. In *On the Soul* he states, "No one can learn or understand anything in the absence of sense."34 And he holds that no thought is possible without a mental image, or what he refers to as a phantasma; in his treatise *On Memory* he likens the phantasma to a painting or wax impression.35 He asserts that mental images are indispensable to the formation and arrangement of ideas: "When the mind is actively aware of anything it is necessarily aware of it with an image."36 *Phantasmata*, Aristotle argues, play an important role in furnishing us with the raw materials that are necessary for us eventually to grasp the universals that are the starting point for genuine knowledge. It is therefore fitting that not only the anti-Aristotelian avant-garde but also the traditional university-based scholastics made ample use of visual materials.
Meurisse and Gaultier, Synopsis, 1615. Engraving printed on paper, 25.5 × 18.5 in. (64.8 × 47 cm). BnF, Cabinet des Estampes, Paris [AA4].
FIGURE 2
Meurisse and Gaultier, Laurus metaphysica, 1616. Engraving printed on paper, 21.9 × 15.8 in. (55.8 × 40.2 cm). BnF, Cabinet des Estampes, Paris [AA4].
Meurisse and Gaultier, *Tableau*, 1618. Engraving printed on paper, 22.2 × 15.7 in. (56.4 × 40 cm). BnF, Cabinet des Estampes, Paris [AA5]. This impression is flanked by two sheets of paper with Latin translations of the text in the engraving. The Latin sheets are not reproduced here.
One of the primary reasons that the engravings of Meurisse, Chéron, and Gaultier have been neglected is that their specialized subject matter is not the sort that art historians generally tend to be interested in. Additionally, it is likely that historians of art have ignored these works, along with some of the other early modern philosophical visual representations that I introduce in this study, because, as prints, many of these images are not in the most elevated of media. The Roman painter and writer Giovanni Battista Passeri (1610/16–1679) remarked that Pietro Testa (1612–1650) would have been significantly more celebrated had his etching *Il Liceo della Pittura* (c. 1638) been a painting (fig. 5). This work visualizes a program of study for painters that resembled the curricula of university courses on Aristotelian scholastic philosophy. Indeed, those same philosophy curricula also appear in large-format philosophical broadsides, as in the illustrated thesis prints of Meurisse, Chéron, and Gaultier. *Il Liceo della Pittura* testifies to the close connections among the teaching and practice of art and philosophy in this period.

In the seventeenth century French engravers and etchers hovered between the realm of the lowly craftsmen and that of the respected fine artists. This fluctuation can be explained in part by the relative novelty of their profession: it was only with the influx of Flemish engravers in the late sixteenth and early seventeenth centuries that a class of intaglio engravers developed in France. Initially, printmakers were not admitted into the Académie royale de peinture et de sculpture, though some of the academy’s painters also created etchings. The printmaker and writer on art Abraham Bosse (1602/4–1676)—an important figure in chapter 5—was, however, granted an honorary membership. He lectured on perspective at the academy from its founding in 1648 until May 1661, when he was expelled after a quarrel with Charles Le Brun (1619–1690). Three years later, in June 1664, printmakers were permitted to become academicians. François Chauveau (1613–1676) and Gilles Rousselet (1610–1686) were the first engravers to enter the academy in April 1663; that August they were joined by Grégoire Huret (1606–1670) and Pierre Louis van Schuppen (1627–1702). The art of printing by intaglio was officially elevated to the status of a fine art by the Edict of Saint-Jean-de-Luz of May 1660. The decree states that because this medium “depends on the imagination of its authors and cannot be subjected to other laws than those of their genius . . . it has nothing in common with the trades and manufactures.” The king goes on to argue, “To reduce this art to a guild would be to subordinate its nobility to the discretion of individuals insufficiently acquainted with it.” In France, in the seventeenth century, engraving came to be valued as a liberal art, yet it did not attain the level of prestige associated with painting, sculpture, and architecture. These circumstances help explain why these prints have received such scant attention from art historians today.

Early modern philosophical prints and drawings often display a high level of technical sophistication; they were created by noted artists, including Albrecht Dürer (1471–1528), Jacques Callot (1592–1635), Jacob van der Heyden (1573–1645), and Rembrandt (1606–1669). The importance of acknowledging the skill of the artists involved in the creation of philosophical visual representations in this period becomes apparent if one examines a pirated edition of the *Descriptio* held by the Graphic Art Collection of
Neither the engraver's nor the publisher's name is identified in this copy, which appears, because of its lower quality, not to have been executed by Gaultier. The images on the original BRB's impression of the *Descriptio* show greater artistic skill than those in the Princeton University copy (compare, for example, the illustrations of men wearing loincloths, figs. 6 and 7). The *Descriptio* would not have been so effective if Meurisse had collaborated with a less talented engraver. Michel de Marolles (1600–1681), abbé de Villeloin, whose print collection formed the basis of the Cabinet des Estampes of the BnF, describes the diversity of Gaultier's artistic output in his 1674 publication *Le livre des peintres et des graveurs*, recalling the positive reaction inspired by his and Meurisse's thesis prints:
Léonard Gaultier’s somewhat hard style
Nevertheless has its beauty, especially in his portraits;
In his book’s frontispieces, enriched by fine lines,
In the thesis prints of Meurisse, he pleased by means of their form.
He rendered Psyche, the Kings and the Prophets;
In their little frames, his illustrations so beautiful.

De Marolles’s reference to the thesis prints reveals that well after both designer and engraver had died, their prints were still regarded as among the engraver’s most important artistic achievements.

ALLEGORY

This study focuses on works that are at once delightful for their technical sophistication and functional, rooted in very specific scholarly and pedagogical contexts. Their beauty and artistry also tends to serve a purpose: they give pleasure in order to inspire students and scholars to engage with philosophical ideas and questions. Many of these images, like the broadsides of Meurisse, Chéron, and Gaultier, are allegories. Cicero and Quintilian define allegory as an extended or sustained metaphor. Cicero writes, “When there have been more metaphors in a continuous stream, another kind of speech clearly arises: and the Greeks call this ‘allegory.’”

Elsewhere he characterizes metaphor as a simile with “like” or “as” suppressed (Rhetoric, 3.4, 1406b20–1406b23). Homer’s “rosy-fingered dawn,” for instance, could be transformed into the simile “dawn is like rosy fingers.” An allegory, like a metaphor, leads us to comprehend one (or several) thing(s), typically abstract notions or qualities, in terms of another (or others). In the early modern period it was common to apply this notion to visual representations as well as textual ones. For example, the image of a blindfolded woman holding scales and a sword is an allegory of justice, because this image consists of several metaphors. Justice is (like) a blindfolded woman, because she is impartial; she holds scales, because she weighs two sides of a legal dispute; and she has a sword, because she punishes. In short, allegory compounds several metaphors. A visual allegory is a concrete image or set of images standing for an abstract meaning, which by its nature cannot be perfectly visualized. Does this mean that allegorical visual representations can only lead us into error in philosophical discourse, as Oyseau proclaimed? Or is this precisely why they are so enriching?

Before the eighteenth century, across all forms of art this genre was considered to be one of the most effective modes of representation, because of its capacity to transmit notions of central importance to large audiences. It was valued precisely because of its utility. Counter-Reformation propaganda was one of the most important forces that gave allegory its vitality. Speaking in very general terms, with the demise of a commonly accepted set of fundamental beliefs and myths and the associated rise of scientific
in his *Salon of 1767*, for instance, vehemently criticizes allegory as an outdated mode of representation:

> I'll never change my mind, I'll never cease to regard allegory as the expedient of a weak, sterile mind, one that's incapable of turning reality to account and so calls allegory to the rescue; the result being a jumble of real and imaginary beings that offends me, and compositions suitable for Gothic times rather than our own.\(^48\)

Despite these pronouncements, his *Encyclopédie* greets readers with an elaborate allegorical frontispiece.\(^49\) In *Truth and Method* (1960) Hans-Georg Gadamer remarks on the demise of allegory and functional art: "From the moment art freed itself from all dogmatic bonds and could be defined as the unconscious production of genius, allegory inevitably became aesthetically suspect."\(^50\) This suspicion is manifest to a certain extent in the *Lectures on Fine Art* of the 1820s, in which Hegel (1770–1831) describes "cold and frosty allegories... in which we cannot believe," because they are lacking in "concrete individuality."\(^51\) Eighteenth- and nineteenth-century attacks on allegorical art promoted the notion that art should meet sensory, as opposed to didactic, criteria.

There was a renewed interest in the rehabilitation of allegory in the early twentieth century among thinkers like Walter Benjamin (1892–1940) and Erwin Panofsky (1892–1968). In his attempt to restore the original power to this aesthetic category, Benjamin writes, "Allegory... is not a playful illustrative technique, but a form of expression, just as speech is expression, and indeed, just as writing is."\(^52\) In appreciating artworks produced before the 1800s, we would do well to be aware of the ways in which our understandings of the criteria that art should satisfy have shifted over time. Allegory must be taken seriously if we wish to understand important developments in intellectual and aesthetic thought in the early stages of the "scientific revolution."

**THE PLURAL IMAGE**

I will now say something about the formal arrangements of early modern visualizations of philosophy, since the structures of these images are closely related to their allegorical and didactic operations. In order to grasp the formal syntax of the philosophical visual representations at the core of this book, we must note a few basic features of the organization of diagrams. Although they are less artistically sophisticated than the images that are the focus of this study, medieval and early modern diagrams can help us to understand the laws governing the form of early modern philosophical images. First, diagrams often employ geometrical idioms to express concepts pictorially. Second, they tend to combine visual representations with letters or text. A cursory glance at the broadsides of Meurisse, Chéron, and Gaultier allows us to discern both of these features. All five broadsides juxtapose word and image, and in the *Descriptio*, for instance, the fountain in the bottom half of the print recalls the shape of a circle; as is explained in chapter 2, it presents viewers with a sequence of notions that are conceptually linked, without being shown in a hierarchical arrangement. The broadside also makes repeated use of rectangles to order...
concepts across the space of the page. And in the Synopsis different types of change are visualized in a half circle at the bottom of the print; this geometric shape also facilitates the grouping of a series of items into a conceptual unit but does not show them in a stratified organization.

A third, critical feature of diagrams is that they use the pictorial space to exhibit relationships. Philosophical stemmata, which are among the most popular philosophical visual representations of the Middle Ages and early modern period, for instance, map out the constituent parts of a single concept, moving from the general to the particular. They typically begin with one notion shown at the top or left side of the page; below or to the right of this concept is a bracket that points to two or more constituent elements; these in turn are subdivided by brackets into more parts; and so on. Stemmata clearly portray the activities of the mind in breaking down a question or problem. Their greatest virtues include their functions as powerful summaries and ways of showing different sorts of relationships. A broad range of early modern thinkers employed this species of diagram. The German humanist Rudolphus Agricola (1444–1485) outlines philosophical concepts with stemmata, as does the French humanist Christofle de Savigny (1530–1608) in his Tableaux accomplis de tous les arts liberaux, and the Swiss physician and humanist scholar Theodor Zwinger (1533–1588) in his Theatrum vitae humanae. The Dutch humanist professor Cornelius Valerius (1512–1578) created broadsides with stemmata summarizing logic, moral philosophy, and rhetoric that he referred to as Anacephaleseis. In 1635 Meurisse also authored a booklet composed of twenty-nine stemmata pertaining to the cardinal virtues. Booklets consisting only, or almost entirely, of stemmata became popular tools for students, who would employ these teaching materials to organize their thoughts and memorize the precepts of Aristotelian scholastic philosophy. Stemmata can also be found in the works of anti-Aristotelian thinkers, and they were often, though not exclusively, employed by Peter Ramus (1515–1572) and his followers. Hobbes integrates a foldout stemma of dichotomies into the Leviathan; the Italian scientist, founder of the Accademia dei Lincei, Federico Cesi (1584–1630) produced highly detailed stemmata of the natural world.

Diagrams, like rotae and stemmata, transmit ideas onto the pictorial space through a combination of words and simple shapes that show conceptual relationships in clear ways. Sometimes these relationships are hierarchical; at other times they are affiliations of equivalency or of opposition. They allow viewers to grasp at a glance how a subject or concept can be divided into its parts, and how its parts relate to one another and the whole. The individual sections of diagrams cannot be fully appreciated when seen in isolation from the rest of the diagram; they gain their significance and meaning from their location within the image’s system. Conceptual relationships hold diagrams together, create their unity. The artist-philosophers discussed in this book adopt features of schematic diagrams into their more complex works, which convey philosophical ideas by composing visual commentaries with allegorical representations. Like diagrams, the early modern philosophical visual representations that I introduce are organized by intellectual relationships. They function as effective teaching aids, in part because it is conceptual relationships that dictate their formal arrangements. They are, however, often far more intricate than most medieval diagrams and are perhaps best compared to a combination
of multiple geometric diagrams and figurative representations. Indeed, an engraving like the Descriptio juxtaposes a circle with a number of rectangles and figures to express philosophical relationships and interpretations.

In addition to examining the question of how visual representations function as instruments of knowledge in early modern pedagogical and scholarly contexts, with this project I explore changes in the unity and coherence of prints and drawings of philosophy over the course of the early modern period. Most European paintings and works of architecture produced between 400 CE and 1400 are organized into discrete, individual parts or images that combine to create a heterogeneous whole.\textsuperscript{60} In many premodern artworks, from altarpieces to façades to ivory caskets, images are never isolated but always juxtaposed with other images that contribute to their meaning.\textsuperscript{61} The façade of Amiens Cathedral (c. 1220–1235) is an example of this kind of compound artwork (fig. 8). It contains distinct parts or visual representations that are bound into a system with other visual representations. Throughout this study, I use the term “plural image” to refer to a work that features this segmented mode of organizing space into multiple images that are linked by conceptual affiliations.\textsuperscript{62} I show how in the context of philosophical thought and instruction plural images continue to be made well into the eighteenth century—far longer than in other areas of artistic production, where, as noted above, they grow out of fashion around 1400. The peculiar formal organization of the Synopsis, for example, maintains a strong kinship with the structure of diagrams as well as medieval works, like the façade of Amiens Cathedral (see fig. 1). The images on the façade and within the Synopsis are located next to other images; the meanings of none of the pictures in either of these plural images can be fully appreciated when they are seen in isolation. Like the parts of a diagram, the individual images in the façade and the Synopsis acquire their meaning in large part from their location in the network of images that surround them.

The conception of space in prints such as the Synopsis or in medieval works such as the façade of Amiens is fundamentally different from the modern model of the “singular image,” or “tableau.” The singular image is independent and isolated; by contrast, the pictures in a plural image cannot, as argued above, be understood fully when seen in isolation. Tableaux are defined by their tendency to show a single moment in time, a cohesive space, and a coherent action. The visual “field” in a tableau is joined together into a homogeneous whole through the implied presence of a fixed observer. Charles Perrault (1628–1703) wrote in his \textit{Parallèle des anciens et des modernes} of 1668 that only modern artists, or people living in his period, brought figures together “avec entente” or with agreement.\textsuperscript{63}

The Synopsis and other plural images do not strive for the same form of unity as one finds in singular images. The entities and objects of the Synopsis are related to one another through intellectual hierarchies and connections, not unlike those mapped out by diagrams or in the façade of Amiens. A synthesis is created in plural images like the Synopsis through theoretical associations within the philosophical content that is represented in its particular images. The synthesis is primarily conceptual. The distinction that I am drawing between plural images and singular images is of course artificial, and some works contain elements of both genres. A plural image, like the Descriptio, which presents a bird’s-eye view of a garden, for instance, shows a relatively cohesive space. Yet

\textbf{Opposite Figure 8}
when we examine it in chapter 2 in greater detail, it will become apparent that its organization is not driven primarily by a desire to re-create a homogeneous, verisimilar picture of the world; rather, its form is designed to convey above all else conceptual relationships in Aristotelian scholastic logic. A singular image is often designed to be taken in at a glance, or, if it is more complicated, traversed in any order, though it is common for the viewers' eyes to be nudged in certain directions. A plural image usually demands to be traversed in a prescribed order, which relates it to the activity of reading texts. Hence it is particularly well suited to be integrated with texts, placed on a written page, and the like.

As emphasized above, whereas in most European artistic contexts, the plural image is gradually replaced by the tableau around 1400, in philosophical and pedagogical contexts, plural images continue to be made well into the eighteenth century. To add a further layer of complication, the formal arrangements of French philosophical thesis prints, a focus of much of this study, have a slightly different chronology from other philosophical pedagogical images. As I show in chapter 1, speaking in general terms, most philosophical illustrated thesis prints before the third decade of the seventeenth century in France are plural images, whereas thesis prints produced after the mid-1630s tend to be unified tableaux, although there are of course exceptions. A thesis print designed and made by Chauveau in 1652, for instance, for philosophy students at the Collège de Clermont in Paris features a unified composition that brings the figures together in a cohesive whole (fig. 9). One of the aims of this project is to chart the ways in which the genre of the philosophical plural image rises and falls in popularity in the early modern period.

Because the thesis prints of Meurisse, Chéron, and Gaultier are so different from most other surviving illustrated thesis prints produced later in the century, it is helpful to identify these highly idiosyncratic works with the genre of the philosophical plural image, in addition to the genre of the thesis print. I will now introduce a few other philosophical plural images that are not thesis prints but shared many of the uses that I ascribe to the broadsides of Meurisse, Chéron, and Gaultier in the pages that follow. The Ordo universi et humanarum scientiarum prima monumenta (The order of the universe and first memorials of the human sciences), hereafter Ordo universi, is one of the oldest philosophical broadsides that was already linked in the early modern period to the engravings of Meurisse and Gaultier (fig. 10). The doctor and philosopher Andrea Bacci (1524–1600) designed the Ordo universi in 1581 in collaboration with the engraver Natale Bonifacio (1538–1602). Bacci, who was granted the chair of botany at the Gymnasium Romanum (also known as the Sapienza) in 1567, conceived of this plural image as a pedagogical aid to help his students understand the relationships among God, the cosmos, and man. The broadside aims to organize information across the space of the page in a clear format that would assist students to grasp and to memorize natural philosophy in its entirety. It is possible that it inspired the similar, though less detailed account of cognition drawn on a man's profile in the Utriusque cosmi . . . metaphysica, physica atque technica historia (A metaphysical, physical, and technical account of both worlds), hereafter Cosmi historia, of 1617–21 by the English physician and polymath Robert Fludd (1574–1637) in collaboration with the engraver Matthäus Merian (1593–1650) (fig. 11).

Although Philander Colutius (d. 1627) began teaching at the Gymnasium Romanum in Rome only in 1603, one year after Bacci's death, it is more than likely that he saw
his *Ordo universi*. Colutius might therefore have been inspired to create his own logic teaching aid, the *Logicae universae typus* (Scheme of universal logic), in collaboration with Cristoforo Bianchi (fl. 1592–1619), partly by the success of Bacci and Bonifacio’s print, which was reissued in numerous editions (fig. 12). In his dedication of the *Logicae universae typus* to Pope Paul V (1552–1621), Colutius describes logic as the most difficult and intricate branch of philosophy: “There is no part of Philosophy, most blessed Pope, nothing written in Aristotle that is so difficult and so complex as what is commonly
called logic, over which even Aristotle admits to have sweated in disputes." He explains that he pondered for a long time how to present this difficult field of knowledge to his students, before ultimately deciding to employ a visual aid. In addition to revealing that his broadside was meant to function as a teaching aid, Colutius flatters his powerful patron: "I am aware that this endeavor is owed at the same time to your holiness, . . . let not, I ask, the greatest of men look down on the insignificant work of an insignificant man." Colutius also created a second illustrated broadside, entitled *Physica seu naturae theatrum in typum totius philosophiae naturalis* (Physics or the theater of nature, according to the scheme of natural philosophy in its entirety), hereafter *Physica*, in 1611, dedicated to Cardinal Scipione Borghese (1576–1633), the art patron and nephew of Pope Paul V (fig. 13).
This work, which summarizes natural philosophy with a rich combination of word and image, features busts of ancient Greek philosophers positioned on a multileveled stage in a three-tiered colonnaded theater. As in the Roman Colosseum, Colutius's theater features Doric columns in its lowest tier, Ionic columns in its second, and Corinthian columns in its highest. The sole surviving impression, held by the HAB in Wolfenbüttel, is dated September 1, 1611. Matthäus Buschweiler (fl. 1611–1620) is cited on this impression as either its engraver or, more probably, its publisher. The Wolfenbüttel impression of the Physica is difficult to decipher and littered with errors. It is possible that the lettering of the first, now lost, edition of this broadside was executed with greater accuracy and skill, although early modern authors did not always proofread their works before they went to press. This first edition of the Physica might therefore have functioned as a more effective pedagogic aid.

The Physica and the Ordo universi appear to have been associated with the broadsides of Meurisse and Gaultier already in the seventeenth century: Dey, the translator of the Descriptio, Laurus metaphysica, and Tableau, also produced English-language editions of the Physica and Ordo universi. Because of their formal and functional similarities to the broadsides of Meurisse, Chéron, and Gaultier and the seventeenth-century associations among these works, I believe that we should view these broadsides as belonging to a distinct genre, the philosophical plural image.

Antecedents

Precursors to early modern allegorical plural images of philosophy can be found in a range of different media. Perhaps the most important antecedents are the immaterial images created by practitioners of the ars memorativa (art of memory). This book aims to expand our understanding of the art of memory as it relates to both artistic and philosophical education during this period, complementing works on the subject by Frances A. Yates, Paolo Rossi, Mary Carruthers, Lina Bolzoni, and others. Aristotle argues that mental images are indispensable to memory: “Memory even of intellectual objects involves an image.” In addition, he contends that recollection is aided by regularity: “Things arranged in a fixed order, like the successive demonstrations in geometry, are easy to remember, while badly arranged subjects are remembered with difficulty.” These ideas concerning mental images and order were already central to the memory technique formulated many years earlier by Simonides (c. 556–468 BCE). The pre-Socratic Greek lyric and elegiac poet was said to have argued that practitioners of the art of memory should learn systems of knowledge by memorizing a series of locations in a prescribed order, which they would then associate with mental images of the information they wished to commit to memory.

The representational techniques employed in early modern philosophical plural images are closely related to the art of memory: these works feature frameworks onto which are projected text and image representing philosophical ideas in carefully arranged orders. Printed plural images and imagined memory images both feature fractionalized organizations of space. And most philosophical plural images, like memory images, are designed to be read in a particular order; in some cases this is linear in one direction along the page, and in others it involves more complicated progressions through
the contents. These prints dictate the ways in which they are to be read by their arrangement of concepts and representations of space and architectural and natural structures. This mode of contemplation is analogous to movement along a route or path through the broadside. Indeed, in some plural images figures walk along paths. The metaphor of reading as motion along a path is best understood with reference to the rhetorical concept of *ductus*, recently defined as “the way by which a work leads someone through itself.”

Chirius Consultus Fortunatianus, who is believed to have been Augustine’s contemporary, first described this notion in his textbook on rhetoric. *Ductus* denotes a composition’s “flow,” the way the composition leads or conducts its viewer through its stages. For all these reasons, early modern philosophical plural images can be interpreted as material translations of mental mnemonic compound images.

In addition to the immaterial plural images produced through the art of memory, there are also many material works that can be identified as medieval precedents to the early modern plural image. The ensemble of reliefs that decorates the bottom area of the *campanile* of the Florentine cathedral is one such premodern allegorical plural image: it shows theoretical knowledge and craft traditions that contribute to the prosperity and redemption of humanity through a variety of scenes and personifications on the faces of the tower. The reliefs—conserved today in the Museo dell’Opera del Duomo in Florence (the *campanile* now features copies after the originals)—were designed and executed in the fourteenth century by Andrea Pisano (1290–1348) and workshop sculptors, and may also have been designed in part by Giotto (1266/67–1337). Shown within lozenges on the south face, for instance, are the theological virtues of Faith, Charity, and Hope, as well as the cardinal virtues of Prudence, Justice, Temperance, and Fortitude (fig. 14). Below, relief sculptures in hexagonal frames show Gionitus, who was said to have been the first astronomer, and the mechanical arts of construction, medicine, horsemanship, and weaving, as well as Phoroneus, who was believed to have invented law, and the famed craftsman Daedalus. The lozenges and hexagons that contain these images are all enclosed within rectangles that separate the scenes from one another, while combining them into an orderly, regular grid. The space of this plural image is compartmentalized. These reliefs form a compound image that offers a clearly ordered vision of the relationship of parts of a system to one another and to the whole.

The illuminated manuscript entitled *Augustine and the Allegory of Knowledge*, which was created by Niccolò da Giacomo (c. 1325–c. 1403) around 1360–70 for the *Lectura super digesto novo* of Bartolus of Sassoferrato (1313–1357) is another intricate premodern allegorical plural image (fig. 15). Augustine (354–430) sits near the top of the central, vertical axis of this work. Principal biblical characters and philosophers are assembled to his right and left; these include Moses and Saints Paul, John the Evangelist, and Jerome, as well as Aristotle, Plato, Socrates, and Seneca. Although these figures, like Augustine, are rendered naturalistically, they do not inhabit a single, coherent space. The personifications of the virtues, vices, the *trivium* and *quadrivium* below, as well as the figures in the thirty-five rectangles that frame the top half of the image and depict scenes from Augustine’s writings, do not form a single, harmoniously accordant composition. Annotations distributed throughout the work further obstruct the spatial unity of the illumination.
Another compelling plural image is *The Triumph of St. Thomas Aquinas* by Andrea di Bonaiuto (1346–1379), which was painted between 1366 and 1368 on the western wall of the chapter house (now referred to as the Spanish Chapel) of Santa Maria Novella in Florence (fig. 16). The fresco shows an oversized Thomas Aquinas (1225–1274) enthroned in the central, vertical axis of the composition, drawing the observer’s focus immediately to the Dominican friar. Near and below the celebrated theologian are personifications of the liberal arts, the theological sciences, the seven gifts of the Holy Spirit, the *quadrivium*, the *trivium*, civil and canon law, the virtues, and ancient theology, as well as exemplars of different fields of learning, including Plato, Cicero, Euclid, St. Augustine, Pythagoras, and Donatus, prophets from the Hebrew Bible, and various other biblical figures, saints, and scholars.

It is probable that distinguished members of the Dominican order helped create this plural image, giving di Bonaiuto detailed instructions. Di Bonaiuto is not, however, mechanically executing the inventions that scholastic theologians explained to him. Rather, he is also thinking through the practice of making art by developing pictorial strategies to explore the structure and limits of theoretical knowledge and the force of divine influence. At the apex of the fresco’s frame, Christ bends forward from the quadrilobe that surrounds him and projects into our space. This illusionistic device signifies his reach into our world, as well as his protection of Thomas Aquinas. Equally thoughtful is di Bonaiuto’s rendering of the spatial isolation of the heretical thinkers Arius (c. 250–336), Averroes (c. 1126–1198), and Sabellius (fl. c. 215), who sit at Thomas’s feet with

![Figure 14](image-url)
their backs to one another, and who are significantly smaller than him and his colleagues. The platform on which these men are perched projects away from the wall and forward into the space of the viewer, obscuring the sculptural decorations of the two chairs below Thomas.86 Whereas the vast majority of figures in the painting sit upright, the heretics are hunched over. They retreat into their own beings to hide from the world; they are physically and spiritually defeated and isolated. The fresco’s message is clear: whereas we should emulate Thomas and the thinkers around him, we must not fall into the spiritual and intellectual traps set up by these heretics.

FIGURE 15
da Giacomo, *Augustine and the Allegory of Knowledge*, c. 1360–70. Painted vellum, the full page measures 18.1 × 11 in. (46 × 28 cm). Biblioteca Nacional de España, Madrid [197, fol. 3r].
The most famous precursor to early modern philosophical plural images is the Stanza della Segnatura, which was painted in the Vatican palace by Raphael (1483–1520) between 1508 and 1511 (fig. 17). This room’s complex organization of space features an overlap of what I have argued was originally a medieval spatiality with the newly emerging, unified space of perspective. The fictive mosaics that adorn the room’s ceiling are compound images, in which the subjects of philosophy, theology, poetry, and law are represented through personifications in medallions and through scenes that explore notions pertaining to each discipline. In juxtaposing the perspectival space of the School of Athens, which like the other wall frescoes might be understood as a unified tableau, with the heterogeneous images of the ceiling, as well as the library’s neo-Cosmatesque pavement, the room as a whole is structured as a sort of a multidimensional plural image. Yet, as noted earlier, the distinctions between tableaux and plural images are not hard and fast. Despite its use of perspective, even the School of Athens is not fully a tableau, as its meaning is drawn largely from its positioning in relation to the other wall frescos and ceiling images in the Stanza.

One may ask at this point, why is there a movement toward the homogeneous, singular image in early sixteenth-century frescoes like the School of Athens and not in the
philosophical prints and drawings produced over a century later? One of my aims in this project is to uncover the ways in which formal arrangements unfold in different ways depending on the media and contexts in which they materialize. In the contexts of prints and drawings produced for strictly pedagogical and scholarly purposes, the desire for a homogeneous unity emerges later than in certain other media and contexts. When examined closely, the transition from medieval to early modern modes of image making is considerably more asynchronous and messy than art historians might care to admit. Whereas we can already see this desire for unity in the School of Athens or, for instance, the independent and complete landscapes produced by Albrecht
Altdorfer (c. 1480–1538) in the early sixteenth century, it is only in the third decade of the seventeenth century that it emerges in the context of French thesis prints, and in the eighteenth century that it develops in some pedagogical and philosophical visual representations.\(^{87}\)

“The point about genre,” writes Michael Baxandall, “is that it has responded to and conventionalizes within itself, however tacitly, much about the purpose and effect of the work of art it subsumes.”\(^{88}\) It is likely that this desire for unity appears later in these philosophical contexts because the structures of these visual representations are determined largely by their use. Because these works are instruments of knowledge, it is intellectual relationships and not aesthetic ones that dictate their mode of organization. They help the mind to see, to understand, and to remember philosophy by showing viewers how they might picture concepts internally. Because the didactic operations of these works are so critical, they are organized by relationships among immaterial ideas, rather than being structured by conventional modes of capturing a verisimilar viewpoint of nature. In order to engage with these plural images, viewers must understand how they are bound together. Viewers synthesize these images in their minds, not by recognizing a single reality depicted in the picture, but rather by understanding their conceptual connections and unity.

**WARS OF RELIGION AND PHILOSOPHY**

In *The Massacre of Paris*, a play written by Christopher Marlowe (1564–1593) around 1592, the Duke of Guise denounces Ramus for propagating the use of stemmata of dichotomies in the practice of philosophy:

> He that will be a flat decotamest,  
> And seen in nothing but Epitomies:  
> Is in your judgment thought a learned man.\(^{89}\)

Ramus defends himself:

> I knew the Organon [that is, Aristotle’s logical writings] to be confusde.  
> And I reduc’d it into better forme.\(^{90}\)

Marlowe’s dialogue emphasizes the controversial nature of the philosophical diagrams recommended and employed by the Huguenot convert. Ramus continues by attacking the “blockish” scholastic philosophers at the Sorbonne, who “Attribute as much unto their workes, / As to the service of the eternall God.”\(^{91}\) Whereupon the Duke of Guise orders his stabbing, so that he can be sent “to his friends in hell.”\(^{92}\) Ramus was indeed murdered during the St. Bartholomew’s Day massacre of 1572.

I am recounting this violent scene from *The Massacre of Paris* because I would like to stress that an attack on Aristotelian philosophy in early modern France, especially one launched by a Protestant thinker, was often interpreted as an attack on the Catholic church and state. For hundreds of years, Aristotelian scholastic philosophers had labored to reconcile Aristotle’s positions with the tenets of theology; as a result, to go against
Aristotle was to go against the church and state. In the aftermath of the religious wars of the sixteenth century and the assassination of Henri IV (1553–1610), the French state and Catholic church grew wary of anti-Aristotelian ideas, which they feared could undermine their authority, as they typically associated its advocates with those of Protestant positions. By the early 1600s, there had already been centuries of debate as to how Aristotle’s ideas should be understood, and a variety of different schools of interpretation had developed.93 Professors of philosophy in late sixteenth- and early seventeenth-century Paris believed it their calling to explain Aristotle’s ideas to their pupils, rather than to delve into the criticisms of his writings formulated by Ramus and others.94 With the support of the Paris Parlement and the Catholic church, the University of Paris protected the dominance of the Aristotelian tradition. In an effort to control the doctrinal content of classes offered outside its walls, the university required all students who wanted to be considered for theology bachelor’s degrees to present their philosophy notebooks to the Faculty of Theology.95 Similarly, before it was brought to the printer, a thesis print needed to be approved by numerous officials, who upon signing the document became responsible for its content. It was illegal to alter a thesis print once it had been signed.96 The prints of Meurisse, Chéron, and Gaultier are all marked with the words “Cum privilegio Regis,” or “Avec privilège du Roi” (With the privilege of the King), to indicate that the authors had received official approval for their publications.97

In August 1624 Étienne de Clave, Jean Bitaud, and Antoine de Villon (1589–after 1647) distributed a thesis print with fourteen theses attacking Aristotelian doctrines.98 After the Faculty of Theology formally denounced a number of the theses, the three were prohibited from teaching within the jurisdiction of the university and were expelled from Paris. On September 4 of that year the Paris Parlement forbade anyone “on pain of death to sustain or teach any maxims against the ancient and approved authors, or to undertake any disputation other than those that will be approved by the doctors of the said Faculty of Theology.”99 The Parisian authorities condemned the theses of de Clave, Bitaud, and de Villon on the grounds that they were formulated primarily to attract attention and create scandal, rather than to serve as serious conduits to productive intellectual debate.100 The writer and novelist Charles Sorel (1602–1674) offers further insights into why the thesis print caused such a stir:

Every day when there are debates in the colleges in philosophy classes, although the opinions of this Philosopher [that is Aristotle] are contradicted, it can be said that this is an exercise, and that the debate is always concluded in his favor. Instead Villon aimed to make Aristotle lose his debate. . . . This is why he was banned from defending the theses.101

One of the banned theses attacked Aristotle’s theory of matter and form, which had dangerous theological implications. The mathematician, philosopher, and Minim friar Marin Mersenne (1588–1648) explains, “If there is no form and no matter, then man has neither body nor soul, something contrary to the belief of the Catholic faith.”102 The controversial thesis print survives, and it includes no imagery.103 This episode is nevertheless important to the present study, as it highlights the stakes involved in attacking Aristotelian philosophy in this period and context.104
The state and church continued to fight against new philosophies as the century progressed and Cartesianism gained increasingly in influence. In 1671 the archbishop of Paris François Harlay de Champvallon (1625–1695) issued a decree from Louis XIV (1638–1715) to the University of Paris urging them to ban “certain opinions” (certaines opinions) that “could bring some confusion into the explanation of our mysteries” (qui pourroit apporter quelque confusion dans l'explication de nos Mysteres). In response, the Faculty of Theology passed a decree in which professors were instructed not to teach new doctrines. Although the decree did not explicitly cite René Descartes (1596–1650), it was his brand of anti-Aristotelian philosophy that gave the king cause for concern.

The teaching of philosophy was regulated at other universities in Europe as well. The 1567–68 and 1639 statutes of the University of Leuven, for instance, specified that the curriculum should adhere to the writings of Aristotle. No official regulations by the university pertaining to the changes of 1658 have survived, and an official document of reforms may never have been drafted. Conspicuous allegiance to the new philosophies of Descartes, Nicolaus Copernicus (1473–1543), and other anti-Aristotelian thinkers could lead to punishment in Leuven as in Paris. A controversy arose in 1691, for instance, again around the publication of an anti-Aristotelian thesis print. The document in question was written and defended by Martin-Etienne van Velden (1664–1724), royal professor of mathematics, who was suspended twice. In July 1691 the renowned scientist Christiaan Huygens (1629–1695) wrote to his brother about van Velden’s plight to ask for his assistance:

[Van Velden] recently published and defended theses in which not only does he advance the opinions of Descartes and the mobility of the earth in accordance with the Copernican system, but he also discusses somewhat freely the uselessness of the scholastic philosophy, which some of these ancient doctors could not endure, [and] they have therefore accused him before the apostolic nuncio, who is in Brussels, in order to make him intervene with the Rector of the University to imprison our Philosopher, who could thus become a martyr of the Cartesian doctrine. . . . See, I beg you, if there is a way to do something for him.

Challenges to Aristotelian philosophies were considered very threatening at the Universities of Leuven and Paris, even as new theories were growing in popularity outside the walls of these institutions. As in the case of the controversial 1624 thesis print mentioned earlier, what interests me about van Velden’s thesis print is the way in which the history surrounding this document enables us to see the dangers that could ensue from opposing Aristotelian philosophy. Following Copernicus in arguing against the stability of the earth and its centrality in the cosmos, for instance, caused concern, as it was thought to contradict the biblical account. At the University of Leuven, Cartesianism at last gained a surer foothold toward the end of the seventeenth century. Similarly, at the University of Paris, the dominance of Aristotle and his scholastic interpreters in the field of natural philosophy began to wane in the 1690s.
The political and religious stakes associated with philosophy in this period are reflected in a tendency throughout the seventeenth century to link philosophical discourse with military action.\[^{116}\] Not only did the titles of many scholastic books feature militant symbolism, but authors also replaced the neutral verbs of previous generations, such as *reiicitur* (it is rejected) or *contradicitur* (it is contradicted) with more aggressive and combative terms, including *convelluntur* (it is uprooted / dismembered / shattered), *destruitur* (it is demolished), and *exarmatur* (it is deprived of arms / disarmed).\[^{117}\] In a similar vein, many philosophical visual representations feature images of battle, drowning heretics and sophists, and students falling off cliffs. The comparison of philosophical discourse with warfare is most obviously exhibited in the *Logicae universae typus* by Colutius and Bianchi (see fig. 12). This plural image, which I discuss in chapter 2, features the iconography of a defense tower with a procession of soldiers loosely divided into ten groups that correspond to Aristotle’s categories. Although analogies of war with philosophical debate could also be ways of enlivening materials for students, these militaristic philosophical images draw our attention to the seriousness with which professors and scholars took the question of whether or not one supported Aristotelian ideas.

**CHAPTER SUMMARY**

Chapter 1 explores the ways in which visual representations both succeeded and failed as instruments of knowledge. It opens with an account of a dissertation about methods of learning with mnemonic printed images that appeared in a revised edition in 1731 and was authored by Siegmund Jacob Apin (1693–1732). The first part of this treatise refers to key pedagogical visual representations of the sixteenth and seventeenth centuries, including the works of Jan Amos Comenius (1592–1670), Johannes Buno (1617–1697), Andreas Vesalius (1514–1564), and Leonard Fuchs (1501–1566). Among the philosophical prints discussed by Apin are the illustrated thesis prints of Meurisse, Chéron, and Gaultier. In the second part of the dissertation, Apin presents criticisms of mnemonic images. Apin’s dissertation allows us to appreciate both the early modern interest in epistemological visual representations and some of the reasons for the demise of the philosophical plural image over the course of the 1700s.

In chapter 2, I discuss the *Descriptio*, the *Typus*, and the *Logicae universae typus* (plates 1 and 2 and fig. 12). These engravings depict entire systems of philosophical knowledge in a comprehensive manner and a hierarchical format, by showing, on a single page, how individual elements of the system relate to the whole. My analysis shows how these plural images are organized by conceptual relationships; their unity is primarily theoretical. The chapter also mentions philosophical plural images in the logic textbook of Johann Justus Winkelmann (1620–1699), which was first published in 1659 and appeared again in 1725. Winkelmann’s visual representations combine details of the earlier plural images and show how this genre continued to be employed in the teaching of philosophy well into the eighteenth century. The ideas of Aristotle’s logic held sway for over two thousand years, until the work of Gottlob Frege (1848–1925). Whereas much scholarship on the “scientific revolution” focuses
on discontinuities and ruptures, in this chapter and chapter 4, I examine the prolonged and relatively stable dominance of Aristotle in the field of logic in the context of universities.

Chapters 3 and 4 explore manuscripts produced by philosophy students from the Universities of Paris, Leuven, and elsewhere to demonstrate the rich and varied roles of visual representation in Aristotelian and anti-Aristotelian philosophical learning in this period. I focus on seventeenth- and eighteenth-century lecture notebooks that contain hand-drawn illustrations, in addition to printed imagery inserted between pages. The prints and drawings in these documents interact with the text to represent complex ideas in ways that aided students in practicing the art of memory, organizing the subject matter they studied, and deriving rich interpretations of philosophical material. Among the images found in these student notebooks are original etchings by and drawings after prints in Callot’s *Balli di Sfessania* (c. 1621–22), *Capricci di varie figure* (1617–22), and *Varie figure gobbi* (1616). In chapter 3, I focus on the question of how images structured students’ engagement with philosophical lessons. I explore the strategies these visual representations employ to order philosophical materials in students’ notebooks.

Chapter 4 turns to the notebooks of seventeenth- and eighteenth-century students of logic in Paris and Leuven to demonstrate further the ways in which visual representations, including diagrams of the Porphyrian tree and the square of opposition, along with allegorical and figurative illustrations, were critical in the teaching and development of Aristotelian scholastic philosophy. In addition to looking at logic lecture notes, I discuss the visual representations of *alba amicorum*. The chapter also explores the role of humor in the illustrations in student notebooks and friendship albums.

Chapter 5 studies how early modern thinkers understood the connection between the generation of art and the generation of philosophical understanding. I argue that in this period the generation of mental representations was understood through practices of artistic production, and that the notion of generation itself was central to philosophy. In the first section I explore descriptions of cognition that compare thinking to the creation of artistic works. I discuss the accounts of a broad range of artists and scholars, including Dürer and Willibald Pirckheimer (1470–1530), Bosse and Girard Desargues (1591–1661), Descartes, and others to show how constant the association between artistic generation and mental generation was in this period. The chapter’s second section examines the celebrated frontispiece to the *Leviathan* that Bosse created in collaboration with Hobbes. I argue that previous accounts of the frontispiece have failed to capture the full complexity of this etching, and I offer a new, if complex, account of this famous image—one that emphasizes the process of the state’s generation. Artists and philosophers invested significant amounts of time and money in the creation of philosophical visual representations, and we must take these contributions to their thought seriously if we wish to understand their ideas in all their complexity and richness.

This book concludes with two appendixes. The first offers a catalogue of known surviving impressions of some of the most important early modern philosophical broadsides. It presents locations and shelfmarks of these plural images and notes the people involved
in their production. Where possible, the appendix mentions their dates and sites of creation, offers measurements, and observes whether the broadsides consist of one or two sheets of paper. It also cites broadsides that are now lost. The second appendix provides complete transcriptions of the texts of these broadsides.

The interaction of images with language organizes in a fundamental way the whole history of art in Europe. It is not just philosophical plural images (such as certain illustrated thesis prints or frontispieces) that are structured by this image-language interaction; rather, all premodern art in Europe involves language, even if script is not literally present. Most images created before 1800, and certainly all artworks in the more prestigious genres of that period, are incomprehensible without a reference to a text, such as the Bible, Ovid, or Tacitus, regardless of whether that text is literally inscribed onto the visual representation in question. Modern art can be seen as an attempt to sever this connection of images with language. In other words, visual representations produced after about 1800 replace the art that tells traditional stories or visualizes ideas usually expressed in writing with one that captures the individual experience of a genius, an attempt that can never succeed completely, because all awareness has linguistic character. This project focuses on philosophical visual representations to impart an aspect of this larger narrative. The rise and decline of the philosophical plural image is also a story of the demise of language in the organization of visual representations.