

III Thinking Visually



Thinking Visually

Imagination played several roles in the production of knowledge through prints. René Descartes, drawing on ancient concepts, described imagination as “a way of thinking” that combines reason with sense perception to produce mental images. Among the oldest uses of images were memory aids, a role transferred to the print medium. For example, the constellations on celestial maps enabled people to remember and spatially locate stars by figures of ancient gods, beasts, and objects. The reproducibility and mobility of prints also made them ideal for teaching the tenets of Christian doctrine to people encountered during the European conquest of other continents. For Europeans, too, the visual imagination gained in importance as both artists and their audiences relied on images to depict the peoples, flora, and fauna of faraway continents, often combined into fantastical allegories. With the advent of the seventeenth century, thinkers came to view imagination and sensory perception as faculties beneath that of pure reason. Still, Descartes found it necessary to illustrate his own work with numerous prints. Moreover, imagination gained new importance in literary circles as a way to structure not only thoughts but also feelings and social relationships. The prints in this section showcase their extraordinary ability to imbue knowledge through mental images. Thinking visually, however, is essential to the act of making and viewing any image. We therefore encourage our viewers to keep in mind the power of the visual imagination while looking at other prints in this exhibition.





3.

Adriaen Collaert
Flemish, c. 1560-1618
After Maarten de Vos
Flemish, 1532-1603

Asia

In Adriaen Collaert, *Four Continents* series, Antwerp, 1588-89

Engraving

Harvard Art Museum/Fogg Museum, Gift of Belinda L. Randall from the collection of John Witt Randall, (R13561)

Adriaen Collaert was born in Antwerp around 1560, into the family of master engraver Hans Collaert, who likely apprenticed him in his own workshop. At the age of twenty Adriaen was registered as a master in the Guild of St. Luke in Antwerp and with time took on his own apprentices and began to work as an independent print publisher. Adriaen's sons and grandson would

continue on in the family profession, forming a veritable dynasty of print makers, publishers and dealers.

As a draughtsman and engraver, Collaert was often hired to execute designs made by others and his first important commission was to create the engravings for Gerard de Jode's *The Seven Planets*. De Jode also

requested the younger Collaert to be the engraver for his subsequent project, a series of *The Four Elements* after drawings by Maarten de Vos.¹ De Vos was also the designer of the allegorical series of *The Four Continents* to which this print belongs, which Collaert not only engraved himself but also published, a sign of a developing professionalism and knowledge of the market. The four prints of Africa, America, Asia and Europe appeared in Antwerp in 1588-89, entering into a long tradition of visual allegories that depicted seasons, planets, vices, virtues and other abstract or distant concepts in the guises of women and men engaged in various activities.

Unlike de Mongenet's globe gores (see catalogue no. 5), or Valadés's visual exegesis of biblical episodes (catalogue no. 4), these allegorical prints of the continents did not pretend to be scientifically accurate nor did they aspire to convey a truth. Rather, they conflated a number of elements that a sixteenth-century European viewer would have understood to be representative of the given continent. Thus Africa, considered to be wild and exotic, is personified as a nude seated on a crocodile before an array of tropical flora and fauna, an Egyptian obelisk noticeable in the distance.

Collaert's vivid engraving of Asia depicts a young woman sitting on the back of a kneeling camel, swathed in fantastical dress that conflates antique, oriental and European elements. In her hand she holds a thurible, or censer, from which emanate



Adriaen Collaert, *America*, from *The Four Continents* series, 1588-89, engraving

clouds of incensed smoke, perhaps because myrrh and frankincense were primarily imported from the eastern Mediterranean and the Middle East (the region now known as the Republic of Yemen). On the right-hand side of the print Collaert depicted a variety of animals indigenous to Asia, including elephants, camels and in the distance, a rhinoceros. Incongruously, a giraffe also forms part of the menagerie, even though it is a species indigenous to the African continent. On the left side the Ottoman army, synonymous with the encroachment of the Orient onto Christian Europe since the Siege of Vienna of 1529,² clashes with an unknown enemy force. The tents of the Ottoman camp, known for their opulence and highly coveted in Europe as war booty, are visible in the background. A fantastic landscape with rocky promontories and a distant castle frame Asia and the inscription on the bottom of the print reads:

Powerful because of the vastness of her terrain and her abundant wealth,
On the back of a shaggy camel resides the spectacular nymph of Asia:
Who triumphs by virtue just as Europe triumphs by force,
She alone is deservedly victorious with respect to her feminine form.³

Even though both Asia and Europe are personified as women (as are all four of the continents), in this



Adriaen Collaert, *Europa*, from *The Four Continents* series, 1588-89, engraving



Adriaen Collaert, *Africa*, from *The Four Continents* series, 1588-89, engraving

text Asia is described as the weaker, feminine one of the two, giving primacy to Europe's domination of the known world. Africa and America are intrinsically corporeal and sensuous in their nudity, however their completely exposed female bodies are also markers of their purported savageness. Although powerful, these nudes contrast with the elaborately dressed continents of warlike, Christian Europe (who "triumphs by force") and intellectual, virtuous Asia, and are meant to be seen as inferior to them. It is further telling that while Asia, Africa and America all reside on animals typical to their domains, Collaert depicted Europe perched imperiously atop a sphere – the earth. Perhaps serving as a reminder to European viewers, the battle scene in the print of Asia stands for the perpetually incursive threat that the Ottoman Empire presented. Already in control of large portions of the Balkans and Hungary, it was as

forceful a menace as anything Europe was able to muster at that time.

By encoding information in this compact, allegorical form, Collaert allows the viewer to process knowledge about abstract concepts, regardless of how general and stereotypical this knowledge may be. Much like the memory aids that Diego Valades's Franciscan companions used to teach the Latin alphabet to Mexica Indians (see catalogue no. 4), where each letter of the alphabet stands as the referent to a common object that is reminiscent of it in shape (e.g. a slim column visually references the letter I), Collaert's print is a collection of multiple references (the frankincense thurible, fauna, flora, the Ottoman army and the orientalized dress of the figure) that have only one shared referent: the concept of Asia. Allegories such as this one were a hugely popular element of the visual print culture of the early modern period, inspiring the imagination to envision otherwise unattainable concepts.

Adam Jasienski

¹ Ann and Marjolein Leesberg Diels, "The Collaert Dynasty," *New Hollstein Dutch & Flemish etchings, engravings and woodcuts, 1450-1700*, v. 15 part VI (Oudekerk aan den Ijssel: Sound & Vision Publishers; Amsterdam: in co-operation with the Rijksprentenkabinet, Rijksmuseum Amsterdam, 2005-2006), 36-38.

² Jan K. Ostrowski, *Land of the Winged Horsemen: Art in Poland 1572-1764: Catalogue of the Exhibition* (New Haven: Yale University Press, 1999), 70.

³ Translation is my own:

Nympha potens spatij terrarum et divite censu,
 Hirti Asiae dorso residet spectanda cameli:
 Quae, virtute velut Europa virisque triumphat,
 Femineis merito palmam fert unica formis.



4.
 Diego Valadés
 Mexican, (c. 1533-1582)
*Crucifixion scene with a Friar Instructing a
 Group of Indians*
 Engraving
 In Diego Valadés, *Rhetorica Christiana*
 [Christian Rhetoric], Perugia: Petrus Jacobus
 Petrutius 1579
 Houghton Library, Harvard College Library,
 Gift of John B. Stetson, Jr., 1935
 (Typ 525. 79.865)

Diego Valadés was the son of a conquistador who had been a member of the expedition of Pánfilo de Narváez to Florida and who later settled and married in the city of Tlaxcala, a powerful indigenous community located approximately 70 miles from Tenochtitlan - Mexico City. Born to an indigenous mother, Valadés was therefore a *mestizo*, and as such was enrolled in the Franciscan Colegio de Santa Cruz de Tlatelolco in Mexico City, which was intended primarily for Indian nobility. He excelled in his studies to the degree that the friars pushed for his ordination as a Franciscan priest, apparently hiding his mixed blood status from their superiors in Europe (ordination of Natives was not explicitly forbidden until 1555, but was infrequent and discouraged prior to that date). He spent most of his life teaching at the Colegio and participating in evangelizing missions to the northern Chichimeca Indians.¹

Valadés was called to Europe to serve at the seat of the order in Rome, and while in Italy he published his book, *Rhetorica Christiana*. In it he sought to adapt ancient methods of rhetoric to the teaching of religious doctrine to the indigenous people of the Spanish colony of New Spain. In the preamble to the work he wrote: “The purpose of this work is that we might be the Lord’s preachers, instruments of his divine benignity and trumpets of Jesus Christ. And in order that we might achieve this goal with greater ease we shall demonstrate the art of cultivating the memory, fancied by all for so long.”²

The recurring and overarching concern throughout the work with the conscious use of artificial memory and visual imagery is precisely what distinguishes Valadés from many contemporary writers on rhetoric. Valadés, much like his ancient predecessors Cicero, Quintilian or the anonymous author of the Roman treatise *Rhetorica ad Herrenium*, discusses the use of mentally created

loci, or places and *imagines*,³ translated as images or likenesses essential to the act of learning and memorization (see catalogue no. 6). For example, Valadés presents two methods of familiarizing the Indians with the Roman alphabet, both of which make use of such *imagines*. On one sheet, each letter of the alphabet is set in its own frame and paired with an object of daily use that is similar to the shape of that letter. A thick branch with two twigs protruding from its top part stands as a mnemonic aid to remember the letter F, while an open compass with the legs facing downwards is a representation of the letter A. The next sheet presents a similar visual alphabet, but here the letters are phonetically associated with familiar sounds that are conjured up by looking at images of objects. For example, the letter B is paired with an illustration of an object, the name of which in the indigenous Nahuatl language begins with a sound like that of the letter B. To learn the alphabet, then, one must conduct an imagined trek through a mnemonic landscape that is filled with a procession of reference-laden objects, remembering first the sequence of objects and then the letters that those objects refer to. The assumption that it is easier and more efficient to remember concrete objects with abstract referents than abstract concepts themselves developed out of the Aristotelian theory of association as expounded in his *De memoria et reminiscencia*,⁴ a popular source for memory theory among early modern scholars.

The book has over twenty full-sheet prints and a handful of smaller ones, most likely designed by Valadés himself, which serve to demonstrate and convince the reader of the efficacy of visual imagery. Not only does the reader see up close the types of images that Franciscan friars used to teach the Indian populations in New Spain, but the images also serve as an important tool in Valadés's argument about the convincing power that images carry, in this case appealing to the reader, and not the Indian, about the veracity of Valadés's claims.

These two prints from the *Rhetorica Christiana* relate strongly to the method of teaching with images and the mnemonic mapping and visualizing that follow it. In the first print, the friar catechizes his Indian audience (stylized in an antiquating, Roman manner) with the help of large painted *lienzos* or canvases that depict many of the essential



Diego Valadés, *Franciscan Preaching the Passion of Christ to a Native Audience with the Aid of Illustrated Screens*, engraving, in Diego Valadés, *Rhetorica Christiana* [Christian Rhetoric], Perugia: Petrus Iacobus Petrutius, 1579, Houghton Library (Typ 525 79.865)

dogmas of the Catholic faith.⁵ Valadés claims that this method was especially effective with Mexican audiences for whom meaning was traditionally conveyed through pictorial glyphs rather than alphabetical text. The Indians were therefore especially fertile subjects for the use of visual imagery as a tool for teaching.⁶

He writes: “Since the Indians lacked letters, it was a must to indoctrinate them by means of illustrations; therefore the preacher uses a pointer to show them the mysteries of our redemption so that later, repeating them in their minds, these (mysteries) may be better engraved into their minds.”⁷ Here, the doubly significant word *grabado*, or engraved, refers both to the physical role of the artist engraving a copper plate with his tools to produce a

print, and the mental task that the viewer of that same print undertakes in incising the image it conveys into the very matter of the brain.

Once the friar has explained a particular biblical event or concept and the Indians have looked upon the painted or printed image that depicts it, engraving it into their minds, it is possible for them to enter that scene by means of imagination. The second print provides a striking comparison with the previously discussed image from the same book, because here the friar, group of natives, and with them the viewer, have been transported directly into the space of one of the biblical scenes explained in the earlier print. A crucifixion scene, stylistically close to northern European prints from this period, takes up most of the image. In the lower left corner the friar, much smaller than the biblical protagonists and yet sharing their space, makes the same gesture as in the first print, but rather than pointing at a printed or painted image, he points at an event that is “real”. The Indians, their gazes

directed towards the crucifixion, express amazement at being participants in this biblical scene.

Adam Jasienski

¹ Don Paul Abbott, *Rhetoric in the New World: Rhetorical Theory and Practice in Colonial Spanish America* (Columbia: University of South Carolina Press, 1996), 44.

² René Taylor, “El Arte de la Memoria en el Nuevo Mundo”, *Iconología y Sociedad: Arte Colonial Hispanoamericano, XLIV Congreso Internacional de Americanistas* (Mexico City: Universidad Nacional Autónoma de México, 1987), 47. Translation from Spanish mine.

³ Taylor, 48.

⁴ Taylor, 52.

⁵ Linda Baéz Rubí, *Mnemosine Novohispánica, Retórica e imágenes en el siglo XVI* (Mexico City: Universidad Nacional Autónoma de México, 2005), 289.

⁶ Taylor, 68.

⁷ Taylor, 74. Translation from Spanish mine.



5.
 Unknown artist
 After François de Mongenet, attributed
 French, d. <1592
Gores for a Celestial Globe, possibly Rome, 1577-1585
 Engraving
 Houghton Library, Harvard College Library, Liechtenstein Map Collection (P*51-2542 PF (horz))

These six globe gores—segments making up the globe's surface—represent only half of the twelve fragments that were to be cut, dampened, stretched and pasted onto a sphere to make a representation of the celestial bodies and their arrangement in the sky. The difficulty of representing a spherical surface on a flat piece of paper was overcome by

early globe makers with the innovation of this particular layout, in which each gore covers thirty degrees of longitude. Nonetheless, in order to fit the curve of the sphere, the design of the gores required some geometrical adjustments and distortions.

The idea of producing prefabricated pieces of paper was first introduced at the turn of the sixteenth century, when the printing process stimulated the design of a variety of printed instruments; printed gores quickly replaced the more expensive manuscript gores, as well as globes made of engraved brass or silver.

Since printed celestial globes such as this one were traditionally sold paired with terrestrial spheres of the same dimension, one could surmise that an earth globe matching de Mongenet's celestial globe existed (now probably lost). When combined and mounted on a stand with a number of accessories, including a movable meridian ring, a fixed horizon ring, and an hour circle, the pair of globes could have been used as educational instruments to demonstrate time-dependent phenomena and to solve astronomical and cosmological problems. Even though they are often regarded simply as maps, and thus studied mainly for their cartographic content, globes were also widely used as problem-solving devices, often being preferred to two-dimensional representations for their ability to facilitate the spatial understanding of the relationship between celestial and terrestrial spheres.¹ Celestial globes, in particular, enable the unseen universe to be imagined and visualized, presenting a system of representation and nomenclature of stellar patterns: in other words, they allow it to be perceived and thought by visual means.

Unlike a map, a globe can turn, and such a dynamic dimension is indeed crucial for understanding this form of representation. According to Ptolemaic theory, the daily motion of the stars originating in the *primum mobile*—the outermost of a series of concentric, earth-centered spheres—can be easily represented by moving the celestial globe from east to west around the axis of the world, whereas the annual orbit of the sun around the earth is indicated by the ecliptic, the great circle drawn on both globes. On the engraving, the ring of the twelve zodiacal constellations lining the ecliptic is singled out by printing their Latin names in capital letters and by the corresponding astrological symbols. The two points of intersection between the ecliptic and the equator mark the vernal and autumnal equinoxes, while the two smaller circles, the Tropics of Cancer and Capricorn, trace the daily motion of

the sun at summer or winter solstices respectively. Conventionally, the vernal equinox is the point of reference from which the division of the zodiacal band into twelve equal segments begins. In antiquity it fell between the signs of Pisces and Aries, but because of a phenomenon called precession—the movement of the earth's polar axis around the fixed ecliptic poles—which causes the progressive variation of the coordinates of the fixed stars, the vernal equinox is depicted on the map in the border zone between Pisces and Aquarius (between the eleventh and the twelfth gores), as it recedes several degrees each year, moving counterclockwise along the zodiac belt. Consequently, the depiction of stars on a celestial globe is not valid for all times, as the epoch for which the stars are plotted is necessarily specific and limited. While the constellations drift apart due to precession and take up varying widths of the ecliptic, the zodiacal signs are fixed, designed to represent one twelfth of the full circle each. It is thus important to distinguish them from the actual constellations they are meant to represent and symbolize, since the zodiac signs we refer to as points along the ecliptic do not match up—in the sixteenth century as today—with what can be seen through the telescope.

The main function of constellations is to define both the different groups of stars in the sky and the location of a single star within a group, and to render them easily recognizable. Even if many of these figures had been associated with Greek mythology, their precise origin is unknown, and their attributes may vary. In this globe, for instance, the constellation of Boötes (on the sixth gore) shows a man holding a staff in one hand and two leashed dogs in the other, a detail missing from both Gerard Mercator's globe (1551) and Dürer's celestial map (1515). In the engraving, the constellation of Acarnar (on the twelfth gore) and the one of Antinous (on the ninth gore) have been added to the traditional catalogue of forty-eight constellations found in Ptolemy's *Almagest* of the second century AD. The inclusion of these newly recorded constellations reflects the Renaissance tendency to add new constellations to the canonical Ptolemaic list and also to deviate from the standard designs: the figure of Acarnar, for example, appears for the first time on a 1536 map by Petrus Apianus, in the form of a swimming maiden, rather than the

generic male connotation it assumes here (see catalogue no. 10). Nevertheless, the globe strictly follows other conventions regarding the representation of constellations, such as the so-called rule of Hipparchus (II century BC), according to which the human figures are shown from behind, as if they were facing the surface of the Earth, looking down from above.

The engraving does not include any inscription, date, or signature.² Attribution to de Mongenet³ is based on the close resemblance of the constellation figures to the celestial globe the cosmographer produced between 1561 and 1578, a refined creation of minute dimensions, now considered the point of departure of a non-Mercator tradition recognizable in several manuscript gores. These printed globe gores reflect the four conspicuous traits that have been recorded as distinctive of this alternative tradition,⁴ some of which were described above: the presence of a legend explaining the scale used to represent the magnitude of the different celestial bodies (on the third gore), the inclusion of the constellation of Antinous and the absence of Coma Berenices, the depiction of Acarnar as a male youth, and the attributes of the two dogs which characterizes the figure of Boötes.

Francesca Borgo

¹ On this topic see also: Elly Dekker, "Globes in Renaissance Europe" in *Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007), 135-159.

² The unidentified episcopal code of arms presented on the eleventh gore could at a future date provide a better contextualization of this celestial globe. See also Ena L. Yonge, *A Catalogue of Early Globes made prior of 1850 and conserved in the United States* (New York: American Geographical Society, 1968), 95; Rodney W. Shirley, *The Mapping of the world. Early printed world maps 1472-1700* (London, 1987), 106, 120.

³ On Francois de Mongenet see Edward Luther Stevenson, *Terrestrial and Celestial Globes* (New Haven: Yale University Press, 1921), 147-150; M. G. Marcel, François de Mongenet. Geographe Franco-Comtois, in *Bulletin de Géographie historique et descriptive*, 1889, 31-39.

⁴ Elly Dekker, "Conspicuous Features on Sixteenth Century Celestial Globes", in *Der Globusfreund*, nr. 43/44, 1995, 77-97; Eadem, "The De Mongenet Tradition in Globe Making," in *Globes at Greenwich*, ed. Elly Dekker (Oxford: Oxford University Press / Greenwich: National Maritime Museum, 1999), 69-74. The Collection of Historic Scientific Instruments at Harvard University owns a pair of de Mongenet's celestial and terrestrial globes, signed and dated (nn. 1997-1-2060a, 1997-1-2060b). These gores – Mongenet's first version of 1552 – were probably conserved as single-sheet woodcuts until the nineteenth century, when they were assembled in their present form, on two wood globes.



“The poem belongs to the one who composes it, not to the translator”: these words were used to stigmatize the Venetian polymath Ludovico Dolce¹ and his frequent appropriation of literary texts written in Latin, which he translated into Italian and presented to the public as his own work. The *Dialogo della Memoria* [Dialogue on Memory],² first published in Venice by the Sessa press in 1562, perfectly attests to this practice: the book derives from an adaptation of Johannes Horst von Romberch’s *Congestorium artificiosae memoriae* (Venice, 1522), an influential manual on the art of creating and preserving memory. Nevertheless, this severe judgment fails to recognize the creative and original aspects of Dolce’s translation. Not only did he transpose the original Latin treatise into classicizing dialogue form - thus producing a fluid, didactic book - he also expanded the text to include explanations of technical terms, and replaced certain cryptic examples with new references to the contemporary Venetian context that his reading

6. Unknown artist
Places of Memory Arranged as a City View
 Woodcut
 In Ludovico Dolce, *Dialogo della memoria* [Dialogue on Memory], Venice: G. B. Sessa e fratelli, 1586 (first edition 1562)
 Boston Medical Library in the Francis A. Countway Library of Medicine
 (BF383 .D 68 1586)

public could immediately understand, thereby making the book accessible to a much wider audience. However, the creative work carried out by Dolce on the text is not mirrored by an equal effort with regard to the illustrations; all twenty-three of the anonymous woodcuts presented in the dialogue are in fact taken, without even minimal re-elaboration, from the edition of the *Congestorium* published in Venice by Melchiorre Sessa in 1533. Since the woodcut plates already belonged to the Sessa press, it probably seemed expedient to reuse them for all three editions of Dolce’s book. The dialogue takes place between an old instructor, named Hortensio, and a young law student, Fabritio, who asks for advice on how to retain for a longer time the notions he has memorized. The stimulus for the discussion is thus a very practical matter: as Hortensio explains, memory tends to slip away if it is not helped by art, nullifying all our study; concluding the instruction, the dialogue ends with Fabritio’s satisfaction and hope of soon gaining his doctor’s degree, in order to get ready to

hold forth in court. Along with an initial theoretical background, specific recommendations are made: Hortensio plans to teach to the student the ancient and mnemonic method known as the system of loci or topics, described in the influential rhetorical treatise *Ad Herennium*, attributed to Cicero. According to this work, memory can be trained and reinforced by a combination of two distinctive steps: the memorization of a series of places - *loci* - arranged in an orderly fashion, and the location inside these “memory rooms” of several mental images - *imagines agentes* - associated with the elements to be remembered.

The woodcut shows a view of a walled city, which can be accessed from a tower gate located in the lower left corner of the image. Inside the walls, arranged on four horizontal levels, are depicted civic and religious buildings, houses and shops (some of them identified by an inscription in capital letters) with doors and windows opening onto their interiors and objects to be sold: arms, books, animals. This space is structured in terms of a mnemonic, rather than perspectival, ordering system: instead of conforming to the laws of illusionistic representation (the few perspectival hints provided do not direct the eye to a single vanishing point, nor to a single vanishing axis), mnemonic landscapes like this one restrict the interaction of figures, which appear as if set on a stage as devices to activate memory. According to this logic, the “printed space” of the city is not intended as an extension of real space, but instead understood within a temporal dimension: the images of houses and shops are not signs that imitate objects, but signs that make concepts present by recalling them from memory.

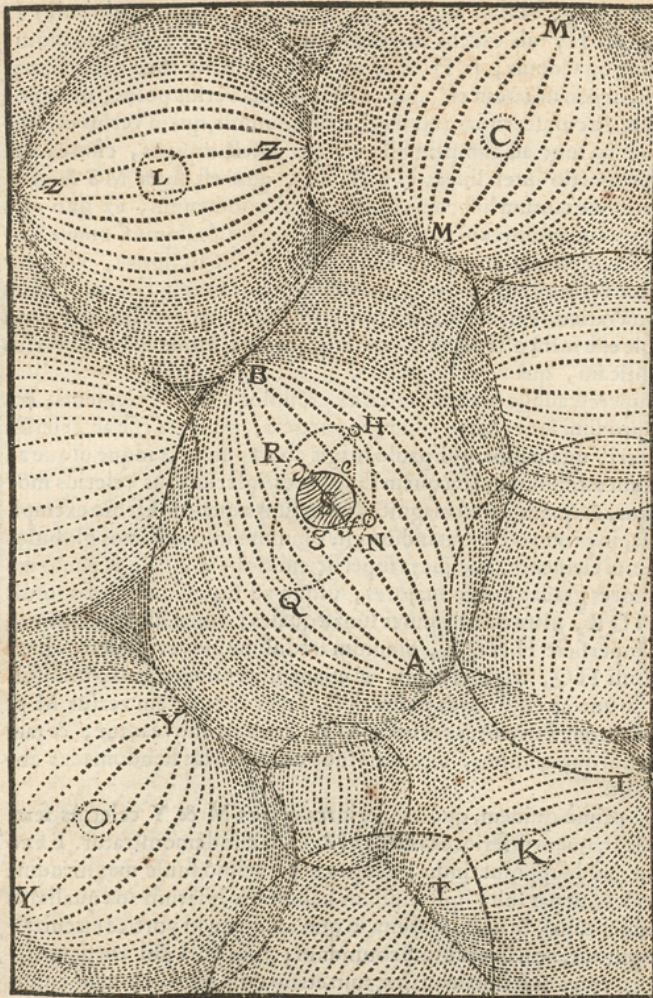
The Topical System works through a double process: imaginary places guarantee the sequence by which the data is stored, whereas images themselves give to the to-be-memorized notion the efficaciousness of a visual presence. The ‘three-dimensionality’ of the mnemonic system allows the student to ‘pass through’ these mental places in an immersive, almost physical way, by visualizing an ambulatory space in which he can move to retrieve specific concepts. While the *imagines agentes* presented by Dolce in his dialogue are always concrete, real and detailed, the *loci* he suggests tend to be abstract and imaginary: apart from places chosen from reality (buildings and cities,

continents, animals, parts of the body as well as constellations), Dolce proposes more fantastic locations, such as features of hell, the sky, paradise and purgatory. A simple combination of consonants and the five vowels are also useful to order ideas: the buildings on the woodcut depicting the places of memory arranged in a city view are indeed disposed according to this alphabetical sequence. Entering through the city gate and proceeding in a clockwise direction, the student will first find an abbey (Abatia), immediately followed by a barbershop (BARbitonsor), an armoury (BELLator), a library (BIBliopola), a butcher’s shop (BOvicida) and a cowshed (BUbulcus). In the woodcut, each *locus* is identified through a metonym that univocally identifies it (books in the library, cows in the cowshed, and so forth) in order to increase the variety of this urban landscape and render it more memorable. The images contained in the book do not simply illustrate the text, but represent concrete examples of the kind of mental places Dolce recommends to train memory.

Francesca Borgo

¹ On Dolce see Ronnie H. Terpening, *Ludovico Dolce, Renaissance Man of Letters* (Toronto: University of Toronto Press, 1997). The harsh remark comes from the humanist Girolamo Ruscelli, Dolce’s competitor and critic, who attacked Ludovico’s translation of Ovid’s *Metamorphoses*, his edition of the *Decameron*, and the *Osservazioni della lingua vulgar* in his *Tre discorsi di Girolamo Ruscelli, a M. Lodouico Dolce* (Venice, P. Pietrasanta, 1553).

² See the modern edition of the dialogue: Ludovico Dolce, *Dialogo del modo di accrescere e conservar la memoria*, ed. Andrea Torre (Pisa: Scuola Normale Superiore, 2001); Santiago Arroyo Esteban, “Memoria de Ludovico Dolce en la Biblioteca Histórica Marqués de Valdecilla,” in *Pecia Complutense*, 7 (12): 108-134; on the art of memory see Frances Amelia Yates, *The Art of Memory* (London: Routledge and Kegan Paul, 1966); Lina Bolzoni, *The Gallery of Memory: Literary and Iconographic Models in the Age of the Printing Press*, trans. Jeremy Parzen (Toronto: University of Toronto Press, 2001).



7.

Frans van Schooten the Younger

Dutch, 1615-1661

Whirlpools of Matter, 1644

Woodcut

In René Descartes, *Principia philosophiæ*
[Principles of Philosophy], Amsterdam:

Cornelis Blaeu, 1685 (first edition 1644)

Houghton Library, Harvard College

Library, Gift of David P. Wheatland, 1992

(*FC6.D4537.644pi)

The philosopher René Descartes (1596-1650) wrote: “it often happens that in order to be more perfect as an image and to represent an object better, an engraving ought not to resemble it.”¹ This map of the cosmos, with the sun (S) located in the center, therefore depicts the distribution of matter and the forces, the way the cosmos works, rather than its physical appearance. It is in other words more akin to a pictorial model than a mimetic depiction. The map explains Descartes’ theory of vortices, which postulates that the cosmos is filled with matter that circulates in whirlwinds around centers identified as stars or suns. These vortices are depicted as stippled circles around the letters K, L, O and C. Other letters, such as A and B, indicate magnetic poles. Pictorial perspective, seen in the stippled curves that run from pole to pole, is for Descartes an example of the virtue of the imperfect

resemblance in pictures, since circles are often represented by “ovals better than by other circles.”² In the text, Descartes indicates the map’s pictorial limitations. He notes for instance that there are many more vortices that could not “be conveniently represented in this figure, because they must not all be imagined in the same plane.”³ Although Descartes, unlike Isaac Newton (1642-1727), was unable to account for the details of planetary and lunar motion, the theory of vortices was quite influential until the middle of the eighteenth century and made its way into several celestial maps of the time.⁴

Descartes regarded his *Principles of Philosophy* as a magnum opus encompassing his whole philosophical system, including both metaphysics and physics. This map appeared in the third

section, which deals with the workings of the universe based on Cartesian physics. Frans van Schooten the Younger (1615-1661) designed the woodcut illustrations, but his collaboration with Descartes was not limited to the creation of images. Frans translated and edited many of Descartes' works and was an important mathematician in his own right, the teacher of Christiaan Huyghens (1629-1695). He was also descended from a distinct family of artists. Himself a minor artist, Frans made one of the few portraits of Descartes taken from life. Joris van Schooten (1587-1651), the brother of Frans, was the most important portrait painter in Leiden at the time and the teacher of Rembrandt van Rijn (1606-1669). Descartes' collaboration with artists is important especially with respect to his theory of optics. Descartes' interest in perspective, anamorphosis, and the *camera obscura* is documented.⁵

However, Descartes also left some remarks on printed imagery, which indicate that he considered the function of prints for human thought comparable to the imaginative faculty. For Descartes, imagination consists of the formation of mental images, "a way of thinking specially suited for material things," that connects reason to sense perception.⁶ Just like engravings, these images function even better if they do not completely resemble the objects they represent in every respect. It is enough if our mental imagery represents the most salient aspects of the object so that we understand its working. For Descartes, engravings function analogously to this aspect of the imaginative faculty, since they can represent "forests, towns, people, and even battles and storms" by means of only "a little ink placed here and there on a piece of paper."⁷ Indeed, this imaginative map allowed Descartes to visualize the entire cosmos.

Although imagination for Descartes facilitates understanding, it is itself "not a necessary constituent of the essence of the mind"⁸ (as opposed to understanding). Nevertheless, not only did Descartes illustrate his works with woodcuts such as this map, these woodcuts are integral elements that are necessary to understanding his theories. Throughout the text Descartes points to specific elements of the pictures by means of the letters with which these are labeled. Repeating the same

illustrations multiple times throughout the text further facilitates the ease of comparing text and image. The images are especially important in conveying geometrical information that is all but impossible to describe precisely in words, such as relative locations, proportions, and geometric spatial configurations. This accords with Descartes' assertion that imagination plays a part in mathematics but not in physics.⁹ Descartes' map indicates that mathematics forms part of how we understand the physical cosmos.

Descartes' use of illustrations is often unacknowledged in scholarship. This is due in part to the philosopher's own insistence on pure reason, but also to a large degree to the fact that the illustrations in all modern editions of Descartes' work are invariably placed at the end of the text, disturbing the interdependence between text and image that Descartes and his printers envisioned.¹⁰ When we think of seventeenth-century Holland as the "great printing press of France," we generally think of texts and the free exchange of ideas.¹¹ Yet Descartes and his Dutch peers were actively involved in the illustration of their publications. Constantijn Huygens (1596-1687), for instance, suggested that Descartes illustrate his works with woodcuts rather than engravings, maybe because woodcuts were cheaper and easier to insert in printed type. He also suggested that the illustrations must be spread throughout the text rather than gathered at the end. The latter arrangement, says Huygens, would subject the reader to a bewildering experience similar to that of a bird flying through a forest of trees.¹² On the advice of his Dutch colleague, Descartes tried to avoid precisely this painful experience that is continuously imposed on the modern reader. The modern disdain for the illustrations in Descartes' works is therefore anachronistic and misguided.

Jasper van Putten

¹ Cited in Brian S. Baigrie, "Descartes's Scientific Illustrations and 'la grande mécanique de la nature,'" in Brian S. Baigrie, ed., *Picturing Knowledge: Historical and Philosophical Problems Concerning the Use of Art in Science* (Toronto: University of Toronto Press, 1996), 122.

² Ibid.

³ René Descartes, Briar Reynolds (transl.), *Principles of Philosophy* (New York: Edwin Mellen Press, 1988), 51.

⁴ Marc Lachièze-Rey, Jean-Pierre Luminet, *Celestial treasury: from the music of the spheres to the conquest of space* (Cambridge, UK: Cambridge University Press, 2001), 34-36.

⁵ Stephen Gaukroger, John Andrew Schuster, John Sutton, *Descartes' Natural Philosophy* (London; New York: Routledge, 2000), 481-481

⁶ Cited in: John D. Lyons, *Before Imagination: Embodied Thought from Montaigne to Rousseau* (Stanford: Stanford University Press, 2005), 1.

⁷ Cited in: Baigrie, 122.

⁸ Cited in: Ann Scholl, *Descartes's Dreams: Imagination in the Meditations* (New York: Peter Lang Publishing, 2005), 103.

⁹ Baigrie, 120.

¹⁰ Ibid, 87.

¹¹ John Morley, *Rousseau* (London: Chapman and Hall, 1873), 57

¹² “la peine de l'oiseau, qu'on dit travailler a percer les arbres, et en faire tant de fois le tour, pour veoir s'il a passé” Huygens to Descartes 28 Oct 1635; Cited in Dennis Des Chene, *Spirits and clocks: machine and organism in Descartes* (Ithaca, NY: Cornell University Press, 2001), 74, note 5.



8.
 François Chauveau
 French, 1613-76
Carte de Tendre [Map of Affection], 1654
 Engraving and etching
 In Madeleine de Scudéry, *Clélie, histoire romaine*, Vol. 1, Paris: A. Courbé, 1654
 Houghton Library, Harvard College Library, Amy Lowell Fund, 1975 (*75-193)

This map of the imaginary Land of Affection is an influential cartographic depiction of friendship. The original map circulated in the *Société du Samedi*, a literary salon gathered around Mademoiselle de Scudéry (1607-1701), in whose ten-volume novel *Clélie* the engraved version was published.¹ It was initially conceived as a group project to chart the relationships of society members to Scudéry. Initiates began their journey in the bottom at the place labeled “New Friendship.” From there they chose between three different paths to Affection. One could take the route of esteem east of the river to end up in “Tendre sur E[stime]” or take the route of gratitude over the west bank to “Tendre sur R[econnaissance].” The third route of *inclination* represents spontaneous affection and took the traveler by river straight to “Tendre sur I[nclination].” The places along the way represent the emotional states of the travelers and

conventions of friendship. Anticipating the board games that became popular in France somewhat later, the map was conceived as a tool to teach aristocratic virtues to the bourgeois members of the salon.²

François Chauveau, the artist who designed the engraving that appeared in the first volume of Scudéry’s *Clélie*, has only recently attracted scholarly attention.³ Chauveau, who was one of the most prolific, and well-respected engravers of his time, made some 3000 engravings and etchings.⁴ He illustrated many works of literature and became the favorite illustrator of romances of the so-called *précieux* and *précieuses*,⁵ a literary movement that originated in the early seventeenth century around the orbit of the Marquise de Rambouillet. The *précieuses* – the more influential, female branch of the group – were often characterized as proto-

feminist. The *Map of Affection* exemplifies the subtle emotional palette combined with witty language games that characterizes *précieuse* literature. It is also visual record of the female authority of Scudéry, who remained firmly in charge of the collaborative process centered on her person.⁶

Its publication in *Clélie* lent the map an afterlife far beyond the *Société du Samedi*. The novel, set in ancient Rome, tells of the noblewoman Clélie who is about to marry her beloved Aronce. The couple is separated before the marriage by a long chain of events that takes them throughout Italy. Although set in antiquity, *Clélie* deals with issues of love and friendship that were important for the *précieuses*. We can imagine that the map originated from a discussion similar to that in the novel, since many of its events are loosely based on actual events.⁷ Clélie introduces it as follows: “Maybe you imagine . . . that it is only a short walk from New Friendship to Tenderness [Affection]; that’s why, before you start out, I will promise to give you the map of this country even though Aronce believes it is uncharted”⁸ This discussion reveals the prevalence of cartography in the seventeenth century, since one could even imagine that friendship exists as a land that is charted.

However, the *Map of Affection* does not conform to contemporary cartographic conventions, which defined space as measurable and unified in a grid of longitudes and latitudes. Instead of measuring physical space, the *Map of Affection* allegorically charts the inner space of irrational feelings using an imaginary scale of “leagues of friendship.” In opposition to contemporary cartography, the allegorical map derives its format from several other sources. The most influential seems to be religious literature on pilgrims’ voyages. Lovers were often titled pilgrims in this time and the whole conception of the mystical voyage of friendship was taken from such religious literature.⁹ The *Map of Affection* also refers back to two longstanding traditions that employ the depiction of space as a didactic means. Conceived more spatially than other allegories of the time, the *Map of Affection* draws on the mnemonic tradition (see catalogue nos. 4 and 6) of creating mental spaces through which one could move in the mind. Second, it refers back to medieval *mappaemundi* in the

symbolic orientation, the narrative process, and didactic function.¹⁰ Most *mappaemundi* were oriented with East at the top and centered on Jerusalem. They were employed to educate the spatial implications of the history of salvation rather than mathematically precise representations of cartographic space.¹¹ Likewise, the movement in the *Carte de Tendre* is from bottom to top and it served narrative and didactic purposes. It is with respect to this symbolic orientation that the *Map of Affection* came under criticism since the “Terres Inconnues” [Unknown Lands] which take the uppermost position suggested to contemporary critics a move beyond friendship to erotic love, sexuality, and “jouissance” [ecstasy].¹² This is also suggested by the map’s oft-noted resemblance of feminine genitalia.

The map’s reference to earlier cartography can be considered as a reaction to the emerging Cartesian conception of abstract and measurable space and the Cartesian emphasis on rational thought as the basis for certain knowledge (see catalogue no. 7). The map’s references to earlier traditions do not mean that it was simply outdated or displays ignorance of contemporary developments in cartography. Instead, the imaginary scale depicted in the lower right corner indicates an awareness of the increasing standardization of cartographic conventions. Such customs must have been sufficiently well known to enable the map’s audience to appropriate them in their charting of friendship. However playful and allegorical there is a serious didactic side to the *Map of Affection*, which can be regarded as a pioneering effort to give visual order to emotional states and social relations. The fact that cartography provided the template for such order attests to its status in the seventeenth century. Print enabled the peculiar use of cartography in the circle around Scudéry to spark a broader cultural development that resulted in a widespread fashion for allegorical maps in France.

Jasper van Putten

¹ James S. Munro, *Mademoiselle de Scudéry and the Carte de Tendre* (Durham: University of Durham, 1986).

² Gloria Feman Orenstein, “Journey through Mlle De Scudery’s *Carte de Tendre*: A 17th Century Salon Woman’s Dream/Country of Affection,” *Femspec* 3.2 (June 2002): 2.

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- ³ Dominique Larcena, *François Chauveau: peintre, dessinateur & graveur: 1613-1676* (Aurillac: D. Larcena, 2009).
- ⁴ Alvin L. Clark, Jr., "A New Drawing by François Chauveau," *Master Drawings* 28, No. 1 (Spring, 1990): 74-79, 74.
- ⁵ Anthony F. Blunt, "The Précieux and French Art," ed. Donald J. Gordon, *Fritz Saxl, 1890-1948: A Volume of Memorial Essays from his Friends in England* (Thomas Nelson and Sons: London; New York, 1957), 326-338, 331.
- ⁶ Gloria Feman Orenstein, "Journey through Mlle De Scudery's *Carte de Tendre*: A 17th Century Salon Woman's Dream/Country of Affection," *Femspec* 3.2 (June 2002): <http://www.femspec.org/samples/salon.html>.
- ⁷ James S. Munro, *Mademoiselle de Scudéry and the Carte de Tendre*, 46-47
- ⁸ John D. Lyons, *Before Imagination: Embodied Thought from Montaigne to Rousseau* (Stanford: Stanford University Press, 2005), 164
- ⁹ Anthony F. Blunt, "The Précieux and French Art," Donald J. Gordon (ed) *Fritz Saxl 1890-1948: A Volume of Memorial Essays from his Friends in England* (Thomas Nelson and Sons: London; New York, 1957), 332.
- ¹⁰ Jeffrey N. Peters, *Mapping Discord: Allegorical Cartography in Early Modern French Writing* (Newark: University of Delaware Press, 2004), 84.
- ¹¹ David Woodward "Reality, Symbolism, Time, and Space in Medieval World Maps," *Annals of the Association of American Geographers*, Vol. 75, No. 4 (Dec., 1985), 510-521
- ¹² Franz Reitinger, "Mapping Relationships: Allegory, Gender and the Cartographical Image in Eighteenth-Century France and England," *Imago Mundi* 51 (1999):106-130, 113

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