Meanings of perspective in the Renaissance: Tensions and resolution¹

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Differing views

Single point perspective construction, codified by Alberti in his book *On Painting* of 1435, has engendered opposing interpretations: (a) that it seeks relatively successfully to depict the way we see, or (b) that perspective is not so much an attempt at accurate representation of physical vision as it is a way to establish significance beyond the evident sense certainty of sight. The former approach rejects philosophical interpretation, and the latter interrogates perspective's geometric/mathematical basis for evidence of higher conceptual, even symbolic meaning. The following are but a few examples that typify these approaches.

Martin Kemp, in his 1978 article “Science, Non-science and Nonsense: The Interpretation of Brunelleschi’s Perspective,” characterizes these latter approaches as “poetically beautiful” or “intellectually brilliant,” but none the less, having “no place in historical analysis.”² Less polemical but equally exclusive is Kim Veltman’s “Panofsky’s Perspective: A Half Century Later” from 1980³—an essay about the famous treatise “Perspective as Symbolic Form” of 1924–25. Within this discussion of Panofsky’s sources, his influences, and how later historians interpreted the physical particulars of perspective construction, there is no mention of Panofsky’s central idea of “symbolic form.” Unlike Kemp, Veltman avoids altogether the issue of meaning.

Samuel Edgerton, on the other hand, in *The Heritage of Gio.o’s Geometry* from 1991, argues for meaning in Albertian perspective beyond that of technical advance. The incorporation of a geometry of space over the flatness of medieval non-space, as in Masaccio’s *Trinity* (Santa Maria Novella, Florence, 1426), signals that it “not only replicates human vision but reveals the actual process of God’s divine grace working on earth.”⁴ In a similar vein, S. K. Heninger, Jr. has suggested in his *Proportion Poetical* of 1994 that proportion in the mathematics and geometry of space in painting, in architecture, and in the construction of literary forms participates in culturally shared
“tension between the logocentric and the hylocentric imperatives.” That is, proportionality reflects the “subtext” of divine order underlying, and otherwise empirically not evident in, God’s physical creation. Even more clearly than Edgerton, Heninger posits that mathematics and geometry are used to enliven a dialectic of sense and intellect that pervades the literary and visual arts of late medieval and Renaissance culture.

Beyond these two fairly distinct points of view, there emerges a third tendency. It is a sort of compromise position that sees meaning in perspective, but like the first approach, links it primarily with the drive for technological advance that is often seen as central to what distinguishes Renaissance humanism and its new concern with the physical world, including the greater naturalism evident in the visual arts. Karsten Harries, for example, in his *Infinity and Perspective* (2001), contrasts Alberti’s perspective with the spiritual significance of the gold background in medieval art. He concludes that Alberti:

invites us to look through the material painting as if it were transparent, a window through which we can see what the painter has chosen to represent. But this is very much a human perspective, which has its center in the observer: what we see is appearance for us. The spiritual perspective of medieval art would have us look through the painting in a very different sense: through the material to its spiritual significance. The mundane is transformed into a divine sign. Alberti’s art is incompatible with this spiritual perspective. A God-centered art gives way to a human-centered art.

In another recent work, Anthony Grafton’s *Leon Battista Alberti: Master Builder of the Italian Renaissance* (2000), emphasis is placed on Alberti’s relationship to technical advance, namely Brunelleschi’s perspective experiments. Like Harries, Grafton acknowledges Alberti’s humanist ties and claims that he creates “a realistic illusion of three dimensions in two—having defined producing illusions as the artist’s continual task.” Assuming that Alberti’s humanism asks the painter to aim at something in addition to, or other than, illusionism, these notions of creating ever more worldly and realistic images suppress theological interpretation, eliding the relationship between underlying purpose and technical aspects of constructing a painting.

Where the first tendency avoids or demeans interpretation of perspective, and the second attempts to explore how to contextualize its religious implications, the third seems to edge toward seeing the value in perspective as a reflection of a proto-modern secularism. Inherent in both the first and third approaches is a tension between the religious nature of medieval and early Renaissance humanism and its appropriately noted concern with physical reality as manifest in technical concerns and in painting’s new naturalism. The problem, it seems to me, is that neither approach sees the introduction of this new technology (if that is what it is) as having any metaphorical function. Why, we ask, cannot it be a new way to understand the overarching importance of the spiritual, heavenly realm, as indeed some scholars have inquired?

Panofsky, in his famous essay “Perspective as Symbolic Form,” seems to have launched the modern tendency to find space symbolic. Yet, ironically,
he also may have been the source of later, divergent points of view. For example, at one point he perceives that Renaissance perspective can convey simultaneously understanding of the earthly and the divine: “the result was the concept of an infinity not only prefigured in God, but indeed actually embodied in empirical reality.” Subsequently, however, he also seems to perceive ambiguity, wherein one aspect of the relationship (finite/infinite) may seem reduced by the other:

whether one reproaches perspective for evaporating “true being” into a mere manifestation of seen things, or rather for anchoring the spiritual idea of form to a manifestation of mere seen things, is in the end little more than a question of emphasis.

Where earlier he seemed to see a balance, now the spiritual becomes “mere” seen matter, its essence “evaporating.” Finally, he concludes that this new space is “the sign of a beginning, when modern ‘anthropocracy’ first reared itself.”

My goal here is to explore ways of resolving this tension between divergent understandings of perspective, which has continued since Panofsky, the gap between one approach and another widening into fixed opposing positions. I believe, along with others, that one can see the inception of Renaissance perspective in terms of the divine embodied in empirical reality, and that it is not yet the beginning of an anthropocentric view. To do this we need to look at an earthly/divine dynamic within the context of Alberti’s text itself, as few have done, including Panofsky. Moreover, we might seek evidence of a broader, shared epistemology of vision, found, for example, in the writings of Cardinal Nicholas of Cusa, which may help us think about how Albertian perspective functions to reveal meaning within notable examples of Renaissance painting.

**Alberti’s On Painting**

But first Alberti: at the very beginning of *On Painting* he declares that he will utilize the knowledge of mathematicians to “enlarge on the art of painting from its first principles in nature.” He explains, for example, that:

Mathematicians measure with their minds alone the forms of things separated from all matter. Since we wish the object to be seen we will use a more sensate wisdom.

Minerva, or “wisdom,” is invoked to identify the role of mathematical/geometrical principles that will constitute the framework for what contains naturally appearing forms.
The geometry of single point construction, “associated with first principles in nature,” seems to represent both what we see in nature and higher qualities of wisdom. To understand this duality, we need to distinguish between how perspective functions in a painting and how we see in the experience of viewing nature. On the one hand, when looking at a single point perspective painting from various angles, its morphology is relatively consistent. On the other hand, in real space, our angle of vision is constantly shifting, whether standing still or moving as we view the relationship of objects in the field of vision. Put another way, geometric order found in space is best perceived from one angle of vision. Yet, when looking at a single point construction, we see the same angle from virtually every position.

Consequently, the experience of a consistent geometric spatial morphology is what Alberti ties to wisdom, a quality of mind that is associated, moreover, with the infinite, as much as the apex of the pyramid of perspective is defined as receding to infinity: “as if to infinity” (“quasi per sino in infinito”) (Figure 1, pyramids of perspective and vision). Concomitantly, it is important to understand that in a contemporary work this infinity is associated not only with “principles of nature,” but subsequently with God’s nature, or nature as God. In his Libri della Famiglia (1434), for example, Alberti states that “Nature, that is God, made man” (“Fece la natura, cioè Iddio, l’uomo”). This brings into direct alignment God and Alberti’s association of mathematics (his geometry of perspective) and “first principles of nature”: geometry reflects God’s nature, and by association His “wisdom,” which, inherited from God, can allow mankind to attain some level of understanding of divine origin.

It seems clear that Alberti’s conception of the role of mathematics and geometry associated with the fundamentals of nature is inextricably tied to an inherited notion of God inhering in nature, an association that he consistently bears in mind. Following his description in Book One of how to construct a painting—from point, line, surface, and solid to the use of light and color—all within the idealized geometric space, Alberti goes on in Book Two to contextualize painting as containing “a divine force … most useful to that piety which joins us to the gods and keeps our souls full of religion” (“Tiene in sé la pittura forza divina … che la pittura molto così giova ad quella pietà per quale siamo congiunti alli iddii inseime et a tenere li animi nostri pieni di religione”). Thus, Minerva’s wisdom acquires a more specifically theological context within the text itself. It is one, moreover, that is to be articulated also by his notion of istoria: “the greatest work of the painter.” Istoria, he says, is that “divine force” which we are to think of as the moralizing content of what is being made legible by the carefully worked out composition and the action of the figures. Indeed, istoria not only holds “our soul full of religion,” it:

merits both praise and admiration [and] will be so agreeably and pleasantly attractive that it will capture the eye of whatever learned or unlearned person is looking at it and move his soul.
Sarà la storia qual tu possa lodare et meravigliare tale che con sue piacevolezze si porgierà si ornate et grata che ella terrà con diletto et movimento d’animo qualunque dotto o indotto la miri.\textsuperscript{23}

Just as the geometric space seems real, yet urges a higher seeing (wisdom), so the story is to resemble what we see in life and at the same time aid in generating interpretation through its artificial/rhetorical organization of position, posture, gesture, and expression—its istoria. Seduced by the realm of empirical sense certainty, simultaneously we are lured beyond to confront the implications of clearly articulated ideals that comprise the work’s subject matter, which inevitably is religious in nature, at least as it is evident in Renaissance paintings that employ single point perspective.\textsuperscript{24} One need only recall some obvious examples, such as Masaccio’s \textit{Trinity} (mentioned above) and \textit{Tribute Money} (Brancacci Chapel in Santa Maria del Carmine, Florence) of the early fifteenth century,\textsuperscript{25} Leonardo’s \textit{Last Supper} (refectory of Santa Maria delle Grazie, Milan) of the late century, and Raphael’s \textit{Disputà}, along with his \textit{School of Athens} (Stanza della Segnatura, Vatican) of the early sixteenth century.

Following the Minerva reference, the subsequent instructions for creation of perspective in Book One, together with the concept of istoria in Book Two, Alberti introduces a second classical figure, that of Narcissus. Appearing in the early stages of Book Two, he becomes the focal point for grasping art, much as Minerva was at the beginning of Book One. As a counterpart to Minerva, we confront Narcissus somewhat startlingly as “the inventor of painting.” Generally, the tendency has been to take this passage literally, therefore implying that painting was born of an existential crisis of self-love. Clearly, this serves the interests that see a modern anthropocentric tendency manifest in Renaissance naturalism—an immersion in the material world together with the attendant crisis of self-realization and consequent artistic creativity.

This is, however, problematic, simply for its implication that Alberti would believe painting originated from the errors of sense perception.\textsuperscript{26}
What happens, we need to ask, to the already established association of painting with Minerva’s wisdom, and the *istoria* with its moral and traditional Christian religious values? Why, moreover, would Alberti have ignored the enduring tradition of Ovid’s moralizing story? Part of the difficulty in understanding this passage resides to some extent in the persistent force of secularizing interpretations of Renaissance art, which make it easier to lend a modern inflection to Alberti’s use of Narcissus. Yet if we re-examine his words, what emerges is not so much a surprise as an ironic and paradoxical intent that encourages an interpretation consistent with what we have heretofore granted.

According to the English translation (Spencer), Alberti says:

I say among my friends that Narcissus who was changed into a flower, according to the poets, was the inventor of painting. Since painting is already the flower of every art, the story of Narcissus in most to the point. What else can you call painting but a similar embracing with art of what is presented on the surface of the water in the fountain.

Narcissus is equated with the invention of painting by putting the transformation to a flower in a subordinate clause, “who was changed.” If we look at the original Latin and Italian, however, and consider the fuller context of this quote and a bit of its surrounding text, a different emphasis can be discerned. In the original Latin, rather than relegating the transformation to a subordinate clause, its importance is grammatically fore-grounded:

Using indirect discourse Alberti links the subject accusative *inventorem*, inventor, with *Narcissum illum*, “that Narcissus” and *florem*, the flower into which he has been transformed, *sit versus*. In the Italian version:

Here, a demonstrative pronoun, “that” (*quel*), emphasizes the subject *Narcisso* together with his transformation, his *convertito*, preserving the relationship of the inventor of painting with Narcissus’s conversion into a flower.

My point is that the emphasis is not so much on the inventor as Narcissus as it is on conversion, even the power of conversion, which a flower represents. Though much more surrounds these passages to suggest such an emphasis, particularly the notion of the flower itself as a metaphor of beauty
and transformation, suffice it to add that Alberti brings the entire concept to conclusion in the later part of the passage with the question, “what else can you call painting but a similar embracing with art of what is presented on the surface of the water in the fountain?” This, a faithful translation of the originals, can now be judged to fulfill the idea that it is not by mere unaided sight, but “with art,” con arte in Italian, or simply arte, the ablative “with or by art” in Latin, that the painter or viewer embrace what is seen. We are not to fall into Narcissus’s trap. Like the painter, we use our più grassa Minerva, our “more sensate wisdom.” The viewer uses art, a creative, transforming perception of mind, to understand what is seen.

It is not only the role of perspective, then, but much else in Alberti’s text that traditional readings have skewed toward literal interpretation of what appears natural, thus contributing to either a perpetual separation of the real from the ideal, or at least to an unresolved tension between them. Yet there is, as I have suggested, much that militates against this. As Panofsky first implied, but did not pursue, perspective as an infinite is perceived to be in the finite. God as nature is the world that we see and experience. And if Minerva is a clue to what higher role there is in “seeing”—that perception and the acquisition of wisdom that leads one’s sense upward—Narcissus, then, provides the perfect counter to the danger of immersion in sense certainty. Indeed, his surprising, seemingly paradoxical and certainly ironic presence provides the strategic, poignant nudge to see beyond the inevitable post-lapsarian doom of being trapped by physical temptation. Surely Alberti understood, as did Sigmund Freud later, that he, his painter, and the viewing public were all prone to be like Narcissus. But for Alberti, unlike the post-Enlightenment world, that recognition required a means for elevating one’s vision toward a spiritually transformative experience.

It is not the image in the fountain that is meant as the purpose of the painting’s reflection of life. It is the transformation, the metamorphosis that is recognized as essential to fulfill the search for meaning—a meaning that is found in the literal and metaphorical beauty of the flower.

**Nicholas of Cusa: A parallel epistemology of vision**

What really matters, I think, in the relationship of viewer to single point perspective image as Alberti unfolds it, is the apparent paradox of conflating incommensurables, and the simple insistence that such a relationship is appropriate. This is a view, moreover, that is fundamental to the contemporary Renaissance Christian’s understanding of his or her relationship to God, and one famously conveyed by Nicholas of Cusa. In his early work *On Learned Ignorance* (1440), he solicits his reader, for example, to try and extrapolate beyond the known properties of a sphere and ascend to consider an infinite sphere—a metaphor for God—where a sphere’s properties of measurement disappear, its center now everywhere and its circumference nowhere.
He suggests that based upon a finite sphere, we “conjecture” an infinite sphere—that is, we form provisional notions about an infinite sphere. And in a related fashion, we may understand that the finite form can be seen as a “contracted” infinite one, aiding in the process of conjecturing the ultimately unknowable one. In other words, we can intellectually conceive of a merging or coincidence of the opposites, finite and infinite.

Cusa’s heuristic model of a finite sphere, which can be conceptually transmuted into an infinite one, is somewhat like Alberti’s notion of converting a triangle (pyramid of vision) into a pyramid of space (pyramid of perspective) (Figure 1), whereupon the lines receding to a point take on the appearance of a receding pyramid. Triangle becomes pyramid, and by imagination becomes open, infinite space. He too creates a “coincidence of opposites.” Like that of Cusa, Alberti’s geometry doubles as an empirically real finite phenomenon and as an imagined infinite. One should not get stuck on seeing only what corresponds to phenomenal spatial experience, but must choose, and I think is asked to conceive, to conjecture this infinite in the painting as what is called “the divine force.” Similar to Cusa, the geometrical spatial construction of Alberti serves as a concrete visible stimulus to seek understanding vis-à-vis one’s own creative mental powers—powers which indeed inhere as a function of the Christian imago dei.

Furthermore, Cusa reuses his example of God as an infinite sphere in his later work On the Vision of God (1453), and he does so in a fashion that bears more closely on the way Alberti’s geometric perspective functions to assist in imparting meaning. Here Cusa’s context for grasping the coincidence of opposites is the experience of viewing a painting, an icon of God whose eyes, as if radiating from an infinite sphere, see simultaneously from every angle at once all viewers in the room. Clearly intended for the viewing monks to grasp how one might move from sense experience to higher intellectual understanding of God’s nature, Cusa in effect has utilized the same coincidence of opposites that we find in a single point spatial construction. As I have argued elsewhere, this phenomenon of Christ’s omnivoyance functions like the orthogonal lines of Alberti’s perspectival pyramid, which, like God’s rays of vision, follow any and all observers no matter their position. And so, like Cusa’s eyes of God, the single point space of a painting seems to look back at our looking; its rays of sight also seem ubiquitous, omnipresent, and omnivoyant.

I am suggesting that both thinkers have a similar conception of how to view the world, or nature. On the one hand, sight is physical, and on the other, it is conceptual. The former vision is conditioned by physiology and is limited by the finite human condition. The latter is contingent upon an intellectual, interpretive faculty that allows understanding of the sense experienced world to rise to its highest level, which still for Alberti’s era resides in a conception of the Creator. In order to illustrate further the similarities in their notions of this dialectical, twofold vision, I want to think about Cusa’s diagrammatic illustration, his “Figura Paradigmatica,” or “P” (Figure 2) from his treatise On Conjecture (1440), with diagrams of what Alberti’s pyramids of vision and perspective might look like.
In Cusa’s diagram, pyramids emanate from bases at opposite ends of reality. Beginning at the left, in the world of Oneness, or God, the base of a pyramid of light proceeds toward its apex in the world of Otherness, or multiplicity in physical Creation—our world. From the perfection of unity, light is increasingly diminished toward the base of the opposite pyramid, which itself commences from the darkness of mankind’s existence to culminate at a point on the base of Oneness. At each extreme, correspondingly diminishing or increasing gradations of light and dark indicate the degrees of oneness/perfection and multiplicity/imperfection. Cusa’s point is to represent conjectural understanding of what he believes to be simultaneously God’s participation in His creation and human creative intellect availing itself of God’s presence.

Now, let us consider how a diagram of Alberti’s perspective may similarly convey a mutual interpenetrating of Heaven and Earth. In its most rudimentary form, we figured it (Figure 1) as two pyramids with apexes a and b and a common base in S, the surface of the painting. Pyramid aS is the pyramid of perspective with its apex at infinity, and bS the pyramid of vision with its apex in the finite world of human seeing. Though the relationship of pyramids is simpler than in Cusa’s design, can we not imagine how the concept embodied here might be viewed as similar to that of Cusa? At a very simple level, we know that the painting S reflects both a real and an ideal world, which the similar triangles can be understood to represent. Thus the painted single point perspective construction on S and the istoria it contains reflect a Cusan-like reciprocity of unity and multiplicity, or ideal and real.

Moreover, can we also imagine extending this schema to more fully express the intellectual implications of these geometries—perhaps an idea Cusa could have had? (I should say parenthetically that many scholars have assumed Cusa knew Alberti’s text, though proof of such knowledge has not been found.35) Nevertheless, the circumstantial evidence is intriguing and stimulates me to the following hypothetical construct (Figure 3). First, let us continue the dotted lines b1 and b2 from the apex emanating from the eye of the painter/viewer at b. In this way, the base of the extended pyramid at Sa becomes the subject at an infinite distance that is represented by Alberti’s “window” or “veil” as it intersects the visual pyramid at S. Correspondingly, let us continue the dotted lines a1 and a2 from the apex at a so that S may also be construed as the window, which from a God’s eye view reveals the world Sb. The painting at S, that is,
functions as a kind of liminal juncture—one way for humanity to see God and the other way as a portal to show how God “looks” back, or perhaps more accurately unfolds his luminous infinity into creation.

Rethinking Cusa’s actual schema (Figure 2) from this perspective, it is clear that he indicates flow in a similar fashion: just as God’s pyramid of light descends into mankind’s world from base to apex, so it also ascends from its apex to the opposite base. Likewise, mankind’s world of darkness, multiplicity, and so on both descends to the apex in God’s world and ascends from a point in human vision to the base in God’s world. There is the same reciprocal ascending and descending that completes the ideal of Alberti’s perspectives. The only apparent difference in our hypothetical Cusan interpretation of Alberti is the locus of interchange as the surface of the painting that serves to set such a dialectic of finite/infinite in motion.

Both diagrams posit a complex of reciprocal seeing that is based in a notion of the divine as visible, or more accurately as understood (glimpsed) through things visible. Recalling again some well-known examples of the Albertian construction—Masaccio’s Trinity and Tribute Money, Leonardo’s Last Supper, and Raphael’s Disputà—it is clear that penetration of the surface seems both sensuously real as recession to a point and intellectually understood as infinite homologous space. Viewing any of the above-mentioned paintings may constitute a paradigmatic nature of the actual use and therefore effective emphasis of how this perspective functions to elucidate symbolic meaning. In each case, the point of convergence locates a critical focus as divine presence—Christ’s head in Masaccio’s Tribute Money, and Leonardo’s Last Supper, or the Eucharist in Raphael’s Disputà. Like Cusa’s construction in his Vision of God, the form emanating to or from the point of convergence in the paintings follows the viewer affirming its efficacy in establishing God’s all-knowing/seeing presence. We might also marvel at the consciousness-expanding effect of realizing that what seems, as it were, within reach—a seeming extension of the viewer’s world—is by definition at an infinite distance.
Conclusion

The laws of geometry and theology cooperate to assert an apparent paradox where finite and infinite coincide: our senses tell us that what was understood as the infinite God, or His infinite manifestation, is directly within our reach, while our intellect, and surely the contemporary viewer’s faith, offer the understanding that it is at an infinite distance. And while our contemporary (modern/post-modern) sense of reason and intellect may tend to rationalize the presentation of religious subject matter, the Albertian/Cusan viewer would accept the paradox and seek ways to perceive how God’s infinite creative nature flows into the created world, so that human perception may find a reciprocal path back to its origins. This is what the diagrams may help to clarify, but the more powerfully affective image is always the painting.

Albertian-inspired paintings, like Cusa’s icon and diagram, construe the nature of reality, or perhaps the reality of nature, not as a separation of finite and infinite, as much modern criticism implies, but as interrelated. Dialectical tension replaces irresolvable tension, but only if we understand that Alberti, as well as Cusa, thought of his world not in anthropocentric terms, but as a place in which to discover the inherent presence of God. In this case, the idea was not to fool the eye and the mind, falling victim to Narcissus’s self-absorption. Indeed, this process of relating sense knowledge to intellectual or conjectural understanding of a deeper, non-empirical reality, I am suggesting, is finally also similar to the thought process encouraged by Alberti’s challenge to the reader/viewer: grapple with the opposites: on the one hand the sensual pleasure of self recognition (Narcissus), and on the other hand, the intellectual and spiritual beauty of transformation. Therein one discovers the power to generate and create, as suggested by the divinely infused transformative power of the flower.

The trick was to see the world in order to see God and one’s similarity to Him. Illusion becomes allusion, perspective serving as a metaphorical device to elevate sense experience to a higher perception.

Notes

1 A version of this chapter was originally presented under the title “Sight and Insight in Early Modern Image Interpretations: Tension and Resolution,” during the session “Perspectives on Nicholas of Cusa 11,” Renaissance Society of America Annual Conference, San Francisco, March 23, 2006.


9 Ibid., 65.

10 Ibid., 71–2. *Perspective*, he says, “seems to reduce the divine to a mere subject matter for human consciousness, but for that very reason, conversely it expands human consciousness into a vessel for the divine” (72).

11 Ibid.

12 In addition to Heninger, *The Subject of Form in the English Renaissance*, more recently see the important work of Nicholas Temple, *Disclosing Horizons: Architecture, Perspective and Redemptive Space* (London and New York: Routledge, [2006] 2007), as well as his Chapter 9 in this volume.

13 Edward Cranz, “1100 A.D.: A Crisis for Us,” *De Litteris: Occasional Papers in the Humanities* (1978), 84–108, offers a remarkable view of the importance of Cusanus’ epistemology of vision, which I believe is applicable as well to the implications of Alberti’s contemporary assertion of the importance of vision in bridging the gap between the limits of sense knowledge and the potential of intellectual knowledge as vision.


15 Ibid.


18 See, for example, Michael Kubovy, *The Psychology of Perspective and Renaissance Art* (Cambridge: Cambridge University Press, 1986), 1–16, 52–64; Ernst


21 Alberti, On Painting, 63; Alberti, Della Pittura, 76; I have used, however, the more correct transcription from Alberti, The New De Pictura of Leon Battista Alberti, 157–8.

22 Alberti, On Painting, 70; Alberti, Della Pittura, 85; Alberti, The New De Pictura of Leon Battista Alberti, 188.

23 Alberti, On Painting, 75; Alberti, Della Pittura, 91; Alberti, The New De Pictura of Leon Battista Alberti, 201–2.

24 For a recent volume discussing the pertinence of this religious dynamic for medieval art (though clearly not in paintings that contain single point constructions), see the essays in Jeffery F. Hamburger and Anne-Marie Bouché, eds., The Mind’s Eye: Art and Theological Argument in the Middle Ages (Princeton, NJ: Princeton University Press, 2006).

25 Both were carried out prior to Alberti’s text, and most likely under the influence of Brunelleschi’s famous panels depicting the sacred spaces central to Florentine identity, that between the Florence Cathedral and the Baptistery, as well as that of the piazza Signoria.


29 Nicholas Cusanus, Nicholas of Cusa On Learned Ignorance: A Translation and an Appraisal of De Docta Ignorantia, ed. and trans. Jasper Hopkins (Minneapolis, MN: Banning Press, [1981] 1985), 52: for which it is “necessary to use guiding illustrations in a transcendent way and to leave behind perceptible things, so that the reader may ascend unto simple intellectuality.”


32 Indeed, an infinite pyramid wherein one would have to further “conjecture” that, like the center of Cusa’s infinite sphere, the apex at infinity is everywhere at once within its infinitely homologous measured form.


34 Miller, Reading Cusanus, 78–80, diagram 79.

35 Cusa possessed Alberti’s Elementa picturae, and as has been well documented, they traveled in some of the same circles and had common friends, such as Paolo Toscanelli. See, for example, Harries, Infinity and Perspective, 66–70, and Giovanni Santinello, Leon Battista Alberti: Una Visione Estetica del Mondo e della Vita (Florence: Sansoni, 1962), 265–9.