

# Muqarnas

An Annual on the Visual Cultures  
of the Islamic World

Gazing Otherwise: Modalities of Seeing  
In and Beyond the Lands of Islam

*Guest Editors*

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## CONTENTS

Acknowledgments .....	vii
INTRODUCTION	
AVINOAM SHALEM, Amazement: The Suspended Moment of the Gaze .....	3
OLGA BUSH, Prosopopeia: Performing the Reciprocal Gaze .....	13
CONFERENCE ESSAYS	
GÜLRU NECİPOĞLU, The Scrutinizing Gaze in the Aesthetics of Islamic Visual Cultures: Sight, Insight, and Desire .....	23
D. FAIRCHILD RUGGLES, Visible and Invisible Bodies: The Architectural Patronage of Shajar al-Durr ....	63
SAMER AKKACH, The Eye of Reflection: Al-Nabulusi's Spatial Interpretation of Ibn 'Arabi's Tomb .....	79
OLGA BUSH, Entangled Gazes: The Polysemy of the New Great Mosque of Granada .....	97
EMINE FETVACI, The Gaze in the Album of Ahmed I .....	135
MATTHEW D. SABA, A Restricted Gaze: The Ornament of the Main Caliphal Palace of Samarra .....	155
AVINOAM SHALEM, <i>Experientia</i> and <i>Auctoritas</i> : 'Abd al-Latif al-Baghdadi's <i>Kitāb al-Ifāda wa'l-i'tibār</i> and the Birth of the Critical Gaze .....	197
EVA-MARIA TROELENBERG, Arabesques, Unicorns, and Invisible Masters: The Art Historian's Gaze as Symptomatic Action? .....	213
HOLLY EDWARDS, Glancing Blows, Crossing Boundaries: From Local to Global in the Company of Afghan Women .....	233
LAURA U. MARKS, The Taming of the Haptic Space, from Málaga to Valencia to Florence .....	253



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## THE SCRUTINIZING GAZE IN THE AESTHETICS OF ISLAMIC VISUAL CULTURES: SIGHT, INSIGHT, AND DESIRE

This essay engages with the subject of the gaze and aesthetic experience by exploring the enticement and wonderment of the eye, the embodiment of vision through emotional states and desire, the disembodiment of the eye in introspective vision, and the cognitive capacity of sight to produce insight. With these diverse yet inter-related themes in mind, I consider the modalities of the gaze in sixteenth- to early seventeenth-century Safavid and Ottoman texts on the arts and architecture, starting with their origin in medieval paradigms of visual perception and artistic creation.

As I argued in *The Topkapı Scroll: Geometry and Ornament in Islamic Architecture* (1995), the realm of visual aesthetics was shaped not only by religion but also by an eclectic mix of Aristotelian and Neoplatonic concepts shared with Christendom. The dissemination of these philosophical concepts was initiated by the ninth-century translation into Arabic of sections from Plotinus's *Ennead* as the *Theology of Aristotle*, with its Neoplatonic emanationist cosmology that elevates the immaterial luminosity of spiritual beauty above material form.<sup>1</sup> Because my forays into theories of visual perception and aesthetic philosophies in that book were framed specifically with regard to late medieval geometric ornament, their broader relevance for the visual arts has been eclipsed. I therefore welcome the opportunity to revisit my former reflections by focusing here on the Islamic tradition of figural representation in diverse media, including architecture, which has particularly been misunderstood with respect to the question of the gaze. A recent example directly relevant to this issue is Hans Belting's timely book, *Florence and Baghdad: Renaissance Art and Arab Science* (2008, translation 2011), with its comparison between the gaze in Renaissance Europe

and in the Islamic Middle East.<sup>2</sup> The author proclaims that

a conception of pictures was as foreign to Arab science as it was to Arab art, where geometry was dominant.... In this particular case, the issue of pictures separates the two cultures precisely because it reflects their different practices with regard to visibility and the gaze. The difference involves not just art but also a mindset and relationship to the world.<sup>3</sup>

The diversified visual cultures of the Islamic domains were no doubt informed in varying degrees by restrictions placed on the gaze. These included constraints imposed on figural representation (particularly but not exclusively in religious contexts), on conspicuous consumption (luxury materials such as gold, silver, silk), and on the permissibility of ornaments or inscriptions in specific building types and objects. Such stipulations, which were primarily articulated in hadith literature and texts on jurisprudence (*fiqh*), nevertheless allowed a wide margin of options open to negotiation, resulting in a broad spectrum of varying interpretations.<sup>4</sup> Hence there is little justification for positing a typical Islamic "mindset," transcending time and space, that left its imprint on the modalities of the gaze. The predilection for abstraction in the pictorial arts may have responded in part to religious constraints. However, as we shall see, this predilection was generally theorized as a matter of aesthetic preference in the early modern literature on the visual arts, where the power of the abstractive inner gaze reigns supreme.

Engaging with Belting's arguments at various points of this essay, I discuss primary written sources on the visual arts that yield a more complex and more accurate understanding of the gaze in both cultures. The next

section provides a synopsis of his thesis and introduces some of the relevant early modern Islamic texts to which I shall return after considering their medieval precedents. Themes highlighted from selected textual sources in the following sections include the esteemed position of the cognitive faculties of vision, of skilled human artistry, and of mimetic abstraction. In considering the scientific gaze, emphasis will be placed on the treatise by Ibn al-Haytham (Alhazen, d. ca. 1040) on optics, with its humanistic emphasis on the mental dimension of visual perception and its distinction between glancing and gazing.

#### EARLY MODERN CULTURES OF THE GAZE IN WESTERN EUROPE AND THE ISLAMIC LANDS

According to Belting, the “Arab-Islamic” aesthetic aimed to “encode the sensory world through the use of script

and geometry, and to impose a filter between the world and the gaze, which is thereby tamed and cleansed of the senses and their images.” This geometric screen was “of a fundamentally different kind than the geometry used to construct perspective painting in the West.”<sup>5</sup> In support of his assumption about the absence of an Islamic “domain of representational depiction,” Belting extensively refers to my interpretation of the fifteenth- to early sixteenth-century Topkapı Scroll (figs. 1 and 2) and Ibn al-Haytham’s eleventh-century *Kitāb al-Manāẓir* (Book of Optics). He thereby sets up a binary opposition between the cultures of the gaze in the West and the Middle East during the Renaissance.

These two sources are not particularly pertinent, however, for pictures and pictorial theory in the Islamic lands during the early modern period, which is the main subject of Belting’s book. To begin with, the two- and three-dimensional geometric matrices of the Topkapı Scroll, which were primarily intended for Timurid-

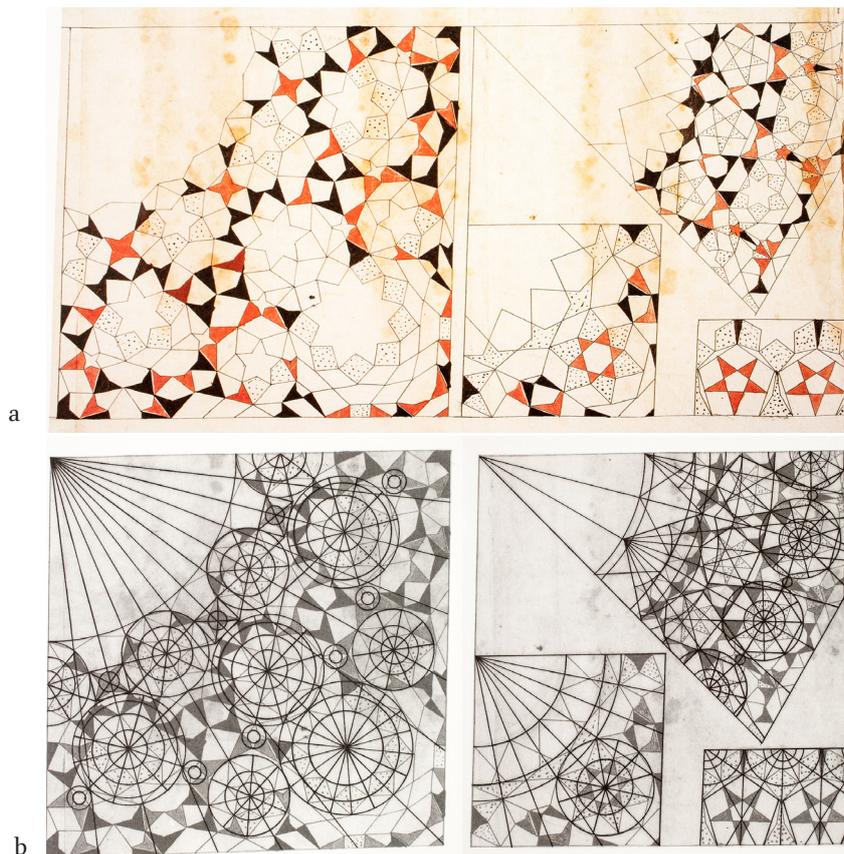


Fig. 1, a and b. Topkapı Scroll, repeat-unit designs for three-dimensional muqarnas vaults, with generative geometric grids incised on paper. Istanbul, Topkapı Palace Museum Library, Ms. H. 1956. (After Gülrü Necipoğlu, *The Topkapı Scroll: Geometry and Ornament in Islamic Architecture* [Santa Monica, Calif., 1995], 245, 294)

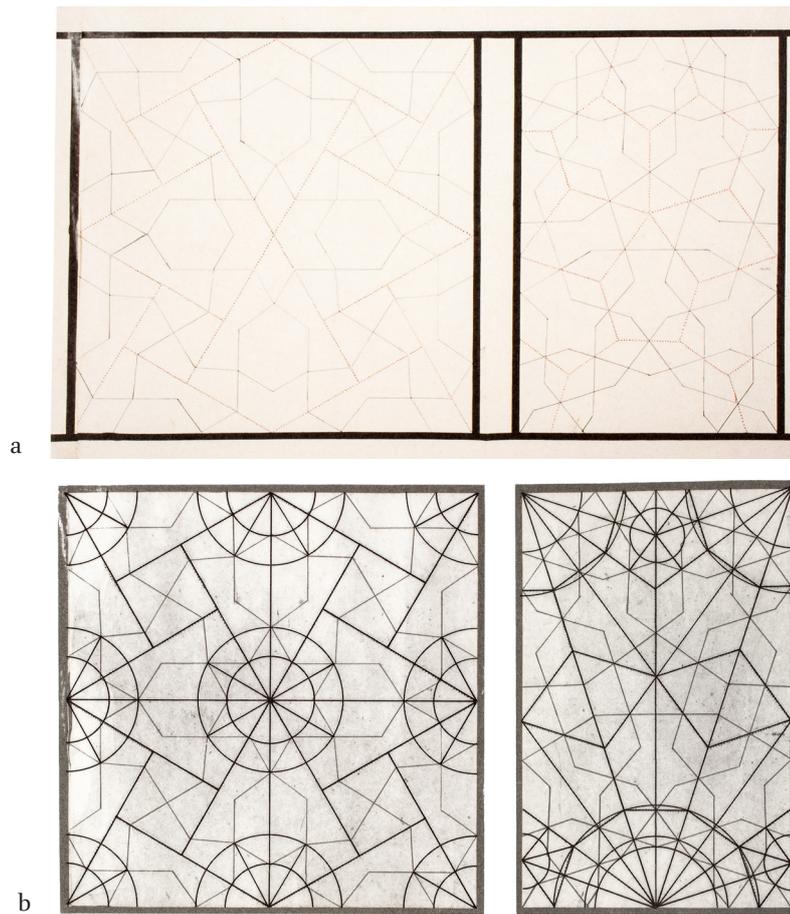


Fig. 2, a and b. Topkapı Scroll, repeat-unit designs for two-dimensional star-and-polygon *girih* patterns, with generative geometric grids incised on paper. Istanbul, Topkapı Palace Museum Library, Ms. H. 1956. (After Necipoğlu, *Topkapı Scroll*, 262, 319)

Turkmen architectural construction and ornament in Iran, are by definition irrelevant for the theorization of representational depiction. For Belting's project, comparing Renaissance perspective painting with contemporaneous traditions of Islamic figural painting would have been more germane, but the multifocal spatial constructions of these paintings do not conform to the Topkapı Scroll's rigid geometric matrices. Besides, Safavid and Ottoman sources on the pictorial arts list geometric ornament as only one of the "seven fundamental modes of decorative design" (*haft aṣl-i naqqāshī*) discussed below. These modes were deployed by painter-decorators (sing. *naqqāsh*) and figural painters (sing. *muṣavvir*) alike, whose manifold talents extended over

diverse genres of image-making, which at times contributed to the blurring of boundaries between figural representation and ornamental design (figs. 3 and 4). The genres in question—comprising decorative design (*naqqāshī*), animal painting (*jānvār-sāzi*), and portraiture/figural painting (*sūrat-garī*)—were applied to multiple media, ranging from the arts of the book and portable objects to architecture.<sup>6</sup>

Thus the visual cultures of the Islamic lands during the Renaissance can hardly be characterized as "aniconic." The geometric mode of ornamental design codified in the Topkapı Scroll marked the last stages of a long medieval tradition that would soon be supplanted by more naturalistic modes of floral ornament and figural



Fig. 3. Illuminated page with margins decorated by an abstract vegetal (*islāmī*) scroll and a calligraphic frame around a standing princely figure facing a smaller one, signed by Hasan, before 1566. From the Amir Ghayb Beg Album, Safavid Iran. Istanbul, Topkapı Palace Museum Library, Ms. H. 2161, fol. 93a. (Photo: courtesy of David J. Roxburgh)



Fig. 4. Illuminated page with margins decorated by a floral chinoiserie (*khaṭā'ī*) scroll and a frame with a landscape populated by animals and birds around a standing courtly figure, signed by 'Abd al-'Aziz, before 1566. From the Amir Ghayb Beg Album, Safavid Iran. Istanbul, Topkapı Palace Museum Library, Ms. H. 2161, fol. 52b. (Photo: courtesy of David J. Roxburgh)

design which radically marginalized geometry by the mid-sixteenth century. Rather than newly formulated fifteenth-century Renaissance methods of perspective projection in pictorial theory, more appropriate comparisons for the Topkapı Scroll are late Gothic manuals of architectural and geometric design, which similarly marked the final stages of a long medieval tradition in the West that extended well into the sixteenth century.<sup>7</sup> However, Belting prefers to consider the scroll designs in the context of perspective construction in Renaissance painting:

Whereas Necipoğlu was looking for parallels with medieval architectural drawings of the West, we must keep in mind in our context that the designs on the scroll are structurally the antithesis of the kind of spatial thinking used in perspective and its relation to the gaze. They are opposites on the same level, an opposition in which different world-views find expression. Just as perspective was a symbolic form, so too were *muqarnas* in another culture, a culture with different priorities.<sup>8</sup>

The Topkapı Scroll compiled in Iran is seen by Belting as an “Arab-Islamic” counterpart to Renaissance perspective because the *muqarnas*, which had been in use “since the lifetime of the mathematician Alhazen,” reached a “peak in the fifteenth century, when Florence was discovering perspective.”<sup>9</sup> In actuality, it was during the thirteenth and fourteenth centuries that the *muqarnas* reached a “peak,” losing its former preeminence after the early fifteenth century. The anachronistic juxtaposition of Renaissance Florence with the eleventh-century Baghdad of Ibn al-Haytham implies that only the Western gaze had a history, which is denied to its somewhat static “Arab-Islamic” foil whose post-medieval trajectory has not been elucidated. This asymmetry may partly be explained by Belting’s decision to combine a series of lectures on “the history of the gaze” with an unforeseen “shift of focus so as to include two cultures” in his book. The result is an essentialized, ahistorical treatment of the second “culture of the gaze.”<sup>10</sup>

As we shall see later, Ibn al-Haytham’s treatise on optics remained confined largely to the realm of the scientific gaze in the post-Mongol Islamic East, where the pictorial arts were more closely allied with aesthetic discourses on poetics, music, and calligraphy. Belting correctly observes that Renaissance Europe’s perspective

gaze uniquely fused pictorial theory with Ibn al-Haytham’s geometrical theory of optics, a fusion that did not happen in Islamic lands. I, too, have interpreted the nonperspectival mode of geometric construction codified in the Topkapı Scroll as representing a “disjunction between internal and external vision, an aesthetic attitude that would be reversed in Renaissance Europe where these two types of vision became coordinated by perspectivalism, with its ‘neutral’ gaze that separated subject and object.” Embodying a multiplicity of viewpoints, the scroll’s geometric matrices “yielded an infinite isotropic space,” differing from the “Renaissance concept of the picture plane as a window frame that cuts through the spectator’s cone of vision, where rays converge at a central vanishing point.”<sup>11</sup>

Where I differ with Belting is his questionable attribution of this divergence to the lack of a pictorial theory due to the aniconic geometricism of “Arab-Islamic” culture, which constituted the essential quality of its “mindset.” For this viewpoint, Belting often resorts to evidence derived from prescriptive texts on Islamic jurisprudence and on modern fiction that serve him better than the art-historical literature. For instance, he relies on the novelist Orhan Pamuk’s Turkish novel, *My Name Is Red* (1998, translation 2001) for the alleged deadly religious illicitness of mimetic representation at the Ottoman court and for the unsubstantiated claim that Islamic artists depicted the world from “the eye of God” that is “both above and outside this world.” It is on the basis of the modernist Egyptian architect Hassan Fathy’s literary work, *Fable of the Mashrabiyya* (1949), that Belting defines the geometric window screen known as the *mashrabiyya* as a barrier that “tames the gaze and purifies it of all sensuous external images through its strict geometry of interior light.” Contrasting this window screen with the “Western type of window” that found its emblem in Renaissance painting, which represents the curious gaze seeking images in the world, Belting concludes that the *mashrabiyya* and *muqarnas* “should be recognized as symbolic forms” in Arab-Islamic art, in contradistinction to the geometry of perspective that is a symbolic form in Western culture.<sup>12</sup>

Unlike modern fiction, early modern primary sources considered in this essay provide a less dichotomous understanding of the gaze in Christian Europe and the

Islamic lands. Sharing many similarities overlooked in Belting's antithetical account, both visual cultures were nourished by the same sorts of classical texts and were equally complex, just as their modalities of the gaze varied according to time and place. Rather than opposites, then, it may be more productive to see them as two sides of the same coin. Premodern discourses on visual aesthetics in both Christendom and Islamdom combined Neoplatonic concepts, characterized by a "distrust of the eye," and variants of a more positive Aristotelian view that acknowledged the mental dimension of visual perception mediated by distinctly human faculties in the brain known as the "inner senses." Focusing almost entirely on the geometry of vision in Ibn al-Haytham, Belting downplays the Aristotelian psychological component of his optics, which assigns a central position to these perceptual faculties.<sup>13</sup> Those faculties would play a prominent role in late medieval and Renaissance pictorial theory in the West.<sup>14</sup>

Translations and creative reinterpretations of classical written sources by early Arab philosophers and scientists rapidly became assimilated into the mainstream of medieval Islamic culture at the turn of the eleventh and twelfth centuries, continuing to enjoy currency in the post-Mongol era, when they were complemented by commentaries and translations into other languages.<sup>15</sup> In the more specialized early modern literature in Persian and Ottoman Turkish, conceptualizations of the gaze came to be articulated through new genres of writing, including treatises on the visual arts (calligraphy, painting, architecture), prefaces of albums mounted with calligraphies and images, biographical memoirs of architects, and anthologies combining the biographies of calligraphers and painter-decorators.

These literary genres were partly rooted in late fifteenth-century Timurid precedents such as album prefaces and biographical dictionaries of poets, which started to incorporate artists and calligraphers who wrote poetry.<sup>16</sup> Anthologies focusing exclusively on the lives of calligraphers and painter-decorators appeared around the late sixteenth century in the context of the growing prominence of court scriptoria (*kitābkāna/kutubkhāna, naqqāshkhāna*) in the Safavid and Ottoman realms, with their shared Timurid-Turkmen artistic heritage.<sup>17</sup> Narrative sources, complemented by

surviving documents, testify to the multiple talents of calligraphers and painter-decorators (sing. *naqqāsh*) specializing in the arts of the book, who collaborated in court scriptoria that institutionally, though not always spatially, combined a workshop and library. This collaboration extended beyond manuscript production to the creation of designs for diverse media, including architecture.<sup>18</sup>

Some painter-decorators were skilled in calligraphy and poetry as well, belonging as they did to the inner circles of royal and elite courts where they participated in assemblies (sing. *majlis*).<sup>19</sup> Such intimate intermingling undermines the widespread assumption that earlier artists in the medieval Islamic lands were illiterate and unlikely to keep up with intellectual currents that surrounded them.<sup>20</sup> The primary sources point to a more connected universe, at least in the better-documented early modern Islamic courts, where the rising prestige of practitioners of the visual arts and architecture paralleled that of their colleagues in Europe and East Asia. The emergence from relative anonymity of named calligraphers, painter-decorators, and architects with "star status" was among the factors contributing to the invention of unprecedented genres of writing.<sup>21</sup>

One of the new breed of multitalented artists, Ahmad b. 'Abdullah al-Hijazi, wrote a petition for employment that traces his career from Timurid Shiraz in 1422 to Edirne in 1441–42. There he sought to enter the service of the Ottoman court, like many other fifteenth- to early sixteenth-century Iranian artists, before the Persian-speaking Mughal courts in India began to provide a lucrative alternative. Such circulations of talent further enhanced the shared Persianate visual cultures of early modern Turco-Mongol dynasties in the eastern Islamic lands. The petitioner points out that he began his training by studying poetry according to the dictum "Poetry is necessary" and by learning calligraphy, which is "half of learning." He then goes on to describe his other artistic skills:

The [Timurid] sultans of the age too, like Ibrahim-Sultan, Baysunghur, Ulughbeg and their father Shahrukh Mirza [r. 1405–47], have taken notice of this art [calligraphy], for "people follow their kings' religion." In the *kutubkhana* of each of these there was a group of learned people without equal in the world—copyist, illuminator, illustrator, binder.

I too laid some claim [to proficiency] in these arts by virtue of my aspiration and ardor, and through service and apprenticeship I acquired from every harvest a gleaning, and from every gleaned seed, until during a voyage in the year 845 [1441–42] I arrived in Edirne ... I did this because I found that the market for my wares was sluggish and buyers were scarce.<sup>22</sup>

Given the interaction among poets, calligraphers, and painter-decorators, it is not surprising that aesthetic concepts articulated in the biographies of literati parallel those informing the visual arts. The coupling of calligraphers with painter-decorators in early modern biographical anthologies and album prefaces also found an echo in the Safavid theories of the “two pens” (the scribe’s “vegetal” pen and the painter’s “animal” pen/brush) and the aforementioned “seven fundamental modes of decorative design.” Formulated around the mid-sixteenth century, these complementary theories attempted to augment the religious legitimacy and status of painting by linking its origin with calligraphy. Both theories were articulated in Safavid album prefaces and biographical anthologies, genres that largely disappeared by the early seventeenth century. Variants of these texts were produced around the same time by Ottoman writers, but not in Uzbek Central Asia or Mughal India, where similar concepts informed artistic practices.<sup>23</sup>

Interestingly, Chinese pictorial theorists of the Yuan dynasty (1279–1386), such as the scholar-artist Zhao-Mengfu (d. 1322), a calligrapher and painter affiliated with the Mongol court, developed a comparable claim that calligraphy and painting had a “common origin.” A key factor that triggered new artistic trends in the eastern Islamic lands was the increasing resonance with Chinese paradigms after the sack of Abbasid Baghdad in 1258 by the Mongols.<sup>24</sup> Including the emergence of court scriptoria and the production of albums, these trends remained restricted mostly to the Turco-Iranian polities of the Islamic East (Mashriq), extending from Anatolia all the way to China. The relative cultural unification of this region owed partly to being brought under the umbrella of Mongol rule, unlike the western Islamic lands (Maghrib), where sinicizing tastes in the arts met resistance. The next section turns to forerunners of the post-Mongol literature on representational arts and the gaze,

to which I shall return later by focusing on Safavid and Ottoman sources.

#### MEDIEVAL TEXTS ON VISUAL PERCEPTION AND THE INNER SENSES

Islamic texts generally accorded a lofty stature to skilled artistry, especially in arts addressing the highest of the five “outer senses”: sight and hearing. In some cases, sight predominates over hearing, an early example being the treatise on the eye by the Nestorian Iraqi court physician Hunayn b. Ishaq (d. 873), which emphatically affirms that “vision is unique among the senses, the noblest of them and the most superior in quality.” Likewise, two Cordoban scholars, Ibn Hazm (d. 1064) and Ibn Rushd (Averroës, d. 1198), ranked vision higher than audition.<sup>25</sup> Nevertheless, Belting categorically asserts: “The question is whether one can speak of a gaze in the positive sense at all in Arab culture. The many social and religious limitations imposed on the gaze suggest the opposite.”<sup>26</sup>

The intimate connection between sight and insight is a leitmotif in medieval Islamic sources, which emphasize the cognitive potential of the arts and architecture. Another leitmotif is the creative imagination of the artist/artisan, nurtured by the inner (spiritual) senses that complement the outer (corporeal) senses, thereby testifying to the elevated productive and perceptual capacities of humankind.<sup>27</sup> These concepts are encountered in an early encyclopedia of philosophical sciences and the arts, the tenth-century *Rasā'il* (Epistles) of the Brethren of Purity (*Ikhwān al-Ṣafā'*), attributed to a group of scholars based in Basra with an associated branch in Baghdad. This popular work, which interprets the inner senses within a Neoplatonic and Pythagorean cosmological framework, circulated among Shi'i and Sunni elites, generally educated people, and artisans over the ages. One of its manuscript copies, produced in post-Mongol Baghdad in 1287, features a double frontispiece illustrating the sagelike authors who collectively compiled this text (fig. 5).

The *Epistles* list the inner senses of imagination, cogitation, and memory, along with two human faculties: the “faculty of speech” and the “productive faculty



Fig. 5. Double leaf frontispiece, *Rasā'il Ikhwān al-Ṣafā'* (Epistles of the Brethren of Purity), Baghdad, 1287. Istanbul, Süleymaniye Library, Esad Efendi, 3638, fol. 4r–3v. (After Richard Ettinghausen, *Arab Painting* [Geneva, 1962], 98–99)

[*al-ṣāni'a*], the seat of which is in the hands and fingers and by means of which the soul produces the art of writing and the other arts." The epistle on the "loftiness of the artist/creator" (*sharaf al-ṣāni'*) exalts the intellectual basis of the arts, implemented by a thinking hand intimately linked with the "productive faculty" of the soul. Comparing human creation with its divine counterpart, the Brethren define the arts as the imprints on raw matter of mental images (*al-ṣūra*) abstracted in the minds (*fikr*) of their creators, who aspire to imitate the art of the divine creator to assimilate his wisdom.<sup>28</sup> They associate art (*al-ṣan'a*) with knowledge (*al-'ilm*) and explain that God loves the skillful and diligent artisan, for seeking perfection in the arts is to be "in the likeness of the wise artificer, who is God."<sup>29</sup>

The *Epistles* aim to disclose the subtleties of the sciences and arts, all of which reveal the wisdom of the divine artificer, the Creator, who created human "artists and inspired them with their crafts, with wisdom,

knowledge, and insight."<sup>30</sup> The arts of painters (*ṣinā'at al-muṣawwirīn*) and musicians are deemed particularly lofty in terms of their connection to the soul. Artists express love for their objects of creation by beautifying and adorning them. The Neoplatonic metaphor of mystical love and desire also extends to the yearning of the eye of the beholder for harmoniously proportioned forms and colors, which remind the human soul of its noble origin in the realm of intelligible entities. The instinctive love of beauty, then, embraces the bodies of both producers and beholders of the visual arts by simultaneously engaging their sensuous and spiritual-cognitive faculties. This innate attraction to beauty carries the potential of going beyond mere pleasurable wonder to the threshold of cognition, which is the domain of the intellect and guides intuitive knowledge.

The Brethren regard hearing and sight as "the best and noblest of the five senses," reminding their audience of the Koranic affirmation that God endowed humans

with the gift of “hearing, sight and hearts” (Koran 23:78). Nonetheless, their Neoplatonic view of mimesis (recalling the Parable of the Cave) accords a superior status to hearing: the species that inhabit this world are only representations and likenesses of forms (*şuwar*) and beings of pure substance that inhabit the higher world of the celestial spheres and heavens, “just as the pictures and images [*al-nuqūsh wa-l-şuwar*] on the surface of walls and ceilings are representations and likenesses for the forms” of animate beings of flesh and blood.<sup>31</sup> This statement takes for granted the presence of figural painting on architectural surfaces. Besides calligraphy, ranked by them as the noblest of the arts, the Brethren cite, among examples of visual beauty that rely on proportionality, the harmoniously combined colors and images (*taşāwīr*) of painters (*al-muşawwirīn*) that trigger a pleasurable sense of wonderment (*ta‘ajjub*) in viewers. As is the case in proportionally executed scripts, in the production of pleasing pictures artists must observe the right proportions of colors and shapes and sizes of figures.<sup>32</sup> It is without any theological qualms that the Brethren refer to mimetic representations by skilled artists who, while emulating as their model God’s creation in figurative works—whether “shaped, sculpted, or painted” (*ashqāl, tamāthīl, şuwar*)—seek to achieve that they should be well-proportioned in construction, composition, and arrangement. The human artist must imitate the divine artist in mimetic works, “just as it has been stated in defining philosophy that is an imitation of the deity to the extent that human faculties allow.”<sup>33</sup>

Similar views expressed in the Neoplatonic writings of the polymath Abu Hayyan al-Tawhidi (d. ca. 1010) and his associates in Abbasid Baghdad, then under Buyid tutelage, negate the assumption that mimesis invariably has a negative connotation in Islamic visual cultures.<sup>34</sup> A treatise on penmanship written by al-Tawhidi—a protégé of the mathematician-engineer Abu’l-Wafa’ al-Buzjani (d. 998), a man of letters, philosopher, and professional scribe associated with at least three principal members of the Brethren of Purity—should dispel doubts as to whether the Neoplatonic-Pythagorean conceptualization of the arts in the *Epistles* had any connection with artistic/artisanal practice. As noted above, these doubts revolve around the insistence that medieval artists/artisans were mostly illiterate and

intellectually unsophisticated laborers. This view amounts to a segregation of Islamic art from other artistic traditions that are commonly interpreted in relation to aesthetic philosophies predominating in particular contexts, a complex correspondence that cannot simply be reduced to a provable “causal relationship.”<sup>35</sup> Al-Tawhidi’s treatise on calligraphy suggests that such philosophical aesthetic concepts would have been familiar at least among chancellery secretaries and calligraphers, who must have collaborated with manuscript illuminators and perhaps painter-decorators. After all, it was in the same Baghdadi milieu where the geometric mode of ornament, dominated by interlocking star-and-polygon patterns based on the modular use of the circle, came to be codified along with proportioned cursive scripts (*al-khaṭṭ al-manşūb*). In their epistle on ratio and proportion the Brethren explicate that geometry and proportion provide the shared basis of every art, referring in particular to prosody in poetry, letters in proportioned script, and harmoniously joined figures in painting and mechanical devices. They explicitly state that the proportions governing prosody and music are similar to those underlying calligraphy and painting, a statement repeated in later sources.<sup>36</sup>

In their epistle on music, which has the capacity to mediate between corporeal and spiritual senses, the Brethren explain that God created the human body according to the most eminent proportions of the universe, derived from the curved circumference of the circle and its diameter, from which the letters of proportioned calligraphy also originate. They specify that man’s height equals the distance between his fingertips when both arms are extended “right and left like a bird stretching its wings,” which defines a square inscribed in a circle, whose center lies at the midpoint of the body. This concept has convincingly been likened to the notion of the “Vitruvian man” as a microcosm of the macrocosm, which would later form the basis of the drawing by Leonardo da Vinci (d. 1519) of the “Renaissance man.” The close parallel affirms the lofty status of humankind in Islamic cosmology, where humans inhabit the very center of the universe, specifically created as their habitat. Visual aesthetics and mimesis occupy the core of this Islamic version of humanism.<sup>37</sup>

The Central Asian Aristotelian philosopher Ibn Sina (Avicenna, d. 1037) and his father are known to have studied the *Epistles*. Ibn Sina argued that although animals transform matter by building nests, theirs is a spontaneous activity of “sensitive imagination” when compared to the creation of artificial environments by humankind through work and creative invention involving “rational imagination.” Nonetheless, his emanationist cosmology is imbued with illuminationist and mystical tendencies that were subsequently elaborated by al-Ghazali (d. 1111) and Suhrawardi (d. 1191). Drawing upon Aristotle’s *Poetics*, Ibn Sina linked “mimesis” (*al-muḥāqā*) in the arts with the “imagination” (*al-takhyīl*), constituting one of the five inner senses or faculties that were less systematically explicated by Aristotle: the common sense (which centrally coordinates the inner senses from the brain), the faculty of imagination (capable of abstracting matter), the faculty of estimation (capable of a more elevated form of abstraction going beyond material accidents), the faculty of cogitation, and the faculty of memory.<sup>38</sup>

The *Epistles* were also studied by the Sufi theologian, jurist, and philosopher al-Ghazali, who was affiliated with the Seljuq court in Iran and Iraq. He added to the five inner senses housed in the brain a sixth sense located in the heart—comprising the spirit and rational soul—that he likened to a polished mirror manifesting the light of truth. Through this sixth sense—referred to variously as the soul, the spirit, or the heart—al-Ghazali further assimilated the perceptual theories of Arab philosophers into a framework of mystical love and desire, whose highest goal is the intuitive perception of absolute divine beauty, partially reflected in the beauties of the universe and of humankind. According to him, the sixth sense could perceive the superior beauty of the inner world, which is far more perfect than that of the outer one, since inner vision (*al-baṣar al-bāṭina*) is stronger than outer vision (*al-baṣar al-zāhir*).<sup>39</sup> Emphasizing the capacity of initiated Sufis to penetrate hidden beauties with “the eye of the heart and the light of insight” (*bi-‘ayn al-qalb wa-nūr al-baṣira*), al-Ghazali wrote:

The beautiful work of an author, the beautiful poem of a poet, the beautiful design of a painter-decorator [*naqsh al-naqqāsh*] or the building of an architect reveal also the

inner beauty of these men. Just as the greatness of a poet, writer, or artist becomes all the more notable the more you know of the wonderful works of poetry, writing, and art, in the same way, miracles of the creation of God are a key to the knowledge of the greatness of the Creator.<sup>40</sup>

Admiration for beautiful works of art and architecture, then, extends to their author as well, which in turn increases love and ardent desire (*shawq*) for the divine creator. Al-Ghazali also acknowledged the love of beauty for its own sake in a celebrated passage, whose relevance for aesthetic theory has long been recognized:

Another cause of love is that one loves something for its own sake.... To this category belongs the love of beauty.... Do not believe that love of beautiful forms is conceivable only for the satisfaction of sensual desire.... However, the perception of beauty also gives pleasure and can be loved for its own sake alone.... The reaction of every healthy constitution proves that the contemplation of flowers and birds and of a beautiful colour, graceful design and form gives pleasure. On seeing them even worry and grief leave the human mind, though there is no benefit to be derived beyond the mere looking. These objects give pleasure and everything pleasurable is loved.<sup>41</sup>

The love of visual beauty therefore allowed for both the formal autonomy of aesthetic value and its place within a unitary scheme of values in a cosmos that opened onto the transcendent and sublime. Since al-Ghazali regarded the source of all beauty as no other than God, visual beauty could induce in those spiritually or intellectually inclined a contemplation of the wonders of creation, semiotically replete with the signs of divine wisdom. The intuitive passage from aesthetic pleasure and wonder to metaphysical or mystical rapture could thus be virtually instantaneous. This passage was facilitated by an anagogical mentality (ascent from the visible to the spiritual/heavenly) and the habit of connective thinking that equated microcosm with macrocosm in both Christian and Muslim contexts alike, well into the modern era.

Even though medieval philosophers had criticized the Sufis for embracing criteria of knowledge below reason—such as intuition, inspiration, and immediacy of mystical experience—these criteria would gain increasing currency in the post-Mongol eastern Islamic lands. In this context, the augmented importance of Sufi mysticism, the metaphysics of light, and the Neoplatonic

tradition loomed large. But the simultaneous prevalence of Aristotelian notions of visual perception and aesthetics speaks against attempts to postulate a monolithic Islamic gaze. Like Ibn Sina, another contemporary scholar subscribing to an Aristotelian model of visual perception was Ibn al-Haytham, whose monumental seven-volume treatise on optics allocated a prominent role to the inner senses coordinated by the common sense in the brain.<sup>42</sup>

#### IBN AL-HAYTHAM'S *BOOK OF OPTICS* AND ITS EARLY MODERN RECEPTION

Known as Alhazen in the West, this polymath flourished in Abbasid Basra and Baghdad during the Buyid period and spent his later years in Fatimid Cairo. He is famous for his intromissionist visual theory, which synthesized the geometry of vision with the physiology of the eye and the psychology of perception. Ibn al-Haytham's innovative theory was concerned primarily with understanding the sense of sight through a model of light and vision. He conceptualized vision as a cumulative process moving through stages, passing through the eye into the brain: from physical radiation, to visual sensation, to perceptual and conceptual representation, with each successive stage involving a degree of abstraction that yielded a relatively subjective image of objective reality.<sup>43</sup>

Besides positing the necessity of “unconscious inferences” such as comparison and memory for sensation to be transformed by the brain into conscious perception, Ibn al-Haytham recognized the crucial importance of eye movement for observing the visible world. This insight contrasts with the reduction of the beholder to an immobile and disembodied eye in Renaissance single-point perspective, which constituted a human subject that is hardly “humanist.” The problem was noted in Leonardo da Vinci's treatise on painting, in which he criticized the painters' perspective for reducing the viewing subject to a kind of Cyclops, in contradistinction to the actual circumstances of perception and the complexity of painting. Likewise, a marginal note in a copy of Ascanio Condivi's *Life of Michelangelo* (1553) by his last assistant quotes the artist's contradiction of his

biographer's claim that he had studied perspective at length: “Perspective, no, because it seemed to me to be a waste of too much time!” Giorgio Vasari's (d. 1574) *Lives of the Most Excellent Painters, Sculptors, and Architects* (1550, revised edition 1568) similarly demoted perspective to the level of a technique. This critical stance has been attributed to the “irreparable fissure” that the invention of perspective painting opened in “humanist” culture, a point I shall revisit in relation to an implicit critique of “Frankish” illusionistic painting in some sixteenth-century Safavid sources.<sup>44</sup>

As is well known, Ibn al-Haytham's *Optics*, translated into Latin by the early thirteenth century as *Perspectiva* or *De aspectibus*, became available by the fourteenth century in an Italian translation. The Florentine sculptor of the early Renaissance, Lorenzo Ghiberti (d. 1455), extensively copied the latter's section on the perception of beauty in his *Commentarii*. Leonardo's treatise on painting also includes recognizable echoes of Ibn al-Haytham's theory of visual perception.<sup>45</sup> The *Book of Optics* explains that beauty (*al-ḥusn*) is perceived with respect to contingent factors, involving a complex interaction among twenty-two visual properties (light, color, distance, position, solidity, shape, size, separation, continuity, number, motion, rest, roughness, smoothness, transparency, opacity, shadow, darkness, beauty, ugliness, similarity, and dissimilarity). Only two of these, light and color (a corporeal property of light)—and to some degree proportion (the geometric order of light)—are in themselves capable of producing beauty.<sup>46</sup>

Unlike light and color that are perceived by “pure sensation,” other visual properties require “perceptual inferences” of two kinds, mediated by the sense of sight: glancing and contemplation. Ibn al-Haytham defines immediate or “glancing” perception as an instantaneous recognition of familiar forms firmly embedded in visual memory. By contrast, “contemplative perception” is a longer operation involving the inspection of complex visual elements by the inner faculty of judgment. He explains that intricate designs with subtle proportions and color combinations can be fully apprehended only by contemplative vision, involving the inner senses.<sup>47</sup>

Visually complicated forms that require the concentrated contemplation of the gaze include the “painted designs and decorations [*nuqūsh wa tazayīn*] of a wall”

and “minute designs, letters of a script, tattoo marks, wrinkles and the difference between closely similar colours.” Ibn al-Haytham adds: “Indeed all fine features appear only after they have been scrutinized and contemplated.”<sup>48</sup> This statement does not imply, as Belting maintains, that his optical theory was entirely aniconic. Assuming that the author “lived in a culture with no figurative pictures” and that the surfaces of muqarnas forms contained “no picture that is tied to an observer,” Belting writes, “The insight that Alhazen’s optical theory was just as aniconic as Islamic culture itself poses entirely new questions.”<sup>49</sup>

In fact, Ibn al-Haytham, like the Brethren of Purity before him, explicitly refers to painter-decorators who mimetically represented animate beings and even portraits of individuals. It is worth quoting this passage, which Belting discusses but selectively considers only the animals and plants mentioned therein. Here, pictures painted “on a wall or on a piece of wood or paper” are discussed with respect to errors of sight, caused when the seen “object’s distance exceeds the moderate range”:

This frequently happens with paintings [*tazāwīq*]. For painters [*al-muzawwiqūn*] make their pictures [*suwar*] and paintings [*tazāwīq*] look like the visible bodies to which they correspond, and by means of flat pictures [*suwar musaṭṭaha*] they represent particular animals, individuals, plants, utensils or other solid objects, and their features. For this purpose they make skilful use of colours and drawings [*nuqūsh*], paying particular attention to points of resemblance.... They also make pictures of individual people, imitating what is visible in their forms of the outlines of their faces and bodies, their hair, the pores and wrinkles in their skin, and the creases in their clothes; thus they represent the roughness visible in their skin on account of the hair and the pores, and the roughness of their clothes due to their creases. Painted pictures will be perceived to be like the forms they represent if those who made them were skilled in the art of painting. Therefore looking [for example] at a picture of a hairy animal painted on a wall or on a piece of wood or paper, sight will perceive the [painted] hair as if it were real. And, similarly it will perceive the pictures of rough leaves as if they were [really] rough; and the same will be true of pictures of visibly rough bodies. Again it will perceive the painted pictures of individual men as if they were solid forms, their painted hairs and wrinkles and creases in their clothes appearing as [real] hairs,

wrinkles, creases, although the surfaces of those pictures are smooth and polished. But if sight perceives a smooth picture as being rough then it will have erred in regard to its roughness.

Ibn al-Haytham goes on to explain that the smoothness of the surfaces of painted pictures can be perceived only by “contemplation” from close up, and that sight cannot contemplate them unless they are “very near.”<sup>50</sup>

At the time Ibn al-Haytham was writing, painted decorations on walls, muqarnas surfaces (fig. 6), and objects often combined figurative images with proportionally harmonized geometric, vegetal, and calligraphic designs, except for religious contexts characterized by aniconic imagery. To be sure, such pictorial representa-



Fig. 6. Plaster muqarnas fragment with painted decoration of a seated prince or noble holding a goblet in one hand, Fatimid, eleventh century. From the Bath of Abu Su‘ud in Fustat (Cairo). Cairo Museum of Islamic Art, MIA 12880. (After *The Treasures of Islamic Art in the Museums of Cairo*, ed. Bernard O’Kane [Cairo and New York, 2006], 64, fig. 51)

tions, like their counterparts in medieval Byzantium and the Latin West, differed from the illusionistic naturalism of Renaissance perspective painting. Yet the passage quoted above demonstrates the value attached to verisimilitude within the conventional parameters of figural depiction.

The widespread combination of figural with aniconic imagery in medieval Islamic artifacts and the outspoken appreciation of mimetic affects are expressed in a poem by the celebrated Abbasid poet al-Mutanabbi, who died near Baghdad in 965, the year Ibn al-Haytham was born in nearby Basra. It has been observed that al-Mutanabbi's poem sheds light on a tenth-century Muslim intellectual's attitude toward figural depiction and the question of "mimesis and animation in art."<sup>51</sup> This Arabic poem, probably written in Aleppo around 948–49, describes the surfaces of a lavishly decorated royal tent that amazed the beholder with its naturalistic animal designs, depicted against a backdrop of gardens with trees and plants and framed by a decorative border of pearl motifs. These designs were brought to life and animated by the blowing wind that bestowed movement to the realistically represented plants, flowers, trees, birds, and animals in combat.

The fascination with verisimilitude in animated figural representations also finds testimony in the account by the Mamluk-period Egyptian historian al-Maqrizi (d. 1442) of a mid-eleventh-century contest between an Egyptian and Iraqi painter, close to the time Ibn al-Haytham resided in Cairo. The contest was organized by the Fatimid vizier Yazuri (r. 1049–58), who is said to have been especially fond of "illustrated books" (*kitāb muṣawwar*) and "images and pictures" (*ṣūrat wa tazwīq*). The vizier invited the painter Ibn 'Aziz from Iraq, whose fame equaled that of the calligrapher Ibn al-Bawwab (d. 1022), to challenge the conceited Egyptian painter al-Qasir who demanded high wages because he was as great in painting as Ibn Muqla (d. 940) was in calligraphy. This comparison of the painters to the two leading calligraphers of Abbasid Baghdad, who codified proportioned cursive scripts, is an indication of the prestige of calligraphy as the standard against which painting is being measured. The vizier introduced both painters to his "assembly" (*majlis*) and incited them against one another. The Iraqi artist announced that he would "paint"

(*yuṣawwiru*) a figure in such a way that the beholder would think it is coming out of the wall. His Egyptian competitor proposed to depict the same subject as if the figure were going into the wall, whereupon those present exclaimed, "This is more wondrous [*a'jab*]!" Their response captures the curiosity value of the feat and the performativity of the ensuing artistic show. The painters each painted the picture of a dancing girl, in two niches opposite one another—that of al-Qasir wearing a white dress against a black background, and that of Ibn 'Aziz in a red dress against a yellow backdrop. Each artist succeeded in achieving the painterly illusion he set out to create, and Yazuri lavishly rewarded them both.<sup>52</sup>

This episode, which stresses the importance of lifelikeness within the bounds of prevailing seminaturalistic modes of abstract representation, indicates that the scholar al-Maqrizi harbored no religious misgivings about illusionistic figural painting animated by movement. Recalling anecdotes on organized competitions among ancient Greek painters, the leitmotif of the contest is a trope encountered in other Islamic texts that will be discussed later. The trope of the contest may perhaps carry the echoes of such classical sources as Pliny the Elder's *Natural History*, according to which the highest artworks are created by artists granted by nature an "insight into art" that enables them to better imitate nature. Besides stressing verisimilitude and mimetic perfection as the principle aim of art, Pliny's "art-historical" chapters underline the value attached to artworks that are curious, wondrous, and daring (*mirabilia*).<sup>53</sup>

Al-Maqrizi explains that the Fatimid vizier's contest was described in greater detail in a (now-lost) book entitled *Ṭabaqāt al-muṣawwirīn*, or *Ḍaw' al-nibrās wa anas al-jullās fī akhbār al-muzawwiqīn al-nās* (Biographies of Painters, or The Guiding Lamp and the Pleasure of Company in the Biographies of Painters among People).<sup>54</sup> The title hints at the entertainment value of representational paintings in courtly gatherings (also the case with figural automata), for which there is ample evidence in early modern sources as well. For instance, in a courtly *majlis* of the Turkic vizier of Timurid Herat, 'Ali Shir Nava'i (d. 1501), the celebrated painter Bihzad (d. 1535–36) presented a portrait of the vizier standing in a garden, leaning on a cane. The portrait was passed around and evaluated by those present in terms of its

verisimilitude, even though painted portraiture on paper was governed by a marked tension between realism and convention.<sup>55</sup> Individualized portraits were not confined just to the arts of the book but also enlivened the painted palace murals of the Timurid, Turkmen, and later Islamic courts.<sup>56</sup>

To return to Ibn al-Haytham's *Book of Optics*, this Arabic treatise was disseminated in the post-Mongol Islamic East through the expanded Persian translation and commentary (1309) of Kamal al-Din al-Farisi, which explicitly refers to the "figurative arts" (*ṣinā'at al-taṣvīr*). The author of this updated translation, entitled *Kitāb Tanqīḥ al-manāzīr* (Revision of the *Optics*), was a scientist who had studied with the polymath Qutb al-Din al-Shirazi (d. 1311) at the Maragha observatory of the Mongols.<sup>57</sup> His Persian text, in turn, was abridged in 982 (1574–75) with a discussion of its main topics in Arabic and dedicated to the Ottoman sultan, Murad III, by the chief court astronomer, Taqī al-Din Muhammad b. Ma'ruf (d. 1586).<sup>58</sup> Just around that time, in 1572, Friedrich Risner's edition of Alhazen's Latin translation was published in Basel under the title *Opticae thesaurus* (fig. 7).

The reworking of Ibn al-Haytham's treatise by both Kamal al-Din al-Farisi and Taqī al-Din within the context of astronomical observation exemplifies its confinement to the realm of the scientific gaze in the eastern Islamic lands, where the pictorial arts were not conceptualized as a field of applied optics (fig. 8). It is therefore important to distinguish between two kinds of perspective: the "painters' perspective" exclusively developed in early modern Europe, and the perspective of astronomers, geometers, and architect-engineers that continued to flourish in both the Islamic and Christian domains.<sup>59</sup>

For the Damascus-born Arab astronomer-engineer, Taqī al-Din, a royal observatory had been built in the Galata district of Istanbul, which was dominated by the European residents of the Ottoman capital. This court astronomer, who spent most of his professional life in Istanbul after an initial stage of astronomical experimentation in Ottoman Cairo, was keen to keep up with contemporary scientific advances in Europe. His collaborators included a Jewish astronomer from Ottoman Thessaloniki known as Davud "the Mathematician."<sup>60</sup>



Fig. 7. Print showing Archimedes setting Roman ships on fire with the help of parabolic mirrors. Frontispiece of the Latin translation of the *Book of Optics* of Ibn al-Haytham, *Opticae thesaurus ... Libri Septem, nunc primum editi. Eiusdem liber De Crepusculis & Nubium ascensionibus. Item Vitellonis ... Libri X. Omnes instaurati, figuris illustrati & aucti, adiectis etiam in Alhazenum commentariis, a Federico Risnero* (Basel, 1572). (Photo: Gülru Necipoğlu)

A note Taqī al-Din wrote on a copy of the Arabic translation of Claudius Ptolemy's (d. ca. 168) *Almagest* explains that he had researched Greek manuscripts to determine the vocalization of the name Claudius and found the meaning of *Almagest* in the Latin book of Ambrogio Calepino (d. 1511). The discovery of the note has suggested that he was "almost up-to-date on whatever philological works were being published during the European Renaissance."<sup>61</sup> It also points to a hitherto underestimated two-way traffic of scientific exchanges between Western Europe and the Ottoman empire, demonstrating the continuing vibrancy of Arabic sciences.<sup>62</sup> Such a conclusion finds support in the striking correspondence between the high-precision observational instruments for stargazing constructed by Taqī al-Din for the Galata observatory (ca. 1575–80)—built on the site of the former



Fig. 8. The court astronomer Taqi al-Din using a quadrant to observe a comet that appeared in the skies of Istanbul in 1576. From Mustafa 'Ali, *Nuşretname*, 1584. Istanbul, Topkapı Palace Museum Library, Ms. H. 1365, fol. 5b. (Photo: Hadiye Cangöçke, courtesy of Emine Fetvacı)



Fig. 9. The court astronomer Taqī al-Din with his colleagues working at the Galata observatory. From Seyyid Lokman, *Shahanshāhnāma*, 1581. Istanbul University Library, Ms. F. 1404, fol. 56b–57a. (Photo: Hadiye Cangöççe)

palace of the Venetian merchant Alvise Gritti (d. 1534)—and those deployed in the observatory (ca. 1576–80) of Tycho Brahe (d. 1601) in Uraniborg, Denmark.<sup>63</sup> Taqī al-Din explained that one of the precision instruments he created for the royal observatory was his own invention, inspired directly by the *Almagest* and previously unknown.<sup>64</sup>

The extensive library of the Galata observatory also included a major collection of Islamic scientific manuscripts on astronomy and geometry that once belonged to the Ottoman scholar and royal librarian Molla Lutfi (d. 1494). The latter was a student of the Timurid astronomer-mathematician ‘Ali Qushji (d. 1474), who had joined the Ottoman court before 1472 (fig. 9). The fact that this manuscript collection, which Sultan Murad III ordered to be handed over to the “pride of astronomers,” Taqī al-Din, in 1578, was being kept at the chief architect

Sinan’s (d. 1588) masjid in Istanbul, built and endowed in his own name, is suggestive indeed. The collection may have included Ibn al-Haytham’s *Optics*, all known manuscript copies of which are currently in Istanbul libraries. If so, this treatise and others on the mathematical sciences must have been deemed relevant for Ottoman architectural practice by Sinan and his team of architect-engineers. It is not a coincidence that an astronomer called Molla Fütuh was part of a survey committee, headed by Sinan in 1582, whose members were assigned to prepare an estimate for a canal project connecting Lake Sapanca to the Bay of Izmit.<sup>65</sup>

Ibn al-Haytham’s influential Arabic treatise, along with its translations and commentaries, circulated widely in Europe as the major work on the science of optics and the study of vision until the early seventeenth century. It was then that the treatise on optics by

Johannes Kepler (d. 1630) advanced the modern understanding of the nature of light and the formation of the retinal image, based on data collected by the astronomical observations of Tycho Brahe (d. 1601).<sup>66</sup> In *The Judgment of Sense* (1987), David Summers notes the parallel yet differing trajectories of Ibn al-Haytham's theory of visual perception, coordinated by the faculty of judgment, in premodern Europe and the Islamic lands. Linking the rise of the inner senses in late medieval and Renaissance Europe to the new authority of artists, Summers regards these human faculties as the ancestor of modern aesthetics and the unconscious that paved the way to Surrealism and Modernist Abstraction. By contrasting the transformation of nature in Islamic art, which gives free reign to the faculty of imagination, with the Renaissance enterprise of making internal and external vision mutually reinforce one another, Summers anticipates Belting's more detailed comparison between these two visual cultures. The union of naturalistic representation and optics in one-point perspective entailed the fixed point of view of an observer, a bipolar separation between subject and object that, in Islamic art, remained relatively fluid. While the immobile perspective gaze produced static images, the kinetic gaze allowed for the entry of the body, the senses, and desire into the fractured unity of visual spaces in Islamic art and architecture.<sup>67</sup>

Late medieval and early modern written sources, along with monumental inscriptions, capture the potential of architectural spaces to promote the type of prolonged contemplative gaze theorized in Ibn al-Haytham's *Book of Optics* by stimulating the cognitive faculties of vision. The cases considered in the next section show how ravishing multisensory architectural ensembles could attract the subjectivity of attentive beholders like seductive visual magnets by inviting an intimate, close-up way of viewing. The willful complication of the optical field in architecture and the arts can be interpreted as a calculated way of inducing contemplative vision, a "way of seeing" that is often referred to in Ottoman texts as the "scrutinizing gaze" (*im'ân-i nazar*).<sup>68</sup> Regardless of the debate on whether or not theories of vision and aesthetics had an impact on artistic production, such texts offer precious glimpses into widespread sensibilities that framed visual hermeneutics. Despite

their often underestimated value, Islamic narrative sources, poetry, and literary inscriptions provide valuable insights into aesthetic values that informed the modalities of the gaze and attitudes toward the visual arts, including the appreciation of lifelike figural representation.

#### THE CONTEMPLATIVE GAZE AND THE FASCINATION WITH MIMETIC IMAGES

The late fourteenth-century poetic epigraphy in Arabic at the Alhambra Palace in Granada, for instance, implies that sight could lead to cognition through pleasurable wonderment (fig. 10). One such inscription encourages the beholder to ponder the beauty of its architectural support, the visual perception of which exceeds the most extravagant conceptions of the "imagination." This is a beauty that resonates with cosmological metaphors: "I am the garden appearing every morning with adorned beauty; contemplate my beauty and you will be penetrated with understanding." Another inscription refers to the unfolding of so many wonders that "the eyes [of the beholder] remain forever fixed on them, provided he be gifted with a mind [to estimate them]." The Alhambra's poetic epigraphy thus acknowledges the mental dimension of aesthetic perception, which is not limited simply to the eye.<sup>69</sup>

It has been argued that the poems in the first-person voice directly engage with and guide the beholder "from visual perception to imaginative cognition."<sup>70</sup> While the Hall of the Two Sisters and the Mirador de Lindaraja accessed from it, where some of the inscriptions are concentrated, feature entirely aniconic ornaments, the roughly contemporary Hall of Justice (Hall of Kings) in the same courtyard boasts figural paintings in a late medieval European style. Attributed to the Nasrid ruler Muhammad V (ca. 1362–91), these large paintings on leather, which adorn three contiguous vaulted ceilings, are seamlessly incorporated into an otherwise aniconic decorative program (fig. 11).<sup>71</sup> The North African scholar Ibn Khaldun (d. 1406) observed that decorating the walls of buildings and houses in Nasrid al-Andalus with Europeanate figural images was a widespread practice. Presumably because such murals were uncommon in his

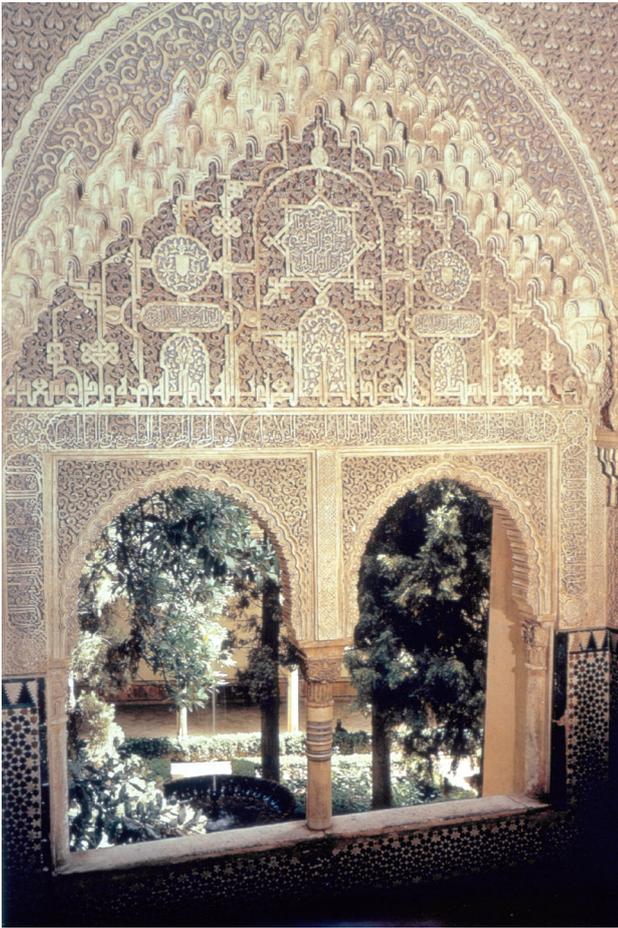


Fig. 10. Alhambra Palace, Granada, Mirador de Lindaraja, fourteenth century, interior view showing the northern window overlooking a garden below. (Photo: Harvard University Fine Arts Library Visual Collections)

homeland, he regarded this practice as a sign of foreign domination. Although this may well be the case, Ibn Khaldun did not take into consideration the reciprocity of artistic exchanges between the Nasrids and their Castilian allies, which complicates the matter because both parties manipulated a collective Iberian language of courtly culture for self-fashioning.<sup>72</sup>

The late medieval fascination with Frankish mimetic figural representations is also documented in another Islamic frontier region at the edge of Western Europe, namely the Ottoman territories ruled by Bayezid I (r. 1389–1402). This sultan demanded a ransom of Arras tapestries depicting “appropriate ancient histories” in

exchange for the captive son of the Duke of Burgundy, Philip the Bold, after crushing the Crusader armies at Nicopolis in 1396. In response to that request, the duke sent two packhorses laden with the finest-quality Arras tapestries portraying “the history of King Alexander [the Great], with the major part of his life and his conquests.”<sup>73</sup> One of these Alexander tapestries was among the booty Timur brought from the Ottoman palace in Bursa to his own capital, Samarqand, upon defeating and capturing Bayezid I in 1402. The Arab chronicler Ibn ‘Arabshah (d. 1496), who had been carried off by Timur from Damascus to Samarqand in 1400–1401, saw this 10-cubit-wide “curtain” with lifelike naturalistic figural representations and deemed it “one of the wonders of the world,” whose “fame is naught to the sight of it.” His detailed description once again testifies to the unrestrained admiration aroused by mimetic figural imagery, animated by affects of motion, as noted above in al-Mutanabbi’s and al-Maqrizi’s verbal accounts. The tapestry was

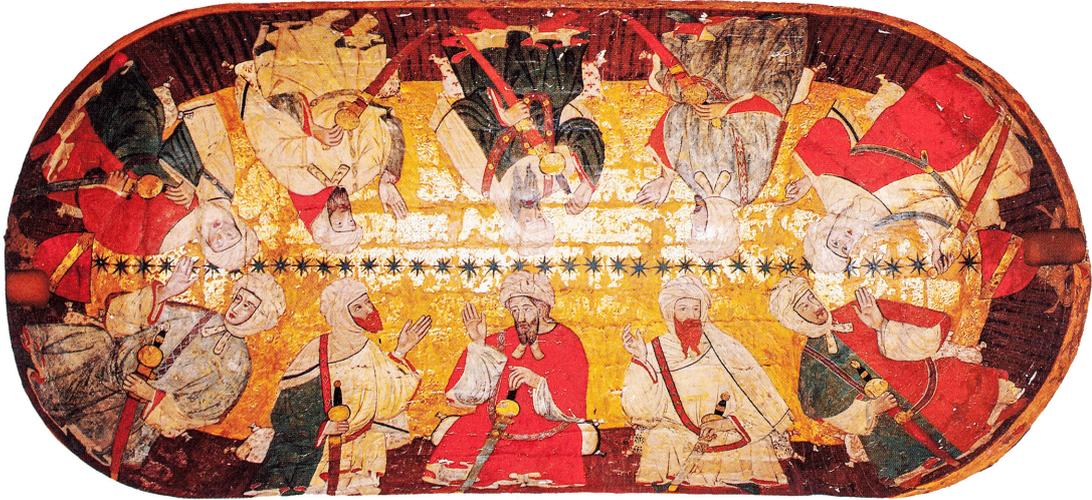
decorated with various pictures of herbs, buildings and leaves, also of reptiles, and with figures of birds, wild beasts and forms of old men, young men, women and children and painted inscriptions and rarities of distant countries and joyous instruments of music and rare animals exactly portrayed with different hues, of perfect beauty with limbs firmly jointed: with their mobile faces they seemed to hold secret converse with you and the fruits seemed to approach as though bending to be plucked.<sup>74</sup>

Europeanizing images, attested in the figural mural paintings of Nasrid Granada, also began to appear in the Persianate arts of the book in the Islamic East during the fourteenth century. This trend would accelerate in subsequent centuries until figurative representations in the “Frankish manner” eventually displaced the post-Mongol taste for sinicizing imagery around 1600.<sup>75</sup>

The practice of “contemplative perception” described by Ibn al-Haytham was not only confined to secular images but also induced by religious architecture. His contemporary al-Tha‘alibi (d. 1038) recounts in *The Book of Curious and Entertaining Information* the story of a shaykh who was utterly captivated by the visual splendor of the Umayyad Great Mosque in Damascus (705–15), “one of the wonders of the world in its beauty and uniqueness.” This old man of Damascus used to say that



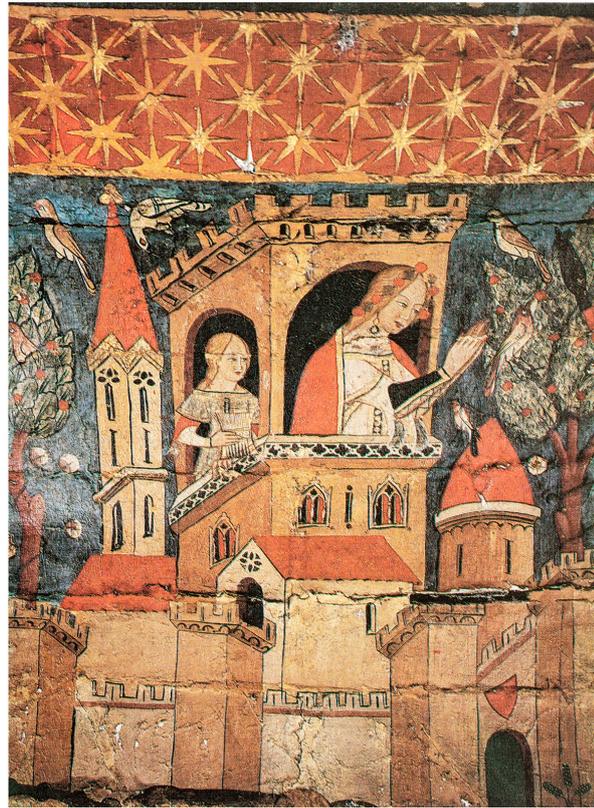
a



b



c



d  
Fig. 11d and 11e.

e

each time he went to pray in that mosque, ever since his youth, “he had never once entered it without his eyes alighting on some piece of inscriptional carving or ornamentation or other aspect of its beauty which he had never noticed before.”<sup>76</sup> The shaykh’s enthusiastic aesthetic response to the allure of wondrous visual forms, continually revealing new beauties, can be likened to a process of mystical unveiling (*kashf*) that was particularly upheld in Sufi circles. The mosque’s partly extant,

lavish aniconic ornaments, accompanied by intricate Kufic inscriptions, included representational Byzantinizing mosaics depicting ethereal architectural landscapes without animate figures (fig. 12).

This narrative once again illustrates the positive value attributed to gazing. By contrast, some puritanical hadith and texts on jurisprudence (*fiqh*) criticized the use of distracting ornaments and even inscriptions in mosques, indicating differences in opinion that were

←  
Fig. 11. Alhambra Palace, Granada, Hall of Justice, late fourteenth century. (After Jesús Bermúdez Pareja, *Pinturas sobre piel en la Alhambra de Granada* [Granada, 1987])

a. Northern ceiling

b. Central ceiling

c. Southern ceiling

d. Detail from the northern ceiling, depicting noble couples gazing from belvedere windows and arches, with a fountain in the foreground

e. Detail from the southern ceiling, depicting a noble lady and her attendant looking out from the belvedere window of a castle at the landscape and battles scenes below



Fig. 12. Umayyad Great Mosque, Damascus, 705–15, mosaic revetments at the west arcade of the courtyard. (Photo: Anna Gonosova, Harvard University Fine Arts Library Visual Collections)



Fig. 13. Selimiye Mosque, Edirne, 1568–74, interior. (Photo: Reha Günay)

negotiated according to the preferred orientations of diverse regimes of visibility across time and space.<sup>77</sup> An account comparable to that of the medieval Damascene shaykh is narrated centuries later about an Ottoman painter-decorator called Nakkaş Ahmed Çelebi. This artist became so enamored of the Selimiye Mosque in Edirne (built by the Ottoman chief architect Sinan between 1568 and 1574) that he dedicated all his time after the prayers to gazing at its wondrous forms, which daily unveiled to him concealed beauties as a kind of visual revelation (fig. 13). He then reported these newly revealed marvels to his friends each evening in convivial gatherings.<sup>78</sup> This state of affairs is described in an epistle on the Selimiye Mosque, written by Dayezade Mustafa Efendi in 1741, where the author himself engages in a prolonged visual meditation and hermeneutical reflection on the mosque's architectural forms in a stream-of-consciousness narrative mode. Dayezade individually ponders distinctive architectural elements as a source of spiritual revelation, involving a meditative exercise of unrestrained freedom that is deeply imbued with cosmological metaphors.<sup>79</sup>

Like earlier narratives, sixteenth-century descriptions of Ottoman monuments frequently highlight the amazement aroused in discriminating beholders who are “clear-sighted” (*şāhib-naẓar*, *erbāb-i naẓar*).<sup>80</sup> That Sinan's mosques could even transport their congregations into states of spiritual rapture is suggested by the

Turkish endowment deed of a mosque complex he built (1577–90) for the princess Shahsultan and her husband Zal Mahmud Pasha in a delectable garden along the shores of the Golden Horn. The mosque's aniconic interior is portrayed as capable of triggering visionary experience by sharpening ocular vision. It could almost restore eyesight to the blind with its light-filled windows commanding spectacular vistas (fig. 14). An excerpt from this astonishing description reads:

Truly the mosque is a charming and immaculate sanctuary ... its windows are like doors opening from the belvederes of paradise for the eyes of worshippers. They provide vistas for eyes desirous of encountering God by making manifest the miracle-filled illumination of the true path. Those entering there for the joy of God are granted spiritual states [*hālet*]. It is a meeting place where people are caught in rapture and ecstasy [*vecd u hāl*]. This beautiful and alluring mosque is joy-giving and illuminated to such a degree that the eyes of humans, normally limited to perceiving the visible world, can almost penetrate the concealment of the sublime hosts of angels. This mosque embodies such a degree of charm and delight that it is possible for even the blind eye to behold brightness from its world-viewing belvedere windows.<sup>81</sup>

In similar fashion, the mid-sixteenth-century historian Eyyubi exclaims that inside the Süleymaniye Mosque in Istanbul (built by Sinan, 1550–57), “the garden of paradise becomes visible to the mystically inclined [*ehl-i hāl*].”<sup>82</sup> According to another observer, the visual

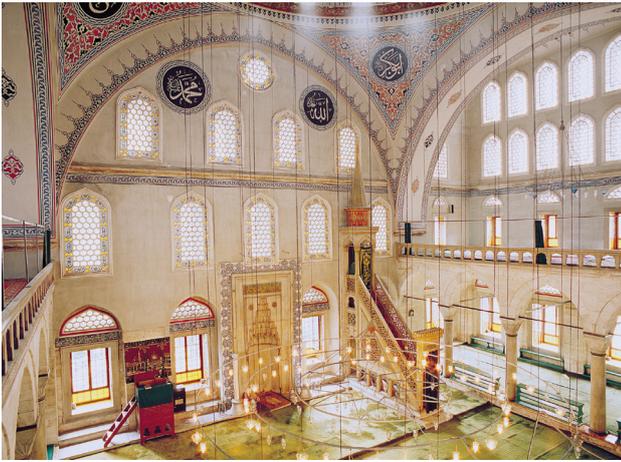


Fig. 14. Mosque of the Couple Shahsultan and Zal Mahmud Pasha, Eyüp, Istanbul, 1577–90, interior. (Photo: Reha Günay)

continuity between this mosque's interior and the gardens outside (seen through windows descending all the way to the floor level) created a feeling of transparency within the prayer hall where the odor of flowers "perfumed the minds" of the congregation, as if they had entered paradise.<sup>83</sup> The late sixteenth-century court historian Seyyid Lokman poetically describes the same spatial effect: "All four sides are opened up with pleasure-increasing windows on multiple layers, from which Space and Time is exposed."<sup>84</sup>

Expansive vistas were commanded by windows not only in Sinan's mosques but also in Ottoman palaces and garden pavilions whose belvederes find numerous parallels in Islamic palatial architecture, such as those of the Alhambra (see fig. 10). The latter, in addition, features paintings of fortified palaces with open belvedere towers, from whose arched windows courtly personages gaze at surrounding landscapes and activities (see fig. 11d, e).<sup>85</sup> The prevalence of view-commanding belvederes makes it difficult to maintain the aforementioned theorization of the *mashrabiyya* as a symbolic form of Arab-Islamic culture, "directed toward the interior instead of drawing the gaze toward the outside," which differs from windows and the view from them that are "inseparably linked in Western culture."<sup>86</sup>

Belting explains that the window and the mirror were "key concepts" in the Renaissance. In this context, where

the "eye offered the gaze control over the world," perspective painting became a "symbolic mirror in which the gaze depicted itself." The picture plane in Renaissance painting therefore came to be conceptualized as a mirror reflecting the artist's optical gaze, in which the viewers found their own gaze.<sup>87</sup> Drawing upon a rich medieval tradition, the mirror is also a recurrent metaphor in early modern Islamic written sources discussed in the following section.<sup>88</sup>

#### THE MIRROR METAPHOR AND MIMETIC ABSTRACTION

In Safavid and Ottoman texts on the arts, the eye of the artist and architect intently gazes at the world and universe beyond, not to record itself but rather to hold a mirror to ideal images reflected in the polished mirror of the mind, heart, or soul. While this is a gaze that continues to prioritize inner vision, insight is nevertheless mediated by sight instead of being "purely mental."<sup>89</sup> The ongoing preference to place inner vision above the outer kind is more about a divergence in pictorial theory—a favoring of abstraction over optical naturalism—than about "aniconism" or the lack of a "conception of pictures," as Belting proposes.

We have seen ample examples that render these notions irrelevant. Besides, the abstractive faculty of creative imagination, which foregrounds the agency of the artist and beholder, is privileged not only in Islamic visual cultures but also in East Asian and Western European nonperspectivist image theories, such as those pertaining to medieval, Baroque, and Modernist art. A comparable notion in Chinese art theory, for instance, is that the picture comes not entirely "from an observation of external phenomena" but "from within the heart/mind of the artist." Even Pliny the Elder, whose anecdotes are permeated by a preoccupation with mimetic perfection, credits the agency of the artists' mind, intellect, and insight, thanks to which painting was recognized in Greece as the foremost among the liberal arts. He thus characterizes the artist Timanthes's art as embodying a "sense of some more profound content" and having "behind it an intellect that reached beyond art."<sup>90</sup>

Unlike Renaissance single-point perspective painting that sought to scientifically map the outer gaze on the picture plane, contemporaneous artists in the eastern Islamic lands aspired to mirror the insightful gaze by means of soulful and evocative mimetic abstractions that enlighten the beholder. Directed toward subjectivity rather than objectivity, such seminaturalistic, multi-focal pictorial images solicited close attention from discerning eyes. They came closer to poetry, conceptualized as a mode of imaginative creativity arousing pleasurable wonder, than to the science of optics, with its own geometry of the gaze. Like poetic discourses, pictorial representations manipulated codified imagery and conventions, selectively integrating more naturalistic representational devices from the fifteenth century onward into the international Persianate painting tradition embraced by diverse Turco-Iranian polities. The degree of naturalism varied in accordance with specific regional traditions, genres, and styles.

It has been shown that the assimilation of theories of visual perception into literary discourses is already apparent in the writings of the Persian poet Nizami Ganjavi (d. 1209), referring to the mental origin of images, painted from memory and from forms stored in the imagination.<sup>91</sup> The terminology of Neoplatonism and Islamic mysticism, adopted in the medieval Persianate literary tradition and perpetuated in early modern texts on the visual arts, revolved around the dichotomy of outer appearance (*ṣūrat*) and inner reality (*ma'nī*), connected to the Sufi concepts of exterior (*zāhir*) and interior (*bāṭin*). Ideal beauty arose from a harmonious fusion between outward form and inner meaning, through the creative deployment of conventional imagery that would become invigorated with an increasing dose of naturalism in the post-Mongol era.

The image theory that pervades Nizami's oeuvre is visually articulated in fifteenth- and sixteenth-century manuscripts of his *Khamṣa* (Quintet), produced in the Turkmen and Safavid courts of Iran. Paintings in these manuscripts illustrate the parable of a competition between Chinese and Greek painters, who are asked by Alexander the Great to decorate with murals two facing walls of a palace, separated by a curtain (figs. 15–17).<sup>92</sup> In the version of Nizami's parable narrated about eighty years earlier by the Iranian Sufi scholar al-Ghazali, the

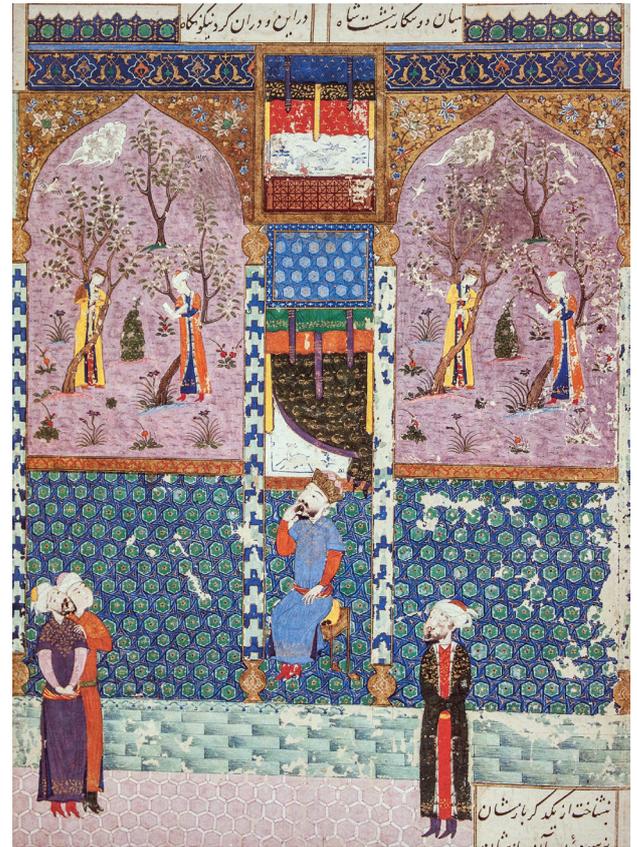


Fig. 15. Contest between Greek and Chinese painters. From Nizami, *Khamṣa*, mid-fifteenth-century, probably Shiraz, Qaraqoyunlu Turkmen. Istanbul, Topkapı Palace Museum Library, Ms. H. 753, fol. 304r. (After *Sultanların Aynaları*, exh. cat., Topkapı Palace Museum [Istanbul, 1998]), 18, fig. 5)

Chinese artist wins the competition in the “art of design and painting” (*ṣan‘at al-naqsh va’l-ṣuvar*) by polishing his wall like a mirror. When the curtain is lifted, its burished surface reflects with greater luminosity and increased beauty the Greek artist’s mural painting. While the winner is likened to the Sufi who polishes his heart until divine radiance shines in it, his rival is compared to the *ulema* who strive for external knowledge. According to Nizami’s modified version of the parable, both mural paintings appeared to be nearly identical in drawing and color, except for one difference: one was giving and the other receiving. The Greek mural was judged superior in figural painting (*ṣūrat-garī*) and the Chinese



Fig. 16. Contest between Greek and Chinese painters. From Nizami, *Khamsa*, Shawwal 900 (June 25–July 23, 1495), Shiraz, Aqqoyunlu Turkmen. Istanbul, Topkapı Palace Museum Library, Ms. H. 778, fol. 324r. (After *Sultanların Aynaları*, 20, fig. 7)

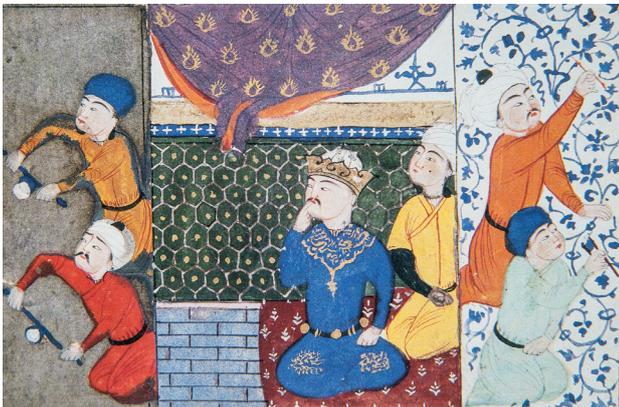


Fig. 17. Contest between Greek and Chinese painters. From Nizami, *Khamsa*, Rabi' II, 919 (June 6–July 4, 1513), Shiraz, Safavid. Istanbul, Topkapı Palace Museum Library, Ms. H. 788, fol. 319r. (After *Sultanların Aynaları*, 19, fig. 6)

one superior in polishing (*şaqf*). The conclusion of the contest was that “both are an aid to vision [*başar*].”<sup>93</sup>

Different interpretations have been proposed for Nizami's enigmatic account. According to Ibn Khaldun's commentary, al-Ghazali's version of the parable was meant to elucidate the difference between alternative modes of cognition by the soul, envisioned as turning on one side toward the material world and on the other side toward the eternal Preserved Tablet (*lawh al-mahfūz*) of divine creation. The curtain of corporeal impurities separating the soul from the Tablet could be lifted by purification, so as to more effectively receive the reflections of luminous supranatural realities. The painter who polishes his wall thus represents the Sufis, for whom the reception of inspired knowledge (*ilhāmī*) through dreamlike visions constitutes the highest proof,

whereas the other painter personifies those who seek acquired external knowledge (*kasbī*). Ibn Khaldun explains that between these two facets of cognition, the brighter specular reflection alludes to the supremacy of mystical enlightenment, on which Plato, “the greatest philosopher and Sufi of antiquity,” placed a premium. Given Nizami’s own Sufi proclivities, the polished wall in his version of the allegory is probably a metaphor for the purity of the soul, affirming the value judgment that reflective mirror vision is a more profound mode of mimetic imaging than illusionistic painting, although he does not explicitly state this. The equivocal conclusion of the contest in his account recalls al-Maqrizi’s above-mentioned narration of another competition without an obvious winner at the court of a Fatimid vizier, in which both an Iraqi and Egyptian painter are rewarded for their equally successful realistic representations.<sup>94</sup>

Early modern paintings illustrating Nizami’s parable can be interpreted as self-reflexive images, reflecting upon their own operation and upon their role in positioning the viewer/subject. It is tempting and not implausible to read into them an implicit critique of the deceptive mimicry of Renaissance perspective painting, which sought to mirror “reality,” as if what one saw on the picture plane seemed to mirror “truth itself.”<sup>95</sup> As noted above, even some Renaissance artists expressed skepticism about the claim to truth of painters’ perspective. Such a critique is, in fact, hinted at in a mid-sixteenth-century Safavid version of the contest of painters (*naqqāshān*), now involving Chinese and European (*farang*) figural painters (*ṣurat-garān*), in which the former triumph. This competition conflating the painters of “China and Cathay” and “Greek and Frankish” painters ends with a description of the talismanic world-reflecting mirror of Alexander the Great installed above the lighthouse of Alexandria (a metaphor for the heart of the Perfect Man in mysticism), and of how Aristotle made an astrolabe to view the heavens.<sup>96</sup>

One of the three manuscript paintings from Nizami’s *Khamsa* that are reproduced here shows the Chinese artists intently burnishing their wall like a mirror, in the manner of Sufi masters who purify the soul to increase its reflective capacity (see fig. 17). In each example, the wall paintings, whether figurative or nonfigurative, astound Alexander and his company, who bite their

fingers in awe and wonderment. The doubled murals in one example represent an idealized garden with a standing couple (see fig. 15), whereas the other two variants feature abstract gardens composed entirely of decorative scrolls: a chinoiserie or Cathayan (*khaṭā’ī*) floral scroll (see fig. 17) and an inhabited scroll with human and animal heads (*vāq*) (see fig. 16), respectively. Like these Iranian manuscript paintings, sixteenth-century Safavid album prefaces that will be discussed below conceptualize vegetal and floral scrolls as mimetic abstractions, distilled from the divine creation rather than as purely decorative motifs.

According to a later version of the parable in the biographical anthology of calligraphers and painters by the Ottoman polymath Mustafa ‘Āli (d. 1600), written in 1587–88, the legendary “Chinese artist Mani” (founder of Manicheism) wins the contest against three other masters of painting, each of whom is ordered to paint one of four walls in an emperor’s garden pavilion. All the other artists’ “wondrous creations” had been crafted with “inventions and [works of] originality,” as if they were signs of the divine “perpetual decorator and eternal artist’s” adornments in the highest gardens of paradise. Yet the winner, Mani,

that peerless master, gave the wall such a burnishing that [even] pure water had never been so transparent. And he gave his every image such a bright appearance that the world-illuminating mirror [i.e., the sun] has never furbished plants and flowers in that tone. *Verses by the author:*

With their pure, natural quality, Mani’s  
Designs became a mirror for his enemies.

He gave [his] world-renowned pictures such a light that  
From end to end they began to manifest God’s providence.<sup>97</sup>

The metaphor of the polished mirror or pure tablet of the painter-decorator’s heart/mind/soul is a recurring theme in sixteenth-century Safavid and Ottoman texts, rooted in an international Timurid-Turkmen cultural heritage that increasingly became infused with Sufi paradigms of enlightened inner vision and inspired creativity. The eminent Timurid historian and stylist Khvandamir (d. ca. 1535), for example, described a glass vessel with figurative representations of thirty-two artisans, made in 1465, as “such a configuration that no

more beautiful picture could be reflected in the mirror of the imagination.”<sup>98</sup> Khvandamir’s late fifteenth- or early sixteenth-century preface to a now-lost album of calligraphy and painting samples, assembled by the painter Bihzad, eulogizes the album folios, which delight the soul with their “pictures” (*ṣūrat*) that “the artist of the mind [*muṣavvir-i khāṭir*] has transferred from the tablet of the heart/mind/soul [*lavḥ-i dil*] to the pages of this book.”<sup>99</sup>

In the preface of an album dedicated to the Safavid prince Bahram Mirza in 1544–45, the court calligrapher Dust Muhammad declares that “when the desired form is manifested from the invisible world, like a mirror, the surface of a pure heart is the best.”<sup>100</sup> The same preface mentions the Artangi Tablet, consisting of images painted on silk by the legendary artist Mani, the likes of which “occur only in the mirror of the mind [*āyīna-yi ‘aql*] through the eye of imagination [*dāda-yi khiyāl*].”<sup>101</sup>

The mirror metaphor also appears in the preface of a Safavid album, dated 1564–65 and compiled by Mir Sayyid Ahmad for Amir Ghayb Beg. This preface exalts the status of vision by defining the visual arts as the “key to wisdom” and the pen as the “key to art.” The characterization of the pen as the “designer of patterns” and “an unveiler of faces” encapsulates the fluidity between modes of ornamental and representational design, which multitalented Iranian artists mastered during apprenticeship (see figs. 3 and 4). The author of the preface praises the “amazing images and wonderful motifs” of this “art” (*ṣan‘at*), which are the “object of contemplation for those possessed of insight.” Stating that the “imaginative power and elegance of nature” of its practitioners is not possessed by experts in the other arts, he adds: “The beauty that unveils her face in the tablet of the painter-decorator’s mind [*lavḥ-i khāṭir-i naqqāsh*] is not reflected in everyone’s imagination.”<sup>102</sup> In Mir Sayyid Ahmad’s preface, decorative designs in the seven fundamental modes, which parallel the six pens in calligraphy, are regarded as mimetic abstractions modeled on the divine artist’s wondrous creation:

What marvelous wielders of pens of sorcery who bestow  
life with magic-making pens!  
Latched onto every created thing, they reproduce the like-  
ness of every thing.  
They follow God’s craft from the compass of the spheres to  
the surface of the earth.

With their gazes fixed on creation, they take an image from every prototype.<sup>103</sup>

These lines of poetry imply that depictions on the album’s folios echo the mirroring in the tablet of the painter-decorator’s mind of cosmic prototypes, inscribed with the Divine Pen on the eternal Preserved Tablet. It is not surprising, then, that Safavid prefaces often conceptualize albums as microcosms, comparable to the patchwork (*muraqqa‘*) of the sky, which have been assembled to praise God’s creation and to invite an intimate gaze from insightful viewers. Their “pure” images drawn by the “spirit and soul” arouse “spiritual pleasure and eternal delight.”<sup>104</sup>

Similar statements are encountered in the preface of an Ottoman album combining images and calligraphies that was assembled by the artist Kalender for Sultan Ahmed I around 1610. Also conceptualized as a microcosm of the divine creation, this album is likened to the Mirror of Time, whose polished surface revealing kaleidoscopic images is the object of esteemed gazes. Kalender’s preface explains that gazing at the album’s wonder-arousing beautiful contents, created by talented artists and calligraphers, will perfect in the sultan “the eye of learning by example” (*‘ayn-i ‘ibret*) and increase his capital in “the science of wisdom” (*‘ilm-i ḥikmet*). Contemplating the album’s wondrous artworks will console the monarch’s troubled heart by enlivening his mind and please his soul by adding beauty to his radiant inner world. The skillful manner in which the album’s contents have been seamlessly joined together will be obvious to those with “acute perception” (*ḥurdebīnān*) and to “sagacious people of insight” (*ḥurdedān-i ehl-i ‘irfān*), if each work is viewed with a “scrutinizing gaze” (*im‘ān-i naẓar*).<sup>105</sup> Briefly put, gazing at the album’s artistic beauties will not only beautify the beholder’s inner world but also promote pleasure, knowledge, and wisdom.

#### THE COSMIC GAZE AND THE RHETORIC OF SUPERREALISM

Glimpses of pictorial theory can also be gleaned from early modern technical manuals expounding the canons of painting and calligraphy. A Safavid example

entitled *Qānūn al-Şuvar* (The Canons of Painting, 1597) was written by the Turkmen court painter and poet Sadiqi Beg Afshar (d. 1609–10), the head of the library (*kitābdār*) of Shah Abbas I (r. 1588–1629). The author praises the multitasking master who trained him as having “piercing eyes” capable of gazing upon expansive cosmic vistas:

When drawn to picture animate life, his achievements were sheer wizardry and miracle. When minded to portray a certain person, his creative imagination [*khiyāl*] could penetrate to the inner man beneath. And none could truly distinguish between original and likeness—unless, perhaps purely physical considerations of motion were invoked. Indeed, when he painted “Maiden Beauty,” Passion’s thighs, beside themselves, went a-quivering uncontrollably. And when he portrayed “Sir Valor,” Prowess, cut the quick, was sent a-questioning the philosopher’s elixir. Then again, when he turned his brush [from the figural] to the decorat genre [*naqqāshī*], the fabled gardens of Iram rose re-created a-fresh on earth. And lastly, in view of his color-varnishing technique, Dame Purity would take one look and flush crimson to her shame.<sup>106</sup>

What drew the author to his profession was an inner voice insinuating: “Your true vocation is art [*hunar*], seek it diligently the rest of your days. Pursue it militantly, and cling to it mightily; for life without art is bleak.” Sadiqi Beg passionately resolved to find a “master-follower of the Bihzadian line” of figural painting and to bind himself in apprenticeship and learn to “paint the bazaar-world of pictured things with the sole idea of drawing near to their Real Nature.”<sup>107</sup> Sadiqi, upon finding his incomparable master, Muzaffar-‘Ali (d. ca. 1576), faithfully bound himself to him in apprenticeship:

So assiduously did I abandon myself to figural painting [*şūrat-garī*] that I was able to discover how, by this art, what was intrinsically real within a subject [*ma‘nā*] could be represented, to all appearances, through its external form [*şūrat*]. I prided myself on having become a conquistador in the realms of these genres and techniques [*fann*]. For all these conquests were in the name of Muzaffar [i.e., Muzaffar-‘Ali], that saintly *shaykh* among men, my master.<sup>108</sup>

Comparable praises of artistry and mimesis are encountered in late sixteenth-century Safavid and Ottoman biographical anthologies of calligraphers and painters.

One was composed by the Safavid scholar and man of letters, Qadi Ahmad, around 1596 (revised second edition 1606), so that it “may prove useful to connoisseurs and find a place in the flourishing *kitābkhāna* of the Shah of the World [‘Abbas I], by the side of masters of writing and artists.”<sup>109</sup> Written a decade earlier, Mustafa ‘Ali’s Ottoman-Turkish version of the same biographical genre, introduced above, attests to the currency of similar yet divergent discourses on the visual arts in the “lands of *Rūm*” (i.e., the formerly Roman realm of the Ottoman empire). This work was intended to educate uninformed collectors of paintings and calligraphies, who were “addicted” to albums. It signals the emergence of an open market for the sale of artworks by renowned past and present masters.<sup>110</sup>

Mustafa ‘Ali highlights the regional distinctiveness of Ottoman (*rūmī*) aesthetic sensibilities from those of the Iranian (*‘acemī*) artistic tradition. He characterizes some Ottoman artists and calligraphers as the “inventors” (*mūcid*) of new styles differing from the “manner of the Iranian world” (*üslūb-i ‘acemī*), where stricter imitative practices passing from master to disciple were preferred.<sup>111</sup> Thus the *paragone* set up in Dust Muhammad’s and later Safavid album prefaces among Chinese, Frankish, and Persianate artists has been substituted here by a competitive comparison between practitioners of the arts in Iran and the lands of Rum.<sup>112</sup> It has been shown that such a comparative gaze informs the organizational strategy of the Sultan Ahmed Album, where Iranian and Ottoman works are juxtaposed to invite comparison.<sup>113</sup>

The divinely bestowed power of artistic invention and individualism is a key concept in Ottoman texts, in which the ideal of mimetic abstraction and the cosmic gaze occupy a central position. The autobiography that the chief architect Sinan dictated to Mustafa Sa‘i in the 1580s is the prime example of the exaltation of innovation and creative genius, not unlike the lives of Italian Renaissance artists and architects. Since Sinan’s oral accounts were recorded with literary embellishments by his poet friend, who was also a painter and calligrapher, they closely echo concepts encountered in the biographies of calligraphers, painters, and poets. The chief architect’s self-assertive autobiographies stress his mental powers of invention. His God-given talent wins him

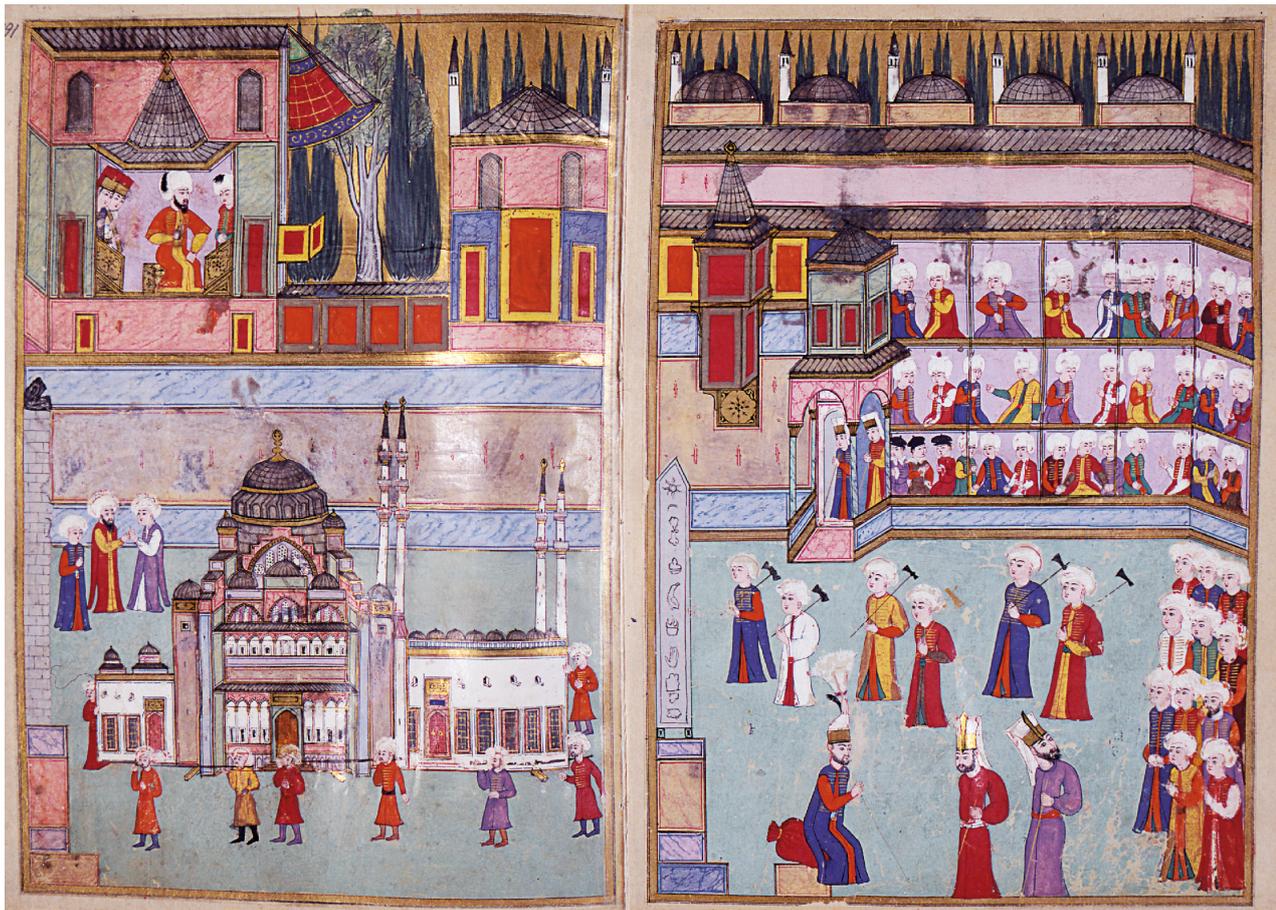


Fig. 18. Parade of royal architects with a model of the Süleymaniye Mosque during the circumcision festivities of a prince in 1582 at the Hippodrome in Istanbul. From İntizami, *Sünnâme-i Humâyûn* (Book of Festivities), ca. 1587. Istanbul, Topkapı Palace Museum Library, Ms. H. 1344, fol. 190b–191a. (Photo: Hadiye Cangökçe)

the status of “perfect man” (*insân-i kâmil*), which is the highest station attainable by humankind in Sufi parlance. Modeled on the lives of miracle-working saints, the autobiographies elevate Sinan to the status of sainthood (*velâyet*) and style him the “patron saint of master architects” (*pîr-i ustâdân*). Existing in several versions, these autobiographical texts have no parallel in the Safavid context, or elsewhere in Islamic art history.<sup>114</sup> It is suggestive that the proud first-person voice in them disappears in an early seventeenth-century biographical treatise on architecture, narrating the career of a student and successor of Sinan, Mimar Mehmed Agha (d. 1617). Its author independently decided to write this biographical memoir as a longtime household member

of that chief architect, in order to commemorate his master’s life and achievements.<sup>115</sup>

Among their intended readers (including Sultan Murad III, the crown prince Mehmed, and the grand vizier Siyavush Pasha), the autobiographical memoirs of Sinan address fellow architects and experts capable of appreciating his innovations with their special powers of visual discrimination. They are referred to as “brethren of purity” (*hullân-i şafâ*), “companions” (*dost*), and “connoisseurs” (*erbâb-i te’lif*). Sinan’s autobiographies are also replete with allusions to the possessors of “skill/art” (*ehl-i hüner, ma’rifet ehli*) and “clear-sighted ones” (*erbâb-i nazar*). Their prefaces reflect a humanist ethos in the exaltation of humankind as a mirror of God’s

perfection. They refer to special skills divinely bestowed on select individuals (the foremost being the Prophet Muhammad), among whom Sinan represents the earthly counterpart of the divine architect.<sup>116</sup>

Sinan is also glorified in a book of festivities depicting the parade of royal architects in 1582 at the Hippodrome in Istanbul (fig. 18). His farsighted cosmic gaze, capable of mimetically abstracting the universe on the tablet of his perceptive mind, is praised along with his fingers, which are endowed with extraordinary skills. The connection between his mind and fingers is reminiscent of the “productive faculty” of artists described above by the Brethren of Purity:

A talented person he was indeed  
Each of his fingers had a thousand skills.

His intellect [*akl*] was endowed with power in geometry  
His cultivated mind [*fikr-i ma'mūr*] was an architect for all  
types of work.

When he drew the form of the universe on the tablet [*levh*]  
of his mind  
He would instantly turn it into a working drawing [*kār-nāme*].

When he lacked compasses, his fist  
Would suffice to him with two fingers.

When he resolved to fashion the heavenly vault  
He would turn Saturn's palace into muqarnases.

When his adze struck a melodious tune  
Dough would turn into wax and iron into stone.

When he designed a plan and elevation  
Many a Euclid would draw lessons from it.

When he drew a wheat bud on marble, he would harvest it  
When he carved a rose on stone, he would create a rose  
garden.<sup>117</sup>

This eulogy echoes the same kind of rhetoric deployed for painter-decorators, whose pictorial representations are often described as more real than optical reality, as in Sadiqi Beg's acclamation of his master quoted earlier.<sup>118</sup> Rather than mere hyperbole, I prefer to interpret such rhetoric as the emphatic expression of an aesthetic ideal of “superrealism.” From this perspective, abstraction is more mimetic than optical illusionism because it better captures the essence of what is represented. Regardless of the tension between abstractive

and naturalistic imitation, all mimesis required acute visual observation, the only way human beings could acquire knowledge of the cosmos. Hence Leonardo da Vinci (d. 1519) stated, “The eye, that is the window of the soul, is the principal way whence the common sense may most copiously and magnificently consider the infinite works of nature.”<sup>119</sup> Leon Battista Alberti's (d. 1472) statement in a collection of writings dated 1431 that “when we investigate all things [with the human eye], we emulate the divine”<sup>120</sup> is not fundamentally different from comparable statements in Islamic texts, although it found artistic expression in a pictorial mode that privileged optical reality. The “anthropomorphism” of the Renaissance “cult of the eye” was, after all, not liberated from a theocentric ethos in an early modern world, where the cosmos constituted the basis for mimesis in the Christian and Islamic lands alike.

Ottoman biographical anthologies of literati, which include some references to painter-poets, shed further light on parallels between the conceptualization of visual and literary arts. In an anthology completed in 1546, the Ottoman poet Latifi (d. ca. 1582) asserts that the true masters of poetry are the inventors (*mūcīd*) of personal styles (*ṣāhib-i tarz*) because they directly imitate God's creation instead of deriving art from art. Latifi considers himself the creator of a “new style” (*tarz-i nev*) of eloquent prose, which nobody else invented (*ihdās*) in the Ottoman lands (*rūm*) conducive for talented natures to flourish.<sup>121</sup> This was a divinely inspired, beautiful style “drawn and pictured” on the “tablet/page of my heart,” a conceptualization that echoes discourses on the visual arts.<sup>122</sup> Latifi partially quotes a qasida of his that he describes as a “mirror from which to learn lessons” (*ibret aynası*). Gazing at the beauties of the cosmos is the main theme of this poem whose first couplet exclaims:

O soul, purify yourself like water from turbidity and gaze  
at the [divine] beloved  
Polish the mirror of the heart [*āyine-i kalb*], and gaze at the  
[divine] beloved's face!<sup>123</sup>

Some Ottoman poets mentioned by Latifi even proclaimed the possibility of a reciprocal gaze between God and humans, using the metaphor of the lover and divine beloved. This concept was developed, among others, by the Andalusian Sufi, Ibn al-‘Arabi (d. 1240), whose

pantheistic mystical writings were widely disseminated in the lands of Rum and beyond.<sup>124</sup> For example, the Ottoman Sufi poet Shaykh Bayezid of Edirne, who wrote a commentary on Ibn al-‘Arabi’s *Fusūs al-ḥikam* (The Bezels of the Wisdoms) composed a couplet which declared that God is both the seer and the seen, for he created humankind in his own image and gazes at himself through human eyes. It addresses God as follows:

You created your own beauty in the form of [human] beauties  
Then you turned around to gaze at it from the eye of the lover.<sup>125</sup>

Similarly, the mid-sixteenth-century Ottoman poet and calligrapher Gubari of Larende wrote a poem before retiring as an ascetic in Medina that expressed the reciprocity between the “forms of the microcosm” (*ṣuḥur-i ‘ālem-i ṣuḡrā*) and images of the “macrocosm” (*‘ālem-i kübrā*). This tantalizing poem commends humans to “gaze with the soul’s eye to comprehend the cosmos” (*naẓar it dīde-i cān ile cihānı añla*) because it is a storehouse of wisdom, manifesting knowledge of the divine mysteries with “symbols and signs” (*remz ü iṣāret*). The poem’s last two couplets read:

O Gubari, come to understand your own essence!  
Listen with all ears to my advice, as it is filled with good tidings.  
Do not be oblivious, open your eye, you are the macrocosm itself  
You are the very Tree of Paradise, and the Tablet, and the Pen, and the Divine Throne!<sup>126</sup>

These daring verses hint at the currency of an alternative gaze of anthropomorphic humanism with a perspectivism of its own.

In conclusion, the coexistence of different modalities of gazing, which also included the scientific gaze, speaks against a monolithic Islamic way of seeing or mindset. I have emphasized the aesthetic, emotive, and cognitive dimensions of seeing, along with the “humanism” of Sufi discourses on the power of vision, positing a reciprocal gaze between God and humans possessing special visionary abilities that enabled them to perceive the reflexivity of macrocosm and microcosm. The subjectivity of the gaze and its engagement with human experience had the capacity to incorporate the body, affect,

sensation, and memory, thereby raising the status of the visual arts and architecture into potential sites of knowledge. Suspended between embodiment and disembodiment, and between sensation and contemplation, the intimacy of the scrutinizing gaze involved diverse interactions of sight, insight, and desire.

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## NOTES

*Author’s note:* This essay further explores some ideas introduced in a shorter article, Gülru Necipoğlu, “L’idée de décor dans les régimes de visualité islamiques,” in *Purs décors? Arts de l’Islam, regards du XIXe siècle: Collections des Arts Décoratifs*, ed. Rémi Labrusse, exh. cat., Musée des Arts Décoratifs, Musée du Louvre (Paris, 2007), 10–23. I am grateful to the editors Olga Bush and Avinoam Shalem, and to Finbarr Barry Flood for their insightful comments on an earlier version of this essay.

1. On the integration of Aristotelian and Neoplatonic thought in early Islamic philosophy, see Gerhard Endress, “Mathematics and Philosophy in Medieval Islam,” in *The Enterprise of Science in Islam: New Perspectives*, ed. Jan P. Hogendijk and Abdelhamid I. Sabra (Cambridge, Mass., and London, 2003), 121–76. For the assimilation of Neoplatonic and Aristotelian aesthetic concepts, see Gülru Necipoğlu, *The Topkapı Scroll: Geometry and Ornament in Islamic Architecture, Topkapı Palace Museum Library MS H. 1956, With an Essay on the Geometry of the Muqarnas by Muhammad al-Asad* (Santa Monica, Calif., 1995), 185–96. Following the publication of my book, there has been a growing interest in discourses on visual aesthetics in medieval Arabic texts. See José Miguel Puerta Vilchez, *Historia del pensamiento estético árabe Al-Andalus y la estética árabe clásica* (Madrid, 1997); Doris Behrens-Abouseif, *Beauty in Arabic Culture* (Princeton, N.J., 1999); Valérie Gonzales, *Beauty and Islam: Aesthetics in Islamic Art and Architecture* (London, 2001).
2. Hans Belting, *Florence and Baghdad: Renaissance Art and Arab Science*, trans. Deborah Lucas Schneider (Cambridge, Mass., 2011), originally published in German as *Florenz und Bagdad: Eine westöstliche Geschichte des Blicks* (Munich, 2008). Belting’s book has been widely acclaimed in numerous reviews. Critical book reviews that intersect with some of my own criticisms in the present essay include Frank Buettner, “Hans Belting, *Florenz und Bagdad: Eine westöstliche Geschichte des Blicks*,” München, Verlag C. H. Beck, 2008,” *Kunstchronik*, 62, 2 (2009): 82–89; David J. Roxburgh, “Two-point Perspective: On Hans Belting’s *Florence*

- and Baghdad,” *Art Forum* 50, 8 (April 2012): 61–64. See also Belting’s related article, “Afterthoughts on Alhazen’s Visual Theory and Its Presence in the Pictorial Theory of Western Perspective,” in *Variantology 4, On Deep Time Relations of Arts, Sciences and Technologies in the Arabic-Islamic World and Beyond*, ed. Siegfried Zielinski and Eckhard Fülus in cooperation with Daniel Irrgang and Franziska Latell (Cologne, 2010), 43–52; and a shorter version, “Perspective: Arab Mathematics and Renaissance Western Art,” *European Review* 16 (2008): 183–90.
3. Belting, *Florence and Baghdad*, 90.
  4. Daan van Reenen, “The *Bilderverbot*, a New Survey,” *Der Islam* 67 (1990): 27–77.
  5. Belting, *Florence and Baghdad*, 165–66. Belting believes that a comparison between Western and East Asian art “cannot provide a model for the task of undertaking a cultural comparison of the gaze between the worlds of the West and the Middle East, since in the Far East we remain in the domain of representational depiction that separates the West from the Middle East” (p. 266).
  6. For the seven fundamental modes, see n. 23 below. The different genres of painting and decorative design are outlined in a sixteenth-century Safavid manual: Šādiqī Beg Afshār, *Qānūn al-shuvar* (The Canons of Painting), translated into Russian as *Ganun ōs-sōvār* by A. Yu. Kaziev (Baku, 1963). The Persian text is also edited by Muḥammad-Taqī Dānīsh-Pazhūh, *Hunar va mardum* 90 (1349): 13–20, and published in Qāḍī Aḥmad Ibrāhīmī Ḥusaynī Qummī, *Gulistān-i hunar: Tazkira-i khushnīvisān va naqqāshān*, ed. Aḥmad A. Suhaylī-Khvānsārī (Tehran, 1973), 153–64, translated into English as “The Canons of Painting by Šādiqī Bek” by Martin B. Dickson in an appendix to Martin B. Dickson and Stuart Cary Welch, *The Houghton Shahnameh*, 2 vols. (Cambridge, Mass., 1981), 1:259–70. Porter finds Dickson’s translation “too innovative” and prefers to translate the title as “Canon of Forms,” in Yves Porter, *Painters, Painting, and Books: An Essay on Indo-Persian Technical Literature, 12th–19th Centuries*, trans. S. Butani (New Delhi, 1994), originally published as *Peinture et arts du livre: Essai sur la littérature technique indo-persane* (Paris and Tehran, 1992).
  7. A comparison with medieval European Gothic architectural practice extends throughout my *Topkapı Scroll*, esp. 41–53, 160–66, 196, 214–15, 222. The scroll codified a geometric mode of design, which was only “one of the canonical visual idioms that dominated the Islamic lands during the early (950–1250) and late (1250–1500) medieval periods” (p. 222).
  8. Belting, *Florence and Baghdad*, 106–7.
  9. *Ibid.*, 205.
  10. *Ibid.*, 267. The lectures were delivered in 2003 at the Collège de France, Paris.
  11. Necipoğlu, *Topkapı Scroll*, 210, 166.
  12. Fiction by these two modern authors is extensively cited in Belting’s *Florence and Baghdad*, 48–54, 83–84, 211–13, 255–56, 260. For his thoughts on the muqarnas and *mashrabīyya*, see pp. 206–11, 252–55, 260, 265–66. In a critical book review Roxburgh notes that another modern source of Belting is Hamid Naficy, who writes about the veil in contemporary Islam and uses Persian miniature painting to describe “the averted look,” or the habit of constructing pictorial space as hermetic cells separating actors from one another. Roxburgh, “Two-point Perspective,” 64.
  13. This omission is also noted in Buettner’s critical book review, “Hans Belting, *Florenz und Bagdad*.”
  14. See Necipoğlu, *Topkapı Scroll*, 185–215. The inner senses are discussed in Harry Austryn Wolfson, “The Internal Senses in Latin, Arabic, and Hebrew Philosophical Texts,” *Harvard Theological Review* 28, no. 2 (1935): 69–33. Belting refers to Aristotelian and Neoplatonic ideas that coexisted in fifteenth-century Europe without mentioning parallels in the Islamic lands, where he assumes that Muslims always “distrusted” the eye. See Belting, *Florence and Baghdad*, 211–38, esp. 216.
  15. Dimitri Gutas, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early ‘Abbasid Society (2nd–4th / 5th–10th Centuries)* (London and New York, 1998); Abdelhamid I. Sabra, “The Appropriation and Subsequent Naturalization of Greek Science in Medieval Islam: A Preliminary Statement,” *History and Science* 25 (1987): 223–43.
  16. Selections from Mīr Dawlatshāh Samarqandī’s *Tadhkirat al shu‘arā’* (Memorial of Poets), completed in 1487, are translated in Wheeler M. Thackston, *A Century of Princes: Sources on Timurid History and Art* (Cambridge, Mass., 1989), 11–62; Dawlatshāh Samarqandī, *Tadhkirat al shu‘arā’*, ed. Muḥammad ‘Abbāsī (Tehran, 1337). Another biographical dictionary was written in 1491–92 by the Timurid poet and vizier ‘Alī Shīr Navā’ī, *Majālis al-nafā’is*, ed. Suiima Ganieva (Tashkent, 1961). For late Timurid album prefaces, see Wheeler M. Thackston, *Album Prefaces and Other Documents on the History of Calligraphers and Painters* (Leiden, 2001), 22–23, 41–42.
  17. Sixteenth-century Ottoman and Safavid biographies of calligraphers and painters include Muṣṭafā ‘Ālī, *Menākīb-i hünerverān*, ed. İbnü’l Emīn Maḥmūd Kemāl (Istanbul, 1926); Muṣṭafā ‘Ālī, *Mustafa ‘Āli’s Epic Deeds of Artists: A Critical Edition of the Earliest Ottoman Text about the Calligraphers and Painters of the Islamic World*, ed. and trans. Esra Akın-Kıvanç (Leiden, 2011); Qāḍī Aḥmad, *Gulistān-i hunar*, ed. Suhaylī-Khvānsārī; translated into English as *Calligraphers and Painters* by Vladimir Minorski, Freer Gallery of Art Occasional Papers 3, 2 (Washington, D.C., 1959). See also a biographical compendium written ca. 1550 by the Safavid prince Sām Mīrzā, *Tuhfa-i Sāmī*, ed. Waḥīd Dastgardī (Tehran, 1314).
  18. A petition (*arzadāsh*), datable to ca. 1427–28, that has been identified as a progress report addressed to the Timurid prince Baysunghur Mīrzā (d. 1433) by the head of his scriptorium in Herat mentions the completed construction of a *kutubkhāna* for painter-decorators (*naqqāshān*) and scribes (*kātibān*). It itemizes projects that include illustrated manuscripts; a little chest; painted tent poles;

- decorative designs made for binders, illuminators, and tile-makers; and a design for a saddle being executed in mother-of-pearl. This document is published and translated into English in Thackston, *Album Prefaces*, 43–46; it is discussed with reference to questions about the nature and activities of Timurid workshop-cum-libraries (*kitābkhāna/kutubkhāna*) in Shiraz, Isfahan, and Herat in David J. Roxburgh, *The Persian Album, 1400–1600: From Dispersal to Collection* (New Haven and London, 2005), 28–29, 133–44. For an early Timurid royal workshop-cum-library (*kutubkhāna-i ‘āmira*) established in Isfahan by Iskandar-Sultan (ca. 1412–13) and staffed with painters-decorators, scribes, and binders, see Francis Richard, “Un témoignage inexploité concernant le mécénat d’Eskandar Soltān à Eşfahān,” *Oriente Moderno*, n.s., 15 (1996): 53–59. In the early Mughal context, the court scriptorium featured a separate royal library (*kitābkhāna/kutubkhāna*) and workshop (*naqqāshkhāna*). See Chahryar Adle, “Les artistes nommés Dust-Mohammad au XVI<sup>e</sup> siècle,” *Studia Iranica* 22, 2 (1993): 281. This was also the case in Ottoman Istanbul, where the court scriptorium (*naqqāshhāne*) located near the Hippodrome was a workshop separate from, but institutionally linked to, the imperial library-cum-treasury within the third court of the Topkapı Palace. For the centralized organization of court workshops in Istanbul, see Gülru Necipoğlu, “A Kanun for the State, a Canon for the Arts: Conceptualizing the Classical Synthesis of Ottoman Art and Architecture,” in *Soliman le Magnifique et son temps*, ed. Gilles Veinstein (Paris, 1992), 195–216; Gülru Necipoğlu, *The Age of Sinan: Architectural Culture in the Ottoman Empire* (London and Princeton, N.J., 2005; 2nd rev. ed., 2011), 153–86.
19. For Timurid majlis, see Maria Eva Subtelny, “The Poetic Circle at the Court of the Timurid, Sultan Husain Baiqara, and Its Political Significance” (PhD diss., Harvard University, 1979); Maria Eva Subtelny, “Art and Politics in Early 16th Century Central Asia,” *Central Asiatic Journal* 27, 1–2 (1983): 121–48; David J. Roxburgh, *Prefacing the Image: The Writing of Art History in Sixteenth-Century Iran* (Leiden, 2001); Roxburgh, *Persian Album*.
  20. For this assumption and the consequent skepticism about the relevance of texts on aesthetics for the visual arts, see Sheila S. Blair and Jonathan Bloom, “Ornament in Islamic Art,” in *Cosmophilia: Islamic Art from the David Collection, Copenhagen* (Chestnut Hill, Mass., 2006), 18, 25–27; Sheila S. Blair and Jonathan Bloom, “The Mirage of Islamic Art: Reflections on the Study of an Unwieldy Field,” *Art Bulletin* 85, 1 (March 2003): 171: “There is no reason to believe that the literate milieus that produced texts were identical to those that produced works of art.” While these milieus were obviously not identical, they did intersect, as my present essay demonstrates. In fact, Blair contradicts her and Bloom’s earlier view in a more recent article on the career of the Iranian potter Abu Zayd Kashani at the turn of the thirteenth century: “We sometimes envision medieval craftsmen as anonymous, impoverished, and illiterate laborers. The case of Abu Zayd shows us that they were anything but. As potter, poet, scholar, and scribe, he created works of art that were designed to appeal to his contemporaries, who were as visually and literarily sophisticated as he was.” Sheila S. Blair, “A Brief Biography of Abu Zayd,” *Muqarnas* 25 (2008): 155–76.
  21. Transformations in the early modern period are discussed in Necipoğlu, “L’idée de décor dans les régimes de visualité islamiques,” 10–23. See also Gülru Necipoğlu, “The Concept of Islamic Art: Inherited Discourses and New Approaches,” in *Islamic Art and the Museum: Approaches to Art and Archaeology of the Muslim World in the Twenty-First Century*, ed. Benoît Junod, Georges Khalil, Stefan Weber, and Gerhard Wolf (London, 2012), 57–75.
  22. Translated in Thackston, *Album Prefaces*, 48–50, quotation on 49–50.
  23. Both theories were formulated during the reign of Shah Tahmasp (r. 1524–76) when the “classical” Safavid artistic language and album design became codified. See Yves Porter, “From the ‘Theory of the Two Qalams’ to the ‘Seven Principles of Painting’: Theory, Terminology, and Practice in Persian Classical Painting,” *Muqarnas* 17 (2000): 109–18; Adle, “Les artistes nommés Dust-Mohammad au XVI<sup>e</sup> siècle,” 240–44; Gülru Necipoğlu, “Early Modern Floral: The Agency of Ornament in Ottoman and Safavid Visual Cultures,” in *Histories of Ornament: From Global to Local*, ed. Gülru Necipoğlu and Alina Payne (Princeton, N.J., forthcoming). For the seven principles or fundamental modes, see Necipoğlu, *Topkapı Scroll*, 112–14, 206–12; Necipoğlu, “L’idée de décor dans les régimes de visualité islamiques,” 12–13; Porter, *Painters, Painting, and Books*, 109–12; Porter, *Peinture et arts du livre*, 110–16.
  24. Craig Clunas, *Art in China* (Oxford, 2009), 145–48. For the cultural legacy of the Mongols, see Linda Komaroff and Stefano Carboni, eds., *The Legacy of Genghis Khan: Courtly Art and Culture in Western Asia, 1256–1358*, exh. cat., Metropolitan Museum of Art (New York and New Haven, 2003); Linda Komaroff, ed., *Beyond the Legacy of Genghis Khan* (Leiden and Boston, 2006).
  25. Ḥunayn b. ‘Ishāq, *The Book of the Ten Treatises on the Eye Ascribed to Hunain ibn Ishāq (809–877 A.D.)*, trans. Max Meyerhof (Cairo, 1928), 16, 28. According to Hunayn, the Greeks, Jews, and Muslims decorated sanctuaries to attract the eyes for the “refreshment of souls and the engagement of hearts.” Ḥunayn b. ‘Ishāq, *Nawādir al-falāsifah*, in Franz Rosenthal, *The Classical Heritage of Islam*, trans. Emile Marmorstein and Jenny Marmorstein (London and New York, 1994), 73. For Ibn Hazm and Ibn Rushd, see Puerta Vilchez, *Historia del pensamiento estético árabe*, 484–92, 642–85.
  26. Belting, *Florence and Baghdad*, 30.
  27. For the “inner senses,” see Wolfson, “Internal Senses,” 69–133. The “inner senses” are discussed in relation to the arts and aesthetic theory in Necipoğlu, *Topkapı Scroll*, 185–215.
  28. Discussed in Wolfson, “Internal Senses,” 77–82; Necipoğlu, *Topkapı Scroll*, 199, 187–89; Puerta Vilchez, *Historia del*

- pensamiento estético árabe*, 183–39. See also Ikhwān al-Ṣafā', *Kitāb Ikhwān al-Ṣafā' wa Khullān al-Wafā'*, ed. Wilāyat Ḥusayn, 4 vols. (Bombay, 1305–6 [ca. 1888]); Ikhwān al-Ṣafā', *Rasā'il Ikhwān al-Ṣafā'*, ed. Khayr al-Dīn al-Zirikli, 4 vols. (Cairo, 1928); Ikhwān al-Ṣafā', *Arabische Philosophie und Wissenschaft in der Enzyklopädie Kitāb Iḥwān aṣ-ṣafā' (III): Die Lehre von Seele und Intellekt*, ed. and trans. Susan Diwald (Wiesbaden, 1975); Amnon Shiloah, trans., *The Epistle on Music of the Ikhwān al-Ṣafā': (Bagdad, Tenth Century)* (Tel Aviv, 1978); Owen Wright, ed. and trans., *Epistles of the Brethren of Purity on Music: An Arabic Critical Edition and English Translation of Epistle 5* (Oxford, 2010).
29. Quoted in Samer Akkash, *Cosmology and Architecture in Premodern Islam: An Architectural Reading of Mystical Ideas* (Albany, N.Y., 2005), 45, 50; Puerta Vilchez, *Historia del pensamiento estético árabe*, 206–7.
  30. Shiloah, *Epistle on Music*, 32; Wright, *Epistles of the Brethren of Purity on Music*, 112–13.
  31. Shiloah, *Epistle on Music*, 67–68; Wright, *Epistles of the Brethren of Purity on Music*, 167–71. The Brethren cite one argument made by an ancient sage that “sight is superior to hearing, since it is comparable to the day while hearing is comparable to the night,” but this viewpoint is marginalized by many other quotations by sages who considered hearing as superior to sight. Wright, *Epistles of the Brethren of Purity on Music*, 167–71.
  32. Ikhwān al-Ṣafā', *Arabische Philosophie und Wissenschaft*, ed. and trans. Diwald: on the love of beauty, 257–96, esp. 275, 279; on calligraphy and painters (*al-muṣawwirīn*), 190, 220; also cited in Puerta Vilchez, *Historia del pensamiento estético árabe*, 196–97, 205. The role the Brethren of Purity assign to proportion in producing beauty is discussed in Abdelhamid I. Sabra's introduction to Ibn al-Haytham, *The Optics of Ibn al-Haytham, Books I–III, On Direct Vision*, trans. Abdelhamid I. Sabra, Studies of the Warburg Institute 40, 2 vols. (London, 1989), 1:100–101.
  33. Wright, *Epistles of the Brethren of Purity on Music*, 147; Shiloah, *Epistle on Music*, 54–56; Puerta Vilchez, *Historia del pensamiento estético árabe*, 197, 205–6.
  34. Puerta Vilchez discusses the views of al-Tawhidi and his Baghdadi associates in *Historia del pensamiento estético árabe*, 207–39. See also Marc Bergé, *Pour un humanisme vécu: Abū Ḥayyān al-Tawḥīdī* (Damascus, 1979). Citing prohibitions only in hadith literature and texts on jurisprudence, Belting assumes that mimesis has acquired a negative association in Islam as “an imitation of the Creator.” Belting, *Florence and Baghdad*, 63–64.
  35. Franz Rosenthal, “Abū Ḥayyān al-Tawḥīdī on Penmanship,” *Ars Islamica* 13–14 (1948): 1–27. In a critique of my use of textual primary sources in the *Topkapı Scroll* and “L'idée de décor dans les régimes de visualité islamiques,” Sheila S. Blair and Jonathan M. Bloom assert that “no causal relationship” exists between philosophical texts on aesthetics and artistic practice: “There is, we believe, a logical problem in this approach: while it is certainly true that these philosophers wrote learned treatises about aesthetics and that craftsmen made objects with sophisticated ornament, the connection between the two is unproven. In other words, she was unable to demonstrate any causal relationship between what learned and erudite scholars wrote and what craftsmen did.” Sheila S. Blair and Jonathan M. Bloom, “Cosmophilia and Its Critics: An Overview of Islamic Ornament,” *Beiträge zur Islamischen Kunst und Archäologie* 3 (2012): 45–47. The authors approvingly quote Terry Allen's verdict that my book on the Topkapı Scroll is based on a “logical fallacy.” Like them, Allen rejects a priori any connection between the formulation of proportion-based abstract design principles (particularly in Islamic geometric ornament) and the widespread dissemination of popular texts on Neoplatonic philosophy and on practical geometry addressing the particular needs of artisans, which I demonstrated in *Topkapı Scroll* through specific examples. Terry Allen, *Islamic Art and the Argument from Academic Geometry*, published by Solipist Press, Occidental, Calif., 2004, <http://sonic.net/~tallen/palmtree/academicgeometry.htm> (accessed September 11, 2014). On the assumption concerning the illiteracy of artists, see n. 20 above; on the synthesis of Neoplatonic and Aristotelian thought in early Islamic philosophy and mathematical sciences, see n. 1 above.
  36. Necipoğlu, *Topkapı Scroll*, 188–89, see also 103–7.
  37. For the Brethren's epistle on man as microcosm (*Risāla al-insān 'ālam ṣaḡīr*, Book II, 12), see Ikhwān al-Ṣafā', *Arabische Philosophie*, ed. and trans. Diwald, 195–96; Shiloah, *Epistle on Music*, 53–56; Wright, *Epistles of the Brethren of Purity on Music*, 21–22, 140–47; Akkash, *Cosmology and Architecture*, 90, 222n117.
  38. Avicenna, *Le Livre de Science II (Physique, Mathématiques)*, trans. Muhammad Achena and Henri Massé (Paris, 1958), esp. 62–72; Ibn Sina, *Avicenna Latinus, Liber de Anima, seu sextus de Naturalibus, IV, V*, critical ed. and trans. S. Van Riet, introd. G. Verbeke (Louvain and Leiden, 1968), esp. 14–15, 27–28, 46–53; Puerta Vilchez, *Historia del pensamiento estético árabe*, 296–302.
  39. Muḥammad al-Ghazālī, *Livre de l'amour du désir ardent, de l'intimité et du parfait contentement*, pt. 4 of *Iḥyā' ulūm al-dīn: Le livre de la reviviscence des sciences religieuses*, trans. and introd. Marie-Louise Siauve (Paris, 1986), 23, 35; Henry A. Homes, *Muḥammad al-Ghazālī: The Alchemy of Happiness* (New York, 1873), 18–22. See also Necipoğlu, *Topkapı Scroll*, 192–93, 199–201; Puerta Vilchez, *Historia del pensamiento estético árabe*, 720–37.
  40. Quoted in Necipoğlu, *Topkapı Scroll*, 192; Puerta Vilchez, *Historia del pensamiento estético árabe*, 731.
  41. Quoted in Richard Ettinghausen, “Al-Ghazālī on Beauty,” in *The Arab Heritage*, ed. Nabih Amin Faris (Princeton, N.J., 1947), 160–65; Necipoğlu, *Topkapı Scroll*, 192–93; Puerta Vilchez, *Historia del pensamiento estético árabe*, 725.
  42. Ibn al-Haytham, *Optics of Ibn al-Haytham*, trans. Sabra. On translations of the Latin text and commentary, see A. Mark Smith, “Alhacen's Theory of Visual Perception: A Critical Edition, with English Translation and Commentary, of the

- First Three Books of Alhacen's 'De Aspectibus,' the Medieval Latin Version of Ibn al-Haytham's 'Kitāb al-Manāẓir: Volume One," *Transactions of the American Philosophical Society*, n.s., 91, 4 (2001): entire volume; A. Mark Smith, "Alhacen's Theory of Visual Perception: A Critical Edition, with English Translation and Commentary, of the First Three Books of Alhacen's 'De Aspectibus,' the Medieval Latin Version of Ibn al-Haytham's 'Kitāb al-Manāẓir: Volume Two," *Transactions of the American Philosophical Society*, n.s., 91, 5 (2001): 339–819; A. Mark Smith, "Alhacen on the Principles of Reflection: A Critical Edition, with English Translation and Commentary, of Books 4 and 5 of Alhacen's 'De Aspectibus,' the Medieval Latin version of Ibn al-Haytham's 'Kitāb al-Manāẓir,'" *Transactions of the American Philosophical Society*, n.s., 96, 2–3 (2006): entire volume.
43. A. Mark Smith, "What Is the History of Medieval Optics Really About?" *Proceedings of the American Philosophical Society* 148, 3 (June 2004): 180–94. According to Smith, Ibn al-Haytham's theory of vision is about sight and differs from Johannes Kepler's "luminocentric" optics, which is about the material qualities of light and "retinal imaging" and excludes the psychology of perception. From this disjunction "arose not only the modern science of physical optics but also the mind-body dualism of Descartes and his philosophical successors" (pp. 193–94). However, Ibn al-Haytham's emphasis on experimentation paved the way to modern optics as a physical science of luminous phenomena in the seventeenth century (Kepler, René Descartes, Christiaan Huygens) according to Roshdi Rashed, "De la géométrie du regard aux mathématiques des phénomènes lumineux," in *Filosofia e scienza classica, arabo-latina medievale e l'età moderna*, ed. Graziella Federici Vescovini (Louvain-la-Neuve, 1999), 43–59.
44. For Leonardo's critique, taken up later by Vasari, see Hubert Damisch, *The Origin of Perspective*, trans. John Goodman (Cambridge, Mass., and London, 1995), 35–37, 43–45. For Condivi, see Ascanio Condivi, *The Life of Michelangelo*, trans. Alice Sedgwick Wohl, ed. Hellmut Wohl (University Park, Pa., 1999), quoted in Caroline Elam, "Ché ultima mano!: Tiberio Calcagni's Marginal Annotations to Condivi's Life of Michelangelo," *Renaissance Quarterly* 51, 2 (Summer 1998): 492.
45. David Summers, *The Judgment of Sense: Renaissance Naturalism and the Rise of Aesthetics* (Cambridge, 1987), 19, 73–75, 167–70. Unlike Ghiberti, Leonardo does not mention Alhazen, whose theories he may have indirectly absorbed via the "perspectivist" optics of Alhazen's followers, Witelo and John Pecham.
46. Ibn al-Haytham, *Optics of Ibn al-Haytham*, trans. Sabra, vol. 1, see esp. Book II, pp. 113–207: on "pure sensation" of light and color, 130, 142–48, 200; on "proportionality," 204–6; on the "perception of beauty," 200–6. See also Necipoğlu, *Topkapı Scroll*, 189–90, 201–4; Puerta Vilchez, *Historia del pensamiento estético árabe*, 686–720.
47. Ibn al-Haytham, *Optics of Ibn al-Haytham*, trans. Sabra, 1: 208–9, 221–24.
48. *Ibid.*, 1:208, 222. Puerta Vilchez interprets the term *nuqūsh* (sing. *naqsh*) as a polyvalent term referring to pictures and decorative designs that are less imitative or naturalist. He notes that Ibn al-Haytham refers to mimetic paintings as both *nuqūsh* and *tazwiq*, citing a reference to a glass object with "beautiful figures and images" (*nuqūsh wa tamāthil mustahsana*). *Historia del pensamiento estético árabe*, 715–20.
49. Belting, *Florence and Baghdad*, 98, 129, 210. Belting assumes that when "Alhazen speaks of 'figures' he means not depictions of living bodies but geometric patterns on an object or a wall" (p. 64, see also p. 109). By contrast, in Renaissance Europe "no one wanted to do without pictures created in the camera obscura, pictures that Alhazen had never mentioned and never desired" (p. 128).
50. Ibn al-Haytham, *Optics of Ibn al-Haytham*, trans. Sabra, vol. 1, Book III, pp. 295–97. See Puerta Vilchez, *Historia del pensamiento estético árabe*, 716–17. For Belting's discussion of this passage, which deliberately omits its reference to mimetic representations of "individual people" or "individual men," and his statement that for Alhazen "figures" do not mean depictions of living bodies, see *Florence and Baghdad*, 109–10. Elsewhere Belting states that in describing "Arab art" Alhazen is always drawn to "ornamental designs, yet he speaks of them as if they did not exist on a material object" (p. 119). Belting is rather selective in the examples of Islamic art and architecture he uses to illustrate the differing "mindsets" of East and West. In chapter 2 he refers to the aniconic mosaics of the Umayyad Great Mosque in Damascus and the Dome of the Rock without mentioning the figurative paintings and sculptures that populate Umayyad palaces and bathhouses. He mentions that in Ottoman Istanbul the Hagia Sophia Mosque's "Christian images were uncovered for the first time by Sultan Abdülmecid I (ruled 1839–1861)" only to be covered again, without explaining that they were left open to the view of Muslim congregations for centuries, until being whitewashed in the mid-eighteenth century. See *Florence and Baghdad*, 55, where Belting also cites my article on the Hagia Sophia Mosque, which discusses the visibility of its Byzantine mosaics for about three centuries.
51. I am grateful to Avinoam Shalem for bringing to my attention his discussion of al-Mutanabbi's poem. See Avinoam Shalem, "Textile Contextualized," in *The Chasuble of Thomas Becket in the Cathedral in Fermo: A Biography*, ed. Avinoam Shalem (Genoa, forthcoming).
52. Aḥmad ibn 'Alī al-Maqrīzī, *Al-Mawā'iz wa'l-i'tibār fī dīkr al-khiṭāṭ wa'l-athār de Maqrīzī, Taqīyy al-Dīn Aḥmad b. 'Alī b. 'Abd al-Qādir 766–845 (1365–1442)*, ed. Ayman Fu'ād Sayyid, vol. 4, pt. 1 (London, 2003), 289–90. See also Thomas Arnold, *Painting in Islam: A Study of the Place of Pictorial Art in Muslim Culture*, introd. B. W. Robinson (1928; New York, 1965), 21–22; Richard Ettinghausen, *Arab Painting* (Geneva, 1962), 54–55; Nasser Rabbat, "Ajīb and Gharīb: Artistic Perception in Medieval Arabic Sources," *Medieval History Journal* 9, 1 (2006): 101. On Fatimid art and archi-

- ecture, see Jonathan M. Bloom, *Arts of the City Victorious: Islamic Art and Architecture in Fatimid North Africa and Egypt* (New Haven and London, 2007). For early medieval Arabic manuscripts illustrated with figural paintings, see Anna Contadini, ed., *Arab Painting: Text and Image in Illustrated Arabic Manuscripts* (Leiden and Boston, 2007). On a comparison of paintings on muqarnas ceilings in Sicily (ca. 1150) with Fatimid and other parallels in diverse media, see Mirjam Gelfer-Jørgensen, *Medieval Islamic Symbolism and the Paintings in the Cefalù Cathedral* (Leiden, 1986); Ernst J. Grube and Jeremy Johns, *The Painted Ceilings of the Cappella Palatina*, supp. 1, *Islamic Art* (Genoa and New York, 2005).
53. Jacob Isager, *Pliny on Art and Society: The Elder Pliny's Chapters on the History of Art* (London and New York, 1991), esp. 91–95, 136–40. Competitions of painters organized in Corinth and Delhi are mentioned on p. 126.
  54. Al-Maqrīzī, *Al-Mawā'iz*, ed. Sayyid, 290. Rabbat, points out in “Aḡīb and Gharīb” (p. 101n5) that “Arnold erroneously attributes the book to al-Maqrīzī, when in fact al-Maqrīzī does not make such a claim.” This lost work was apparently a prosopography of eleventh-century painters. Other figural painters are discussed in Rabbat's essay.
  55. Cited from Zayn al-Dīn Maḥmūd b. ‘Abd al-Jalīl Vāṣifī, *Badā’i’ al-vaqā’i’* (Memorable Events), dated 1517–1538/39, in Subtelny, “Art and Politics,” 144. This passage is discussed with other examples of individualized naturalistic portraiture in medieval and early modern Islamic painting in Gülru Necipoğlu, “Word and Image: The Serial Portraits of the Ottoman Sultans in Comparative Perspective,” in *The Sultan's Portrait: Picturing the House of Osman*, ed. Selmin Kangal, exh. cat., Topkapı Palace Museum (Istanbul, 2000), 22–59. See references to Timurid and Safavid majlis in Roxburgh, *Prefacing the Image*, 62–72, 150–59, 167–70. On the genre of portraiture, see also Priscilla P. Soucek, “The Theory and Practice of Portraiture in the Persian Tradition,” *Muqarnas* 17 (2000): 97–108; David J. Roxburgh, “Concepts of the Portrait in the Islamic Lands, ca. 1300–1600,” in *Dialogues in Art History, from Mesopotamian to Modern: Readings for a New Century*, ed. Elizabeth Cropper, Studies in the History of Art 74 (Washington, D.C., and New Haven, 2009), 118–37.
  56. Belting assumes that Persianate painting was largely limited to book illustration. *Florence and Baghdad*, 78–82. For fifteenth- and early sixteenth-century Timurid, Turkmen, and Ottoman palace murals with figurative paintings, including historical scenes and portraits, see Gülru Necipoğlu, *Architecture, Ceremonial and Power: The Topkapı Palace in the Fifteenth and Sixteenth Centuries* (Cambridge, Mass., and London, 1991), 217, 224. On figural murals in the sixteenth-century Safavid palace of Qazvin, commissioned by Shah Tahmasp, prior to the proliferation of figural imagery on the walls of the palaces and the public square of Isfahan, see Ehsan Echrāghī, “Description contemporaine des peintures murales disparues des palais de Šāh Tahmāsp à Qazvin,” in *Art et société dans le monde iranien*, ed. Chahryar Adle (Paris, 1982), 117–26; Maria Szuppe, “Palais et jardins: Le complexe royal des premières safavides à Qazvin, milieu XVIIe–début XVIIIe siècles,” in special issue, “Sites et monuments disparus d'après les témoignages de voyageurs,” ed. Rika Gyselen, *Res Orientales* 8 (1996): 143–47.
  57. For the reception of Ibn al-Haytham's treatise in the Islamic lands and Western Europe, and for al-Farisi's commentary, see Sabra, introd. to Ibn al-Haytham, *Optics of Ibn al-Haytham*, trans. Sabra, 2:xi, lxii–lxxix; Abdelhamid I. Sabra, “The Commentary That Saved the Text, The Hazardous Journey of Ibn al-Haytham's Arabic Optics,” *Early Science and Medicine* 12 (2007): 117–133. Al-Farisi's reference to “figurative arts” is cited in Puerta Vilchez, *Historia del pensamiento estético árabe*, 719n93.
  58. Taqī al-Dīn's Arabic treatise on optics, *Kitāb nūr ḥadaqaṭ al-ibṣār wa nūr ḥadiqaṭ al-anzār* (Bodleian Ms. Marsh, 119), is translated into Turkish in Hüseyin Gazi Topdemir, *Takiyüddin'in Optik Kitabı: Işığın niteliği ve görmenin oluşumu (Kitābu nūr-i hadaqaṭi'l ebsār ve nūr-i hadikati'l-enzār)* (Ankara, 1999).
  59. For the term “painters' perspective,” see Damisch, *Origin of Perspective*, 270.
  60. On the Galata observatory, see Aydın Sayılı, *The Observatory in Islam and Its Place in the General History of the Observatory* (Ankara, 1960). On Taqī al-Dīn's work in Cairo and the Jewish astronomer from Thessaloniki who gave astronomy lessons to the children of the Ottoman scholar Hoca Sa'deddin in Istanbul, see Sevim Tekeli, “Nasirüddin, Takiyüddin ve Tycho Brahe'nin Rasat Aletlerinin Mukayesesi,” *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Dergisi* 16, 3–4 (1958): 309; Aydın Sayılı, “Aläüddin Mansur'un İstanbul Rasathanesi Hakkındaki Şiirleri,” *Bellekten* 20, 79 (1956): 411–14, esp. 420, 438.
  61. The note was discovered by George Saliba, who discusses it in “Blurred Edges: At the Intersection of Science, Culture, and Art,” in *Variantology* 4, ed. Zielinski and Furlus, 353–54. Saliba only briefly mentions the Arab-Ottoman astronomer Taqī al-Dīn in his book, *Islamic Science and the Making of the European Renaissance* (Cambridge, Mass., 2007), 247–48, which concludes with the fifteenth century, presumably because he considered the “golden age” of Islamic science to have ended by that time. Saliba believes that the “age of decline” started around the sixteenth century, defined as an age “in which a civilization begins to be a consumer of scientific ideas rather than a producer of them” (p. 248).
  62. Charles Burnett, “The Second Revelation of Arabic Philosophy and Science: 1492–1562,” in *Islam and the Italian Renaissance*, ed. Charles Burnett and Anna Contadini, Warburg Institute Colloquia 5 (London, 1999), 185–98.
  63. For the astronomical instruments at the Galata observatory that were similar to those constructed by Tycho Brahe, see Tekeli, “Nasirüddin, Takiyüddin ve Tycho Brahe'nin Rasat Aletlerinin Mukayesesi,” 301–93; Taqī al-Dīn Muḥammad ibn Ma'rūf, *XVI. Yüzyıl Osmanlı Astronomu Takiyüddin'in Gözlem Araçları: Alât-ı rasadiyye li zic-i Şehinşahiyye; “Saltanat yıldız çizelgelerinin hazırlanmasında kullanılan*

- gözlem araçları*,” ed. Mustafa Kaçar, M. Şinasi Acar, and Atilla Bir (Istanbul, 2011). In a treatise on clock-making, Taqī al-Dīn mentions having examined European clocks at the treasury collection of the vizier Semiz Ali Pasha. Taqī al-Dīn Muḥammad ibn Maʿrūf, *16'ıncı Yüzyılda Osmanlılarda Saat ve Takiyüddin'in "Mekanik Saat Konstrüksiyonuna dair en Parlak Yıldızlar" Adlı Eseri*, ed. Sevim Tekeli (Ankara, 1966), 140–41. The vizier (Semiz) Ali Pasha is misidentified as the grand admiral (Kılıç) Ali Pasha by Tekeli (p. 140n3).
64. Tekeli, “Nasirüddin, Takiyüddin ve Tycho Brahe'nin Rasat Aletlerinin Mukayesesi,” 366–67; Sayılı, “Alâüddin Mansur'un İstanbul Rasathanesi Hakkındaki Şiirleri,” 464.
65. The Arabic text of Ibn al-Haytham survives in five copies, all of which are in libraries in Istanbul. See Sabra, introd. to Ibn al-Haytham, *Optics of Ibn al-Haytham*, trans. Sabra, 2:lxxx–xxxiii. Manuscript copies of Ibn al-Haytham's *Optics* and Kamal al-Din al-Farisi's Persian translation-cum-commentary on it are mentioned in the 1502–3 inventory of the Topkapı Palace's royal library collection, kept inside the imperial treasury: Oriental Collection of the Library of the Hungarian Academy of Sciences, Ms. Török F. 59, *Defter-i Kütüb, Kitâb al-Kutub* (Register of Books), 359. For the manuscript collection of Molla Lutfi kept by the imam and muezzin of Sinan's masjid and the unrealized canal project, see Necipoğlu, *Age of Sinan*, 149–50.
66. See n. 43 above; also Smith, “What Is the History of Medieval Optics Really About?”
67. Summers, *Judgment of Sense*, esp. 33, 306–21. See also Belting's discussion of the Renaissance reception of Ibn al-Haytham's treatise on optics in *Florence and Baghdad* and “Afterthoughts on Alhazen's Visual Theory.” Other models for Belting's comparative analysis of the gaze include Norman Bryson, *Vision and Painting: The Logic of the Gaze* (New Haven, 1983); Necipoğlu, *Topkapı Scroll*, esp. 160–66, 210–12. The latter two studies contrast the Renaissance perspectival gaze, which separates subject from object, with nonocularcentric vision.
68. Examples of texts referring to the “scrutinizing gaze” are cited in Necipoğlu, *Topkapı Scroll*, 204n86; Necipoğlu, *Age of Sinan*, 146, 255. This term also appears in the preface of an early seventeenth-century album of paintings and calligraphies prepared for the Ottoman sultan Ahmed I, discussed in Emine Fetvacı, “The Gaze in the Album of Ahmed I,” in this volume. The preface is published and interpreted in Serpil Bağcı, “Presenting Vaşşâl Kalender's Works: The Prefaces of Three Ottoman Albums,” *Muqarnas* 30 (2013): 255–313. On this album and its contents, also see Emine Fetvacı, “The Album of Ahmed I,” *Ars Orientalis* 42 (2012): 127–38.
69. For the inscriptions, see Emilio García Gómez, ed. and trans., *Poemas árabes en los muros y fuentes de la Alhambra* (Madrid, 1996); Olga Bush, “When My Beholder Ponders: Poetic Epigraphy in the Alhambra,” in special issue, “Pearls from Water, Rubies from Stone: Studies in Islamic Art in Honor of Priscilla Soucek, Part I,” *Artibus Asiae* 66, 2 (2006): 55–67; D. Fairchild Ruggles, “The Eye of Sovereignty: Poetry and Vision in the Alhambra's Lindaraja Mirador,” *Gesta* 36 (1997): 180–89.
70. Bush, “When My Beholder Ponders,” 55–56, 62.
71. See the essays in Cynthia Robinson and Simone Pine, eds., “Courting the Alhambra: Cross-Disciplinary Approaches to the Hall of Justice Ceilings,” special issue, *Medieval Encounters* 14, 2–3 (2008).
72. Ibn Khaldun writes: “The [Muslim] Spaniards are found to assimilate themselves to the Galician nations in their dress, their emblems, and most of their customs and conditions. This goes so far that they even draw pictures on the walls and [have them] in buildings and houses. The intelligent observer will draw from this the conclusion that it is a sign of domination [by others].” Ibn Khaldun, *The Muqaddimah*, trans. Franz Rosenthal, 3 vols. (Princeton, N.J., 1980), 1:300.
73. For the sultan's demand of Arras tapestries through his envoy, Jacques de Helly, see Jean Froissart, *Collection des chroniques nationales françaises: Chroniques de Froissart*, ed. J. A. Buchon, vol. 13 (Paris, 1825), 401, 408, 412, 417, esp. 420, 422. The tapestries that were associated with Bayezid I's claim to be the new Alexander are discussed in Gülru Necipoğlu, “Visual Cosmopolitanism and Creative Translation: Artistic Conversations with Renaissance Italy in Mehmed II's Constantinople,” *Muqarnas* 29 (2012): 3–4.
74. Aḥmad Ibn ʿArabshāh, *Tamerlane; or, Timur, the Great Amir*, trans. J. H. Sanders (London, 1936), 216–17.
75. On Europeanizing Persianate images from the fourteenth and early fifteenth century, preserved in the Saray Albums of Istanbul and Berlin, see Gülru Necipoğlu, “The Composition and Compilation of Two Saray Albums Reconsidered in Light of ‘Frankish’ Images,” forthcoming in the facsimile edition of the Topkapı Palace albums H. 2153 and H. 2160, ed. Filiz Çağman and Selmin Kängal (Istanbul, 2015); Gülru Necipoğlu, “Persianate Images Between Europe and China: The ‘Frankish Manner’ in the Diez and Topkapı Albums, ca. 1350–1450,” forthcoming in the proceedings of “The Diez Albums at the Berlin State Library: Current State of Research and New Perspectives” conference coorganized by Christoph Rauch and Julia Gonella at the Berlin State Library, June 2013. For the admiration of European representational arts by a seventeenth-century traveler, see Cemal Kafadar, “Evliya Çelebi in Dalmatia: An Ottoman Traveler's Encounters with the Arts of the Franks,” in *Dalmatia and the Mediterranean: Portable Archaeology and the Poetics of Influence*, ed. Alina Payne (Leiden, 2014), 59–78; Cemal Kafadar, “Bajazet chez Bajazet? Evliya Çelebi's Response to European Art in Vienna, 1665,” in *Deutsche Orient Institut in Istanbul: Pera Blätter*, forthcoming.
76. Thaʿalibi [Abu Manşūr ʿAbd al-Malik ibn Muḥammad ibn Ismaʿil], *The Book of Curious and Entertaining Information: The Laṭāʾif al-maʿārif of Thaʿalibī*, trans. C. E. Bosworth (Edinburgh, 1968), 118–19.
77. For hadith that reject the decoration of walls in mosques, see Irene A. Bierman, *Writing Signs: The Fatimid Public Text* (Berkeley, Calif., 1998), 52n60. On a legal opinion (fatwa)

- concerning the inappropriateness of Koranic inscriptions in mosques, see Gülru Necipoğlu, “Qur’anic Inscriptions on Sinan’s Imperial Mosques: A Comparison with Their Safavid and Mughal Counterparts,” in *Word of God, Art of Man: The Qur’an and Its Creative Expressions*, ed. Fahmida Suleman, Institute of Ismaili Studies Conference Proceedings (Oxford, 2007), 69–104, esp. 97, 104n94.
78. Dāyezāde Muṣṭafā Efendi, “Selimiye Risālesi,” in *Mimar Sinan ile İlgili Tarihi Yazmalar-Belgeler*, ed. Zeki Sönmez (Istanbul, 1988), 105.
  79. *Ibid.*, 101–22. See also Necipoğlu, *Age of Sinan*, 256; Selen B. Morkoç, *A Study of Ottoman Narratives on Architecture: Text, Context and Hermeneutics* (Bethesda, Md., and Dublin, 2010), 73–97, 275–341.
  80. Necipoğlu, *Age of Sinan*, 219, 255, 304.
  81. Translated from the unpublished *waqfiya* in Necipoğlu, *Age of Sinan*, 375.
  82. Eyyubī, *Menākīb-ı Sultan Süleyman*, ed. Mehmet Akkuş (Ankara 1991), 150; Necipoğlu, *Age of Sinan*, 215.
  83. Evliya Çelebi’s mid-seventeenth-century travelogue, quoted in Necipoğlu, *Age of Sinan*, 215.
  84. Seyyid Lokman, *Hünernāme*, quoted in *ibid.*
  85. On belvederes (*mirador*) in the Islamic palaces of the Iberian Peninsula, see D. Fairchild Ruggles, *Gardens, Landscape and Vision in the Palaces of Islamic Spain* (University Park, Pa., 2000); for belvederes and windows in Ottoman palaces and villas, see Necipoğlu, *Topkapı Palace in the Fifteenth and Sixteenth Centuries*; Gülru Necipoğlu, “The Suburban Landscape of Sixteenth-Century Istanbul as a Mirror of Classical Ottoman Garden Culture,” in *Theory and Design of Gardens in the Time of the Great Muslim Empires*, ed. Attilio Petruccioli (Leiden, 1997), 32–71. The concept of the gaze was explored in Gülru Necipoğlu, “Framing of the Gaze in Ottoman, Safavid, and Mughal Palaces,” *Ars Orientalis* 23 (1993): 303–42.
  86. Belting, *Florence and Baghdad*, 252, 256, 260. Also noting this problem, Buettner adds that windows in the West are not always connected to views. Buettner, “Hans Belting, *Florenz und Bagdad*.”
  87. Belting, *Florence and Baghdad*, 162–63, 167–68, 221, 234, 262.
  88. For medieval Islamic sources on the mirror metaphor, see Manfred Ullmann, *Das Motiv des Spiegels in der arabischen Literatur des Mittelalters* (Göttingen, 1992); Titus Burckhardt, “Die Symbolik des Spiegels in der islamischen Mystik,” in *Symbolon: Jahrbuch für Symbolforschung* 1 (Basel and Stuttgart, 1960): 12–16. I thank Avinoam Shalem for these references.
  89. See Belting, *Florence and Baghdad*, 111, where with reference to Alhazen’s theory of visual perception he writes: “Since images were understood in Arab culture to be purely mental, they could not be copied or depicted as analogues of nature in physical artifacts.”
  90. Clunas, *Art in China*, 55; Isager, *Pliny on Art*, 105, 125, 128.
  91. Priscilla Soucek, “Nizami on Painters and Painting,” in *Islamic Art in the Metropolitan Museum of Art*, ed. Richard Ettinghausen (New York, 1972), 9–21.
  92. The three manuscript paintings illustrated here, which appear in the *Iskandarnāma* (Book of Alexander the Great) section of Nizami’s *Khamsa* (Quintet), are published and discussed in Serpil Bağcı, “Gerçeğin saklandığı yer: Ayna,” in *Sultanların Aynaları*, exh. cat., Topkapı Palace Museum (Istanbul, 1998), 16–21.
  93. Unlike al-Ghazali’s parable, the contest in Nizami’s version occurs during Alexander’s visit to the emperor of China, when an argument arises concerning the achievements of Greek and Chinese painters. For different versions of the competition between Greek and Chinese painters in Nizami, al-Ghazali (*Ihyā’ ‘ulūm al-dīn*), and Mawlana Jalal al-Din Rumi (d. 1273), see Soucek, “Nizami on Painters and Painting,” 13–14. In the version of Rumi, who wrote in Anatolia (Rum), it is the Rumi (Greek) painter who wins the contest rather than his Chinese rival. The complex issues of interpretation raised by these texts and other versions by Anvari (d. 1187), Amir Khusraw Dihlavi (d. 1325), and ‘Abdi Beg Shirazi (d. 1580–81) (dated 950 [1544]) are discussed in Angelo Michele Piemontese, “La leggenda persiana del contrasto fra pittori greci e cinesi,” in *L’arco di Fango che rubò la luce alle stele: Studi in onore di Eugenio Galdieri per il suo settantesimo compleanno*, ed. Michele Bernardini et al. (Lugano, 1995), 293–302; see also Porter, *Peinture et art du livre*, 137, 139. In the Safavid poet ‘Abdi Beg’s version, the contest is between Chinese and Frankish figural painters, in which the former prevail.
  94. In Ibn Khaldun’s explication of al-Ghazali’s parable, the Greek painter is replaced by a group of Indian painters and the Chinese painters win the contest. Ibn Khaldūn, *La Voie et la Loi: Ou La Maître et le Juriste, Shifā’ al-sā’il li-tadhhib al-masā’il*, trans. with notes and introd. by René Pérez (Paris, 1991), 129–32. Given Nizami’s theory of painting, his text probably illustrates the superiority of mystical vision over acquired knowledge, like the accounts of al-Ghazali, Rumi, and others. Soucek detects “a curiously scientific flavor” in Nizami’s account, which may have been adapted from “an illustrative anecdote used in an optical treatise.” Soucek, “Nizami on Painters and Painting,” 12, 14.
  95. Quoted in Damisch, *Origin of Perspective*, 344–45, from Antonio Manetti’s account of Brunelleschi’s invention of perspective projection in Florence, demonstrated by the use of a mirror.
  96. ‘Abdi Beg Shirazi’s account is mentioned in Piemontese, “La leggenda persiana del contrasto fra pittori greci e cinesi,” 297. See ‘Abdi Beg Shirāzī, *Āyīn-i Iskandarī*, ed. A. H. Rahimov (Moscow, 1977), 107–12.
  97. Mustafa ‘Ālī’s account differs from some Safavid texts that criticize Mani’s heresy, such as Dust Muhammad’s album preface. See n. 101 below. According to Mustafa ‘Ālī, Mani is executed in the end not because his images are heretical but because the sages who envied his rising status incriminated him. For the transcription and translation of this text, see Muṣṭafā ‘Ālī, *Mustafa ‘Ālī’s Epic Deeds of Artists*, ed. and trans. Akın-Kivanç, 275–81, 409–17.
  98. Khvandamir refers to the Timurid painter-decorator Mawlana Hajji Muhammad Naqqash, who was an expert in the

- art of depiction and illumination, in similar terms: "He constantly painted strange things and wonderful forms on the pages of time with the brush of the imagination." Trans. in Thackston, *Century of Princes*, 205, 224
99. Thackston, *Album Prefaces*, 41–42. Timurid and Safavid album prefaces are extensively analyzed in Roxburgh, *Persian Album*; Roxburgh, *Prefacing the Image*.
  100. This statement appears in a passage referring to the Timurid painter Amir Khalil, who gave up the art of depiction. Trans. in Thackston, *Album Prefaces*, 14–15.
  101. The Artangi Tablet painted by Mani, who "began to pretend of prophesy" and duped "short-sighted ones whose turbid hearts could not reflect the light of Islam," is mentioned in *ibid.*, 12.
  102. Trans. in *ibid.*, 26. It has been noted that the Amir Ghayb Beg Album's preface closely follows Qutb al-Din Qissakhvan's preface to a lost album dated 1556–57. See Porter, "From the 'Theory of the Two Qalams,'" 118n46.
  103. Trans. in Thackston, *Album Prefaces*, 27.
  104. For the Preserved Tablet and the conceptualization of albums as microcosms, see Roxburgh, *Persian Album*, 190–93, 303. The reference to pure images that arouse spiritual pleasures is from the preface of an album, dated 1576–77 and dedicated to the Safavid shah, Isma'īl II. Trans. in Thackston, *Album Prefaces*, 34.
  105. Quoted in Bağcı, "Presenting *Vaşşāl* Kalender's Works," appendix II. Bağcı's article also analyzes another preface written by Kalender for a *Falnâme*, which similarly likens that manuscript comprising texts and images to a microcosm. The Sultan Ahmed Album is discussed by Fetvacı, "Gaze in the Album of Ahmed I," in this volume, in relation to the scrutinizing gaze.
  106. Trans. by Dickson, "Canons of Painting by Şādiqī Bek," 1:260–61.
  107. *Ibid.*, 1:260.
  108. *Ibid.*, 1:261.
  109. B. N. Zakhoder, introd. to Qāḍī Aḥmad Qummī, *Calligraphers and Painters*, trans. Minorsky, 16. On the two versions of Qāḍī Aḥmad's text, see Yves Porter, "Notes sur Golestān-e honar de Qāzi Aḥmad Qomi," *Studia Iranica* 17, 2 (1988): 207–23.
  110. Muştafā 'Ālī, *Mustafa 'Āli's Epic Deeds of Artists*, ed. and trans. Akin-Kıvanç, 362–63. The divergences of Mustafa 'Āli's treatise from Safavid discourses are briefly discussed in Necipoğlu, "L'idée de décor dans les régimes de visualité islamiques," 13. The relative aniconism of Ottoman visual culture in the public sphere was contrasted with the greater visibility of figurative representations in the Safavid domains by late sixteenth-century European observers. See Necipoğlu, "A Kanun for the State, a Canon for the Arts," 195–216, esp. 302–3.
  111. See Necipoğlu, "L'idée de décor dans les régimes de visualité islamiques," 13, 15.
  112. For the *paragone* in Dust Muhammad's preface, see Roxburgh, *Album Prefaces*, 295–304.
  113. See Fetvacı's compelling analysis of that album, "Gaze in the Album of Ahmed I," in this volume.
  114. Gülru Necipoğlu, "Sources, Themes, and Cultural Implications of Sinan's Autobiographies," in *Sinan's Autobiographies: Five Sixteenth-Century Texts*, ed. and trans. Howard Crane and Esra Akin (Leiden, 2006), vii–xvi; also see Necipoğlu, *Age of Sinan*, 127–47.
  115. Cafer Efendi, *Risāle-i Mi'māriyye: An Early-Seventeenth-Century Ottoman Treatise on Architecture*, trans. and ed. Howard Crane (Leiden and New York, 1987); Cafer Efendi, *Risāle-i Mi'māriyye: Ca'fer Efendi, 1023/1614: Topkapı Sarayı Müzesi Kütüphanesi Ms. Yeni Yazma 339*, ed. İ. Aydın Yüksel (Istanbul, 2005).
  116. Necipoğlu, *Age of Sinan*, 146; Necipoğlu, "Sources, Themes, and Cultural Implications of Sinan's Autobiographies," vii–xvi.
  117. İntizāmī, *Sūrnāme-i Humāyūn*, Topkapı Palace Museum Library, H. 1344, 189–90; İntizāmī, *Osmanlı Saray Düğünleri ve Şenlikleri: İntizāmī Sūrnāmesi*, ed. Mehmet Arslan (Istanbul, 2009), 2:286–87. For a similar poem cited in reference to the chief architect Sinan's parade with three-dimensional models of the sanctuaries in Mecca and Medina, see an unillustrated version of İntizāmī's text in *ibid.*, 2:621–22.
  118. See n. 106 above. A similar eulogy is that of Shah Qulī (d. 1557), a Safavid painter-designer who rose to become the head of the Ottoman court workshop under Sultan Süleyman. For the eulogy, see Aşık Çelebi, *Meşâ'irü-Şu'arâ*, ed. Filiz Kılıç, 3 vols. (Istanbul, 2010), 1:428–30.
  119. Quoted in Summers, *Judgment of Sense*, 73.
  120. Quoted and discussed in Belting, *Florence and Baghdad*, 213–14.
  121. Laṭîfî, *Latîfî Tezkiresi*, ed. Mustafa İsen (Ankara, 1990), 283–90; Laṭîfî, *Latîfî, Tezkiretü-Ş-su'arâ ve tabıratü'n-nuzamâ*, ed. Rıdvan Canım (Ankara, 2000), 484–88.
  122. Laṭîfî, *Latîfî*, ed. Canım, 588: *şafha-i zamîrümde tersîm ü taşvîr olmuşt.*
  123. Laṭîfî, *Latîfî*, ed. Canım, 488–89; Laṭîfî, *Latîfî*, ed. İsen, 289: *Şu gibi şâf ol küdüretden dilâ didâra bak; Şaykal it âyîne-i kalbi cemâl-i yâra bak.*
  124. For an interpretation of Ibn al-'Arabi's works and other mystical texts in relation to architecture, see Akkash, *Cosmology and Architecture*. Ibn al-'Arabi's aesthetics and his concept of Existential Unity (*waḥdat al-wujūd*) are also discussed in Puerta Vilchez, *Historia del pensamiento estético árabe*, 744–805.
  125. Laṭîfî, *Latîfî*, ed. Canım, 136; Laṭîfî, *Latîfî*, ed. İsen, 65: *Kendü hüsnüñ hūblar şeklinde peydâ eyledüñ; Çeşm-i 'aşıkdan dönüp anı temâşâ eyledüñ.*
  126. Laṭîfî, *Latîfî*, ed. Canım, 408; Laṭîfî, *Latîfî*, ed. İsen, 190: *Ey Ğubârî yûri var kend'özün idrâk eyle; Pendümi hüş ile güş it ki beşâretdür hep. Ğâfil olma gözün aç 'âlem-i kübrâsuñ sen; Sidre vü levḥ u kalem 'arş-ı mu'allâsuñ sen.*