Wonder, Image, and Cosmos in Medieval Islam

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Preface

It is widely believed that Islamic art consists exclusively of ornament and calligraphy, and has never included representational imagery. Yet a quick stroll through almost any exhibition of Islamic art definitively shows that this is not the case. In response to this evident contradiction, historians of Islamic art generally offer the explanation that, while representational images did exist in secular contexts, they did not appear in religious settings and were not used for religious purposes. However, this explanation sits uncomfortably with some of the most widely disseminated images of the medieval Islamic world: images from manuscripts on the wonders of creation. These were made for the explicitly stated purpose of inducing wonder at God’s creation, and included images representing wonders ranging from majestic and humiliated angels, to date palm trees and human-snatching birds. From the thirteenth century until the early nineteenth century, they were produced at all patronage levels, in all major Islamic languages, and in all regions of the Islamic world. This book, focusing on examples from the formative period of the genre, examines how different kinds of images in these manuscripts furthered the genre’s explicitly stated purpose of inducing wonder at creation. From the middle of the thirteenth to the end of the fourteenth century, the kinds of images emphasized in the manuscripts, the ways in which they induced wonder, and even what wonder meant, changed. These changes go hand in hand with the changing social profile of the audiences of Islamic manuscript painting during that period, and the different kinds of educations these audiences had. Tracing these changes therefore entails grappling with the degree to which the histories of art, thought, and society are interconnected.

The formative milieu for the genre of illustrated Islamic wonders-of-creation manuscripts was the century and a half following the brutal Mongol Conquest of the Islamic east, in Iraq, Iran, and Central Asia during the mid-thirteenth century. In this period, the reg-
ion was full of unexpected juxtapositions. For centuries, Baghdad had been understood in the Islamic lands as the center of world civilization. Yet when it fell in 1258, it was suddenly subsumed into a Mongol world Empire stretching from Anatolia to China (see fig. 1). Not only was the conquest violent, but it toppled a political order that had been understood as divinely sanctioned according to Islamic theories of governance. Despite the shock it induced, the new political geography fostered a degree of artistic and religious eclecticism, which led to great cultural dynamism. The early modern Islamic empires—the Safavids, Ottomans, and Mughals—would all later look back on this as a foundational period of their cultural heritage.

Artists working in this period traveled widely and experimented with newly available visual forms, making this the formative age of Persian manuscript painting. Scholars and chroniclers of all stripes tended to describe the Mongol Conquest as an apocalyptic event. But whether they considered it a divine punishment for a Muslim community that had strayed from true religion, or whether they found that the Mongols’ preference for a syncretic approach to religion fostered an unexpectedly congenial environment for their work, depended very much on how they positioned themselves within the medieval Islamic culture wars. These had started long before the Mongols arrived. For example, within the context of those culture wars, philosophy had been banned from the curriculum of medieval Islamic legal colleges in the eleventh century. Although this ban was theoretically still in place in the thirteenth, the history of wonders-of-creation manuscripts shows how lines between law and philosophy could blur in practice. The scholar who authored the most widely disseminated illustrated wonders-of-creation text was no aficionado of court painting, but rather a professor of Islamic law who had the equivalent of graduate-level training in philosophy in the tradition of Avicenna, known in the Islamic world as Ibn Sina.

Illustrated Islamic wonders-of-creation manuscripts survive today in numerous collections; in fact, so many survive that it is not possible to provide an accurate count. Although general readers may not previously have heard of these manuscripts, specialists of Islamic cultural history and the educated elite of the Islamic world generally have. However, twists of fate have made some aspects of these manuscripts’ histories dis-proportionately available to scholars and interested researchers, while obfuscating others. The uneven and sometimes misleading selection of information available has led many to think of these books as wild collections of entertaining fantasy, lacking any serious purpose. The Introduction of this book unearths aspects of these manuscripts’ histories that have been difficult to access. This makes it possible to see how the entertaining material in these manuscripts served the more serious purpose of inducing wonder at creation, and how their images mediated relationships between viewers and the divinely ordered cosmos. This is true not only of the earliest medieval manuscripts, which emphasized the divinely structured overarching order of the cosmos, but also of the later medieval and early modern ones, which emphasized the possibilities of human agency within that cosmic order.

Each of the central chapters of this book explores a different kind of image or vision featured in the wonders-of-creation manuscripts, and characterizes the experiences of wonder (ajab) at creation thereby induced. Arranged roughly chronologically, these chapters cumulatively show how the manuscripts, their images, and the experiences of wonder they induced changed during the formative period of the genre. The Epilogue sketches the later history of the genre, suggests how the wonders-of-creation manuscripts fit into a broader history of wonder in medieval Eurasia, and reflects on how the roles of images in wonders-of-creation manuscripts relate to roles of images in Islamic arts of the book more broadly.

This book suggests a three-part approach: first, though the wonders-of-creation manuscripts may appear to us as wacky, even irreverent objects, they should be approached in terms of their stated purpose: to induce wonder (ajab) at God’s creation; second, what it meant to wonder at God’s creation changed over time, in keeping with the differing world views of the different social groups who read these manuscripts; third, our modern educations significantly interfere with our abilities to recognize either of the first two points above. In order to understand how the wonders-of-creation images functioned, or the range of experiences of wonder they induced, we must put aside assumptions we rarely question: assumptions concerning logic, vision, and truth. We must reconstruct more appropriate ways of looking at these manuscripts by
examining the experiences of leading figures in the history of the manuscripts, and by engaging with the philosophical traditions that informed the genre. This approach may be fruitfully juxtaposed with paradigms for understanding the concept of wonder established in European history, thereby addressing an extreme imbalance in the scholarship on the European and Islamic traditions of wonder. Ultimately, approaching the Islamic manuscripts in this way reveals a significant shift in their emphasis – from cosmic frame to human agency. This shift occurred in the late fourteenth century, in accordance with the changing social profiles of readers and the changing roles of the images within the manuscripts. All these factors set the stage for the genre’s continued popularity in the late medieval and early modern periods.

NOTE TO THE READER

Many of the people, objects, titles, and terms in this book moved back and forth between Arabic and Persian milieus. I have therefore transliterated words from both these languages according to a single system, based on the *International Journal of Middle East Studies* system for Arabic, with exceptions for Persian consonants that do not exist in Arabic, and “v” rather than “w” for Persian. I have not used diacritics for proper names of places, educational institutions, or dynasties. For transliterated personal names from languages not written in the Roman alphabet, I have not used diacritics in the main text of this book, but have included them when appropriate in the notes and index. This does not apply to the names of persons from the milieu of Ottoman Turkey, which are given in the romanized spellings of modern Turkish. Titles of Ottoman works are given as they appear in the Turkish reference encyclopedia of Islamic studies, *İslam Ansiklopedisi*. Unless otherwise noted, translations are my own. For quotations and citations from the Qur’an, the reader may consult *The Koran Interpreted* by Arthur J. Arberry (New York: Macmillan, 1955).
Introduction

Illustrated medieval and early modern Islamic wonders-of-creation manuscripts were made for the explicitly stated purpose of inducing wonder at God’s creation. Although manuscripts of some of the same texts were available without illustrations, illustrated versions were produced at all patronage levels, and contain some of the most widely disseminated images of the pre-modern Islamic world. Any given illustrated manuscript typically contained hundreds of paintings, each appearing in conjunction with a discrete textual discussion of a different created wonder. From the watershed thirteenth-century Mongol Conquest of the eastern Islamic lands through the nineteenth century, these manuscripts were produced in all three major Islamic languages – Arabic, Persian, and Turkish. Surviving examples are so numerous that it is not possible to provide an accurate count. By attending to their material histories and positioning them within a broader social history of ideas, this book explores a fundamental shift in their emphasis that had occurred by the end of the fourteenth century. This study therefore focuses on the manuscripts produced during the formative milieu of the genre: Iraq, Iran, and Central Asia in the century and a half following the Mongol Conquest of Baghdad in 1258. Whereas the earliest examples emphasized the divinely arranged order of the cosmos, late medieval examples emphasized the possibilities for human agency within that order. The theme of human agency remained important in most of the manuscripts produced in the fifteenth century and in the early modern period.

Oleg Grabar, whose classic study The Formation of Islamic Art focuses on monuments from Syria, North Africa, and Spain from the eighth to the tenth century, has recently suggested that the time has come for a comparable book, which would be entitled The Second Formation of Islamic Art. This, he suggests, would focus on arts produced in precisely the region and period most central to the current study: the eastern Islam-
ic lands in the thirteenth and fourteenth centuries. Grabar’s suggestion points to the degree to which the three great early modern Islamic empires—the Safavids, Ottomans, and Mughals (fig. 4)—each claimed as their own heritage the art and culture that was formed in the dynamic milieu that followed the Mongol conquest of the Islamic east. These empires all looked back to the art of the Timurid dynasty, which ruled much of Iran and Central Asia from the end of the fourteenth century through the fifteenth century (fig. 3). Timurid art, in turn, can be seen as a symbiotic digestion and distillation of the spectacularly varied artistic landscape of the eastern Islamic world in the decades after it fell to the Mongol armies in the mid-thirteenth century. The initial Mongol rulers of the eastern Islamic lands were the Ilkhans. The word Ilkhan literally meant “suborinate-khan,” and these princes were so-called because they paid allegiance to their overlords, the Great Khans of the Yuan dynasty based in China. The Ilkhanid realm was one of four khanates across Eurasia that together made up the Mongol Empire (fig. 1). The ways in which illustrated Islamic wonders-of-creation manuscripts changed in the formative period of the genre comprise a revealing slice of this larger narrative.

There are several differences between the earliest examples of the genre and those produced from the late fourteenth century onward; together, the changes result in an increased emphasis on human agency. The earliest illustrated wonders-of-creation manuscripts main-

2 (facing page, top) Turko-Mongol dynasties that emerged during the demise of the Ilkhanid dynasty, mid- to late fourteenth century. Their respective borders and positions were quite fluid, so this map can only give a general indication of their power bases.

3 (facing page, bottom) The Timurid dynasty, 1370–1507.
tained a clear visual distinction between divinely created wonders, on the one hand, and notable features of geographical regions, on the other. Known examples produced in the late thirteenth and early fourteenth centuries were almost exclusively devoted to divinely created wonders; these were generally depicted in iconic paintings that helped focus attention on each aspect of creation as a sign of its divine creator. This set them clearly apart from a previously existing tradition of geography manuscripts, which were generally illustrated with maps. In the middle of the fourteenth century, however, at least one manuscript specifically identified as a "wonders-of-creation" manuscript was illustrated almost exclusively with maps, maintaining a distinction between created and geographical wonders, but challenging the exclusion of geographical books from the illustrated wonders-of-creation genre. By the end of the fourteenth century, iconic paintings of created wonders and maps of different regions appeared together within manuscripts, which also included significant numbers of wonders pertaining to human agency, visually presented in a wider range of image types. Some are products of human craftsmanship; others, whether made by God or by people, are associated with crafts that we might now classify, potentially misleadingly, as forms of magic. These crafts, such as astrology and talisman making, theoretically offered their practitioners the chance to position themselves (or their clients or patrons) favorably with respect to the capricious wheels of fortune. However, whereas the term "magic" may connote clandestine, occult, or even diabolical practices, it is important to recognize that these crafts were
by no means universally judged as such in the medieval Islamic world. Still other wonders pertain to human agency because of the manner in which humans encounter them. Alongside wonders of human craft, manuscripts from the late fourteenth century onward continue to include divinely created wonders, but are more likely than the earlier examples to frame them as something that humans encounter by traveling—whether geographically or cosmographically. Likewise, the later manuscripts visually subsume geographical wonders into a cosmographical frame, blurring the distinction between divinely created and geographical wonders that is more clearly maintained in earlier examples.

Recognizing that this critical shift of emphasis from divine cosmos to human agency occurred in the late medieval period depends on two seemingly basic things: firstly, it depends on paying meticulously close attention to the mutable, material histories of texts and associated images; secondly, it depends on finding an appropriate way to approach these manuscripts. Such an approach should recognize that they belong to a broader world history of wonder and wonders. It should acknowledge that within this world history, wonder has at various times and places meant everything from aesthetic delight to terror, and from curiosity to speechlessness; and that wonders have included everything from architectural monuments to quicksand, from medieval miracles to Phineas monsters, and from ancestor ghosts to elephants. It must engage with the specific richness of the history of wonder and wonders within the medieval Islamic world, and with the concerns and educations of the historical audiences who read these manuscripts. It must acknowledge that while illustrated wonders-of-creation manuscripts were part of a more loosely defined (and better studied) Islamic literary genre of texts concerned with wonders in general, their images set them apart as a distinctive verbal-visual genre of wonders manuscripts that operated simultaneously at verbal and visual levels. They therefore require an approach that supplements art history with both social history and intellectual history.

For scholars of Islamic art, as well as for scholars of western art, intellectual history’s place within art history has become controversial, but for almost opposite reasons. Some historians of western art have raised the following concerns: intellectual history paves the way for overly simplified interpretations of art (based on texts rather than visual forms); it encourages false confidence in the objectivity of those interpretations (rather than acknowledging the subjective experience of the viewer); and the hidden agenda of art historians who use intellectual history is the refutation of an elitist canon (of high culture). In contrast, concerns about intellectual history within Islamic art history are quite different, as follows: intellectual history leads to overly complicated interpretations (accessible to specialists rather than the public); it encourages subjective speculations (rather than sticking to objective matters such as names, places, and dates); and the hidden agenda of Islamic art historians who use intellectual history is the destruction of the nascent canon (of Islamic art). This is not the place for a full discussion of why such different concerns about using intellectual history as a tool for understanding art have arisen in these different areas of art history, but the difference stems from the fact that the scholars who raise these concerns are trying to do different things. In general, western art historians skeptical of intellectual history are trying to move beyond a model of Renaissance painting as essentially iconographic, while Islamic art historians skeptical of intellectual history are trying to preserve a model of Islamic art as essentially decorative.

Despite these differences, my own feeling is that the skepticism within both groups is based on a series of unnecessary dilemmas. This study seeks to contribute to a branch of art history in which analysis of texts augments rather than precludes analysis of visual forms. It aims for historically grounded interpretations while acknowledging subjectivity. Engagement with intellectual history does entail a more complicated way of viewing the wonders-of-creation manuscripts than the average museum visitor might experience at first glance, but this need not alienate non-specialists. Art, whether Islamic or not, has historically been most valued by the most diverse audiences precisely when it can be appreciated at multiple levels. Historically specific studies, including those that draw on intellectual history, need not invalidate the immediate visual pleasure of the non-specialist viewer; instead they offer additional insights that specialist and non-specialist viewers alike may pursue if they are so inclined.
A BOOK'S MUTABLE HISTORY

Most readers will rightly find it entirely predictable that a cultural phenomenon that lasted from the thirteenth to the nineteenth century should change significantly within that long period. However, it happens that within the genre of Islamic wonders-of-creation books, there is one particular title – The Wonders of Creation and the Oddities of Existence (Ajā'ib al-Makhlaqât wa-Gharā'ib al-Mawjudât) of Zakariyya b. Muhammad al-Qazwini, by far the most widely disseminated title of the wonders-of-creation genre – whose unfortunate production history has thoroughly obfuscated the ways it changed over time. As print did not become a widely accepted method of book production in the Islamic world until the nineteenth century, the production history to which I refer here involves manuscript production from the thirteenth to the nineteenth centuries, and publication as we understand it today, first in lithography and then in set type printing, only in the modern era. The confusing production history of this title has severely limited the chances for tracing changes in the history of the genre as a whole. Before I explore how the illustrated Islamic wonders-of-creation manuscripts resonate with other manifestations of the world histories of wonder, and what implications these resonances have for the best way to approach the wonders-of-creation manuscripts, a few initial comments to clear up the confusion surrounding the material history of Qazwini’s Wonders of Creation and Oddities of Existence are needed.

In the comments that follow, as in the rest of this study, I distinguish between several related terms. “Manuscript” refers quite literally to a tangible handwritten codex; “codex,” in turn, emphasizes the bound material structure of any particular manuscript. For example, because the manuscripts considered in this study were in the codex format (as opposed to tablet, scroll, concertina, or e-book), the order of their pages was fixed; as the reader turned the pages, facing pages were simultaneously visible, whereas other pages were not. I pay particular attention to variations in the text from one manuscript of a given title to the next, and therefore limit my use of the word “text,” using it to call attention to the text as it appears in a particular manuscript, or when specifically comparing the texts of different manuscripts. To refer generically to the history of a title over time, I use “book,” as in “Qazwini was the author of two books, both of which survive in multiple manuscripts; the texts of both vary from one manuscript to the next.” Although wonders-of-creation books could be read from cover to cover, they included stand-alone entries organized by overlapping classifications of location and kind, and by rules of alphabetical order; therefore, if a reader wished only to consult the entry for “spinach,” he could locate it easily. When I wish to emphasize this, I refer to these books as “encyclopedias.”

Among specialist historians of Islamic art, Qazwini’s The Wonders of Creation and the Oddities of Existence is paradoxically one of the most and least known of all pre-modern Islamic illustrated books. Its ubiquity testifies to its importance in the pre-modern Islamic world, and explains its wide exposure today. Consider, for example, the scenario in which a professor wishes to show students some actual illustrated Islamic manuscripts and arranges to show them whatever happens to be in his or her university library or local museum. Even if that library or museum has only a few such manuscripts, chances are high that one of them will be identified in the library catalogue as a manuscript of Qazwini’s The Wonders of Creation and the Oddities of Existence. Sometimes, the catalogue has come across a different work from the same genre, but because of the degree to which the genre is dominated by Qazwini manuscripts, has incorrectly assumed it to be a Qazwini manuscript. For example, in 1388, probably in Baghdad, the scribe Ahmad al-Harawi completed a manuscript that is now in Paris. In initial publications it was described as a Qazwini manuscript. However, it is now recognized to contain a completely different text, known by various titles including The Wonders of Creation (Ajā'ib al-Makhlaqāt), The Book of Wonders (Ajā'ibnāma), and The World-Showing Glass (Jām-i Giiti Namā). It was written in Persian by an author who was active in the second half of the twelfth century. We know very little about him, and he is known variously as Muhammad b. Mahmud al-Tusi, Ahmad al-Tusi, Tusi Salmani, and Muhammad b. Mahmud al-Hamadani. I will refer to him as Tusi.¹

The initial identification of the 1388 Tusi manuscript as a Qazwini manuscript was simply incorrect, but very often, the cause of confusion is more insidi-
ous. The identification of a manuscript in a catalogue is generally well researched. In the best-case scenario, it is based on information provided by the scribe who penned the manuscript. Nonetheless, the wide dissemination of Qazwini’s cosmography ironically feeds misconceptions. The majority of the manuscripts that survive today were made in the seventeenth and eighteenth centuries. Late medieval and early modern scribes genuinely understood the manuscripts they were producing to be faithful copies of the text of The Wonders of Creation and the Oddities of Existence by the thirteenth-century author Qazwini. Yet what those later manuscripts actually contain are versions of Qazwini’s cosmography in which the texts, as well as the images, engage with late medieval and early modern concerns.

Even if one disregards the translations in Persian, Ottoman Turkish, and Chagatai Turkish, several significantly different Arabic editions of the text of Qazwini’s book are preserved. In the late nineteenth and early twentieth centuries, a number of German Orientalists among whom the foremost was Julius Ruska tried to chart a detailed history of the various versions of the Arabic text. Some scholars still use his nearly ordered classification system today. But while his scheme promises clarity and precision, the messy material record of surviving manuscripts contradicts it. More recent work suggests that while we can try to group manuscripts together on the basis of general similarities, it is simply not possible to say definitively whether or not two manuscripts have the same version of the text unless we check through them from beginning to end and word by word. Ruska based his classification of textual versions on select portions of the limited number of manuscripts available in German collections. Syrinx von Hees has shown that because Ruska based his classification of recensions on close readings of the chapters on people and stones, he grouped together manuscripts that are similar in these chapters but which differ in other chapters. Further, Ruska was greatly troubled by the appearance of late Arabic manuscripts that included chapters included in Persian versions but not in earlier Arabic ones. He did not see why, if an earlier and therefore more authentic Arabic version existed, anyone would go to the trouble of translating a Persian translation back into Arabic. Ruska’s solution was to hypothesize that the later Arabic manuscripts containing these chapters must have been based instead on an earlier, presumably lost Arabic version that had also contained them. But what Ruska did not take into account is that there actually was a clear motive to translate chapters that only existed in Persian into Arabic. Translators and scribes were charged with correcting imperfections in the text, and this task included compensating for apparently missing chapters or information. So if a seventeenth-century scribe producing an Arabic manuscript of Qazwini’s text had the opportunity to consult both a fourteenth-century Arabic manuscript of Qazwini’s text, and a fifteenth-century Persian one containing additional chapters, he would very likely copy the Arabic chapters from the earlier manuscript and then, in good faith, supplement this with translations of “missing” chapters based on the Persian manuscript.

Such a scribe’s identification of the book as the work of Qazwini may therefore have been sincere, but it is nonetheless misleading, even to art historians who fully expect that the images in a later manuscript should be rendered in a different style from the images in earlier ones. The simple fact that the text is different means that the possibilities for what is called the illustration program—the choice of where in the text to add images and where not—are quite different. On apparently excellent authority, modern readers are tricked into thinking that even if the style of the images has changed, the general conceptual shape of the book in which they are encountering those images represents the work of a medieval author.

As if the pre-modern manuscript history of Qazwini’s The Wonders of Creation and the Oddities of Existence were not confusing enough, its modern publication history has only confused matters further. There are several published printed editions, but not one of these represents a version of the text that exists in any surviving manuscript. The published version of Qazwini’s Arabic text of The Wonders of Creation and the Oddities of Existence that is most widely available was edited by Ferdinand Wüstenfeld, who published it along with Qazwini’s other book, a geography known by various titles as will be discussed below. Wüstenfeld entitled the pair, Zakariya ben Muhammed ben Mabmud el-Qazwini’s Kosmographie. While this joint title for the pair of books is certainly debatable,
it has the unfortunate effect of blurring the clear distinctions Qazwini drew between them. The cosmographical wonders-of-creation book, frequently illustrated, excludes architectural monuments (in exceptional cases they appear as defining characteristics of natural wonders: the Nile is defined partly by the Nilometer; the “Island of the Castle” by “the castle”). The geography, by contrast, was never illustrated, and includes numerous architectural monuments. A more fundamental problem, though, is that although Wüstenfeld’s Part I purports to present Qazwini’s Arabic text of The Wonders of Creation and the Oddities of Existence, it in fact represents a conflation of various different manuscript versions, and presents chapters that do not appear in any manuscript before the eighteenth century as if they were part of the thirteenth-century text. Worse, it includes text from a completely different book, the title of which was The Rarities of Beings (Tuhfat al-Kāmi‘). Among historians and literary scholars who work mainly with published editions rather than with manuscripts, Wüstenfeld’s widely available but misleading edition seems to have been responsible for a number of misconceptions about Qazwini’s book, and has limited the ways in which both it and the larger wonders-of-creation genre in which it plays a dominant role, have been approached. Happily, a manuscript of The Wonders of Creation and the Oddities of Existence owned by Qazwini himself has recently been digitized and may now be consulted online. It is hoped that this will help reduce the existing confusion.

Other titles within the illustrated wonders-of-creation genre have their own complicated histories, which are even less understood. In some cases, scribes combined multiple texts. Karin Ruhrdanz has found that in some sixteenth-century manuscripts of Tusi’s text, the chapters on demons were expanded by inclusion of text from a book entitled The Book of Demons (Divānāma). There are also cases in which manuscripts of Tusi’s text include entire chapters taken from early modern versions of Qazwini’s text.13

Although the increasing online availability of digital images of manuscripts holds promise for how initial research on similarly vast corpuses of material might be conducted in the future, it is still the case that the only way to even start to unearth the physical, morphing histories of such books is to travel to museums, libraries, and other collections around the world, and physically examine individual manuscripts.

A further complication is that although I have aimed for clarity in my initial sketch of the differences between the earlier and later forms of the illustrated wonders-of-creation manuscript tradition, they are in fact inseparable. This book will show that the initial examples from which the tradition was born offered an impressively flexible structure that was later stretched and adapted, rather than broken and reinvented, to accommodate the interests and concerns that prevailed in specific milieus. This is a significant part of what makes the task of paying attention to the mutable, material histories of these books much more tricky than it might at first sound. Yet it is a vital and necessary first step.

A QUESTION OF APPROACH

Today, we define wonder and wonders through post-Enlightenment polarities such as religious–scientific, fantastical–real, and legendary–historical. These polarities are basic to our thought, because they are also the polarities through which we define reality. But these polarities were not always used to define either wonder or reality, in the Islamic world or elsewhere. For this reason, the historical investigation of wonder and wonders in general has the potential to help us break through the historicity of our own concepts of reality. And indeed, even though this may sound like an elusive goal, this is one of the pressing problems that scholars of culture face today. Having rejected a single, positivist history based on a modern, empiricist concept of reality, scholars of culture now face a new problem. We need to define historically specific alternatives to the old model in constructive rather than in deconstructive terms.

Precisely because of wonder’s relevance to the theoretical problems historians of culture now face, wonders and wonder have attracted the attention of leading scholars in many fields. Most of the sources that scholars have used to study wonders and wonder might be pertinent to either the question of what was included under the rubric wonders, or to the question of what the psychological experience of wonder was, but few sources address both. For example, objects from European Kunstkammers provide examples of
wonders—fossils, exotic flora, unusually large eggs—but they do not explicitly theorize the reaction they were meant to provoke.\textsuperscript{11} The metaphors of Persian poetry describe how wondrously beautiful art makes a viewer feel—as if bewildered, drunk, in love—but do not explain how this experience of wonder relates to the qualities that characterize wonders.\textsuperscript{13} As catalogues of wonders presented in wonder-inducing paintings, illustrated Islamic wonders-of-creation manuscripts are unusual in that they simultaneously address both the definition of a wonder, the object, and of wonder, the psychological experience. Nevertheless, it remains a challenge to find appropriate theoretical models for thinking about them.

With their apparently haphazard presentations of colorful paintings and entertaining stories, these manuscripts strike us, as citizens of the modern world, as obstreperously peculiar objects. Images calling attention to wonders we find disparate, even unrelated—majestic or humiliated angels (fig. 5, see also fig. 42), bees (see figs. 19, 20), and human-snatching birds (see figs. 27, 30) and present them as comparable. Further, considering that the stated purpose of the books was to induce wonder at God’s creation, the appearance of the paintings suggests a link between the reader’s visual perception of the paintings, on the one hand, and his intellectual or moral grasp of the wonder of God’s creation, on the other. Visual perception of images in these manuscripts is somehow related to the ethical perception of invisible truths. The manuscripts do not just challenge what we know, or think we know, about the possible roles of images in Islam. More fundamentally, they challenge the basic assumptions of our own modern educations—assumptions about what it means to think logically, to see and perceive, and to grasp the truth. How, then, ought they be analyzed?

One approach is suggested by affinities between the illustrated Islamic wonders-of-creation manuscripts and books of wonders made in Christian Europe. The European Christian and the Islamic traditions concerning wonder and wonders both flourished at approximately the same time, that is, from the twelfth or thirteenth century through the eighteenth century. They both drew on some of the same sources from their shared classical heritage, such as Aristotle and Pliny. As will be discussed further, this led to similar defini-

\textsuperscript{5} The angels of the seventh heaven. The Wonders of Creation and the Oddities of Existence of Qazwini. Iran, c.1475. London, Royal Asiatic Society MSS 178, fol. 39b. 7.5 x 8 cm (ruled image space).
tions of wonder, as a human response to that which is not immediately understood, which circulated in both regions. Similarly, both Islamic and European books of wonders engaged with some of the same particular wonders, such as dog-headed men (figs. 6, 7).

Given these affinities, we might be tempted to approach the Islamic examples through the interpretive models already established in studies of the European examples. In the European context, and particularly in literary history, wonders have been convincingly interpreted as markers of otherness at the geographical boundaries of experience. Indeed, many of the paintings in the late medieval and early modern Islamic illustrated wonders-of-creation manuscripts can be fruitfully studied in similar terms. A painting from a manuscript probably made in southern Iran in the early fifteenth century serves as an example (fig. 8). The painting illustrates one of the soft-legged men of Zanzibar, who live in tree tops and are unable to walk themselves. To get from tree to tree, they drop down onto the shoulders of good Muslim travelers, and parasitically cling to them until they have been transported to another tree. Interestingly, the skin and clothing of both figures in this painting open up an ambiguity about which one is civilized and which is wild. We can clearly see the Muslim traveler’s human skin, but the fact that we can see it depends on the diaphanous, revealing quality of his tunic and leggings, leaving him almost naked like an animal. As for the soft-legged man, he is covered with the scales of a snake, but he wears the reptilian sheath as a close-fitting garment, as civilized men wear clothes.

While information about soft-legged men can be found in earlier examples, the foundational examples of the genre of illustrated wonders-of-creation manuscripts, produced in the late thirteenth and early fourteenth centuries, emphasize familiar, known, and local wonders: the camel, the elm, or the bee (see figs. 14, 19, 20, 22). Approaching the genre as a whole by asking how these manuscripts define the self and the other at the boundaries of geographical experience would therefore leave little room for finding out what the earliest examples of the genre were actually about.

The emphasis on the familiar would have been particularly potent in the genre’s formative milieu: the
Islamic east in the wake of the disorienting Mongol Conquest of the mid-thirteenth century, marked by the disastrous fall of Baghdad in 1258. For denizens of the Islamic lands, including those in the western lands that had not been conquered, this was a shock that called everything into question. Although the vitality, prosperity, and security that had characterized Baghdad’s golden age under the fabled Harun al-Rashid (d. 809) had already faded by the thirteenth century, the city remained the seat of the caliphate, which is the central institution of legitimate, divinely sanctioned governance in Islamic political theory. As the seat of the caliphate, Baghdad’s cultural prestige within the Islamic world remained unparalleled. It was thus a shock of epic proportions when the reigning caliph Musta’sim was rolled in a carpet and beaten to death, his only surviving plausible heir reduced to fleeing to Cairo, and Baghdad, along with the eastern half of the Islamic world, subsumed into a Mongol world empire stretching from China to eastern Europe (see fig. 1). Within this Mongol Empire, much of Iraq, along with Iran and Islamic Central Asia, came under the immediate rule of a series of Mongol Ilkans, foreigners who answered to their cousins of the Yuan dynasty in China, and initially, at least, infidels to boot. Baghdad had for centuries been the theoretical center of the Muslim world, but almost overnight, it was separated from the western Islamic lands, lost the caliphate, and found itself officially ruled from China. Even though the degree to which any given reigning Ilkhan directly affected the daily lives of the surviving members of the conquered intellectual elite who lived within the Ilkhanid realm varied, one can see why authors of the period described this disaster in apocalyptic terms.16

It would be facile to claim that the Mongol Conquest fully explains why, initially, the manuscripts were not so much about what was strange and marginal, as they were about what was known and orderly. But the conquest was a shock of such magnitude that it would be equally foolish to imagine that it would not have had a profound effect on the earli-
est producers of the wonders-of-creation manuscripts, who belonged to the conquered intellectual elite of the Islamic lands.

Consider, for example, what we know about Qazwini’s life. He fled the Mongol massacre at the northern Iranian city of Qazvin in 1220, and like many other intellectuals from northern Iran and Central Asia, he emigrated westward in advance of the Mongol armies. At Mosul in northern Iraq, he undertook what may be described as the equivalent of graduate-level education in philosophy. However, rather than becoming a philosopher, he made his living as an expert on Islamic law. He eventually settled in Wasit (literally, “middle”), an Iraqi city so-named for its

location on the Tigris about halfway between Baghdad and Basra. In the Ilkhanid period, Wasit was a relatively prosperous city with a vibrant scholarly community. Ibn Battuta visited it in the early fourteenth century and was impressed that its inhabitants knew the Qur’ān well. Tax revenues from Wasit were comparable to those from Shiraz—the only cities within the Ilkhanid realm which yielded more were Tabriz and Baghdad. As the environmental geography around Wasit has changed drastically since the thirteenth century, it is worth noting that at that time, Wasit was part of the Iraqi marshlands, famous for its manufacture of fine reed pens, and infamous for its flies. The distinctive vernacular architecture of the marshlands has lasted for centuries. Recent photographs (fig. 9) show structures that recognizably correspond to structures depicted in ancient Mesopotamian art, and these photos help us imagine the prevailing architectural idiom of the boggiest areas of medievalWasit.
Qazwini served as the qadi (or judge for Muslims) in Wasit and nearby Hilla; he also taught in Wasit's legal college, known as al-Madrasa al-Sharabiyya. Although the course of the Tigris has moved, we know that in Qazwini's day the college was located on the east bank of the river. Rising out of an urban topography of spacious and beautifully built but necessarily impermanent reed structures, al-Madrasa al-Sharabiyya, its towers showcasing the decorative possibilities of its brick material, must have struck a commanding presence (fig. 10).

Less than three weeks after Baghdad fell to the Mongols in early February 1258, Wasit fell as well. The historian Rashid al-Din, writing in the early fourteenth century, reported that 40,000 were slaughtered. Qazwini survived again, possibly because it was Mongol practice to selectively spare those they considered potentially useful, such as scholars and craftsmen, depending on the course of any given city's capitulation or resistance to siege. He remained in Wasit under Ilkhanid rule until his death in 1283. Clearly, the Mongol Conquest was not, for Qazwini, a distant, indirectly known news item.

Remarkably, a manuscript of The Wonders of Creation and the Oddities of Existence, produced in Wasit in the year 1280 for Qazwini himself, has come down to us in excellent condition. Now preserved in the Staatsbibliothek in Munich, it opens with a rosette in which Qazwini's name and title appear against a background of spiraling palm leaves: “Zakariyya b. Muhammad b. Mahmud al-Qazwini al-Kamuni, qadi of Wasit, Iraq” (fig. 11). The opening rosette is precisely the place where the name of a manuscript’s patron or owner conventionally appeared, if at all. The manuscript ends with the following colophon by the scribe: “It was written by the most feeble, the most lowly, the most inadequate servant of God, Muhammad b. Muhammad b. ‘Ali al-Dimashqi the doctor,
who was resident in Wasit, Iraq, in that period. He finished it on Wednesday the twenty-fourth of Shawwal in the lunar year 678 [February 27, 1280]. The names of the artists are not specified. This is the earliest manuscript of Qazwini's cosmography that survives; it is not possible to determine the exact year in which Qazwini first wrote it.

Largely on the basis of this manuscript, Hans-Caspar Graf von Bothmer suggested the existence of a thirteenth-century Wasit school of painting. Although the scribe's comment that he was resident in Wasit at the time suggests that he may have led an itinerant life, names of quarters in Wasit in the Abbasid period suggest the presence of a thriving community of artisans and dealers engaged in the production and selling of books. The sources mention the copyists' quarter (maballat al-warrāqīn), the burnishers' quarter (maballat al-razzāqīn), the booksellers' quarter (maballat al-kutubiyīn), and the paper makers' quarter (or possibly the paper dealers' quarter, maballat al-qarājīsīyīn).

It should be noted that a passage found in some later manuscripts—which eulogizes the Persian historian 'Ala al-Dīn Juvaynī, who served the Ilkhanid court, and which has been interpreted as evidence that Juvaynī was Qazwini's literary patron—does not appear in this manuscript.

The purpose of the Islamic wonders-of-creation manuscripts, to induce wonder at God's creation and its order, emerges clearly from Qazwini's own manuscript. In the final section of his introduction, an essay on the classification of existing things, he asserts that "every atom of substance and accident is characterized by and has as its attribute the wonders and oddities that appear within it, by the wisdom, power, majesty, and greatness of God the Exalted." Although he concedes that enumerating every wondrous existent of creation is impossible, he nonetheless goes on to classify them into the unseen—such as angels, or the seen—such as the skies, the lands, and what is between them. After elaborating on some of the sub-classifications of the skies and the lands, he asserts that the fundamental point of all these wonders and classifications is to indicate the oneness of the Creator, for "in everything He has a sign, indicating that He is One."

Following the example of the 1280 Wasit manuscript, wonders-of-creation manuscripts are generally...
ordered in accordance with the model of a hierarchically arranged cosmos. This arrangement follows a Neoplatonic model of creation that was known throughout the medieval Islamic world largely because of the deeply influential writings of the great tenth-century scholar Ibn Sina (known in the Latin West as Avicenna). The enormity of his impact on later Islamic intellectual history may be seen in the fact that for centuries, writers could refer to him simply as “the shaykh,” and their readers knew that they meant Ibn Sina. In Chapter One I will explain that the philosophical tradition within which Qazwini studied was specifically an Avicennian tradition of Islamic philosophy.

Among the many aspects of Ibn Sina’s work that remained paradigmatic in the Islamic world for centuries was that he was a highly influential proponent of the Neoplatonic doctrine of creation by emanation. The broader tradition of this doctrine, as well as its Islamic trajectory, has been well studied by historians of philosophy such as Majid Fakhry. The essential premise of emanation is that there is an ultimate source, called the One or the Good, from which all else emanates and toward which all else longs to return. This was also sometimes called the First Cause and was identified in the Islamic context, as in medieval Europe, with God. It is so pure as to be radically different from other kinds of being it exists out of time. From this emanates the Perfect. The Perfect looks back at the One, is filled with light and beauty, and thereby becomes Reason. Because the Perfect/Reason is a direct emanation from God, it was produced without motion or time. As Reason looks to God as its author, its actions increasingly come to resemble God’s, and it attains numerous powers. With these powers it creates the Soul. Whereas the Perfect/Reason emanates directly from God, the Soul is an effect of an effect and thereby requires motion. Its motion has a polarity, which is to look upward toward Reason and downward away from Reason. When the Soul looks downward, it creates Nature, the World of Sense, which has various parts existing at different levels. When it looks away from Reason, the Soul sinks down to the lowest level of Nature, the Vegetable level, where it has entirely lost reason but still retains the faculty of motion. From the Vegetable level, the Soul looks up again, and that upward gaze elevates it to the Animal Kingdom—where, in addition to retaining the faculty of motion, it regains unconscious reason—and then to the Human level, where its gaze upon Reason allows it to regain a light that emanates from Reason, conscious reason. Those created things that had emanated first remained nearest to God; those that had emanated last were furthest from Him.34

Although medieval Islamic writers thought that the doctrine of emanation had been introduced by Aristotle, it was in fact a development of Neoplatonic philosophy developed largely by Plotinus in the third century CE. For example, Kindi’s Arabic translation of a book including paraphrases of The Enneads of Plotinus, was widely believed to be an Aristotelian compilation: Theologia Aristotelis. In addition, the book that was called Liber de Causis in the Latin West, existed in Arabic as Kitāb Mabd al-Khayr and was drawn from The Elements of Theology by Proclus.35

The Neoplatonic model of creation by emanation was controversial within medieval Islamic thought. Did it imply a gradual process of creation by a series of agents, rather than creation out of time by the one God, thereby conflicting with Islamic revelation? Or had the pre-Islamic philosophers, by wisdom and reason, arrived at an understanding of creation, the fundamental truth of which Islam subsequently confirmed? Many of the main figures of medieval Islamic intellectual history, including Kindi, Farabi, Ibn Sina, the Brethren of Purity, Ghazali, Ibn ’Arabi, Ibn Tufayl, and Ibn Rushd devoted attention to this question, and they did so in a variety of literary forms.36 But ultimately, it was Ibn Sina’s writings that were most influential in popularizing this doctrine in the Islamic world.37 As has been mentioned, it turns out that Qazwini’s training in philosophy was specifically in the tradition of Ibn Sina.

The Neoplatonic model of creation by emanation provided the structure around which wonders-of-creation manuscripts in general, and Qazwini’s cosmography in particular, were organized. Created wonders of the celestial realm, such as angels, were understood to occupy the positions nearest to God; they therefore appeared in the wonders-of-creation manuscripts first. Those located further from Him, in the terrestrial realm, followed. Wonders of both celestial and terrestrial realms were further divided into hierarchically ordered classifications. In four Qazwini manuscripts from the Ilkhanid realm—Qazwini’s 1280 Wasit manuscript, two
made in southern Iran in the early 1320s, and one very likely made in Mosul c.1300—similarities among paintings within any given classification strongly emphasize this cosmic order. A critical factor in this may have been the conquered intellectual elite’s need to remember that within all of the upheaval of the era, there still were familiar and known things and that even though it may have seemed that the world had been turned upside down, there was still a lasting, cohesive, and divinely arranged order to the cosmos.

In all of these manuscripts, the first main section on the heavens includes illustrated chapters on the celestial bodies, angels, and time (fig. 12). The next section covers the earth and includes chapters on the weather, mountains and rocks, rivers, and a heavily illustrated chapter on the seas and their inhabitants (fig. 13). The section on the earth then continues with chapters on trees and on smaller plants that were also heavily illustrated (fig. 14). Next is a chapter on animals, which begins with a discussion of humans and then continues through the ranks of the animals from various categories of quadrupeds (riding animals, livestock, and predatory animals; fig. 15) through to birds (fig. 16) down to creepers and crawlers and eventually concluding with a final section on strangely formed breeds such as the Gog and Magog (fig. 17). The few strange and peculiar wonders in these manuscripts are mostly clustered into this last short chap-

ter at the bottom of the cosmic hierarchy. This accords with Qazwini’s insistence that while wonders include oddities, the two are not synonymous. Rather, oddities are only a small subset of wonders.

Clearly, an appropriate approach to the medieval wonders-of-creation manuscripts must account not only for the familiar wonders, but also for the primacy of their cosmographic structure. This, therefore, draws attention to a second possible approach, which has been used to analyze Chinese accounts of wondrous phenomena. Robert Ford Campany’s analysis of early texts from the Chinese literary genre of “strange writing” or “anomaly accounts” (dongwu and chuanqi), places them squarely in the framework of early Chinese cosmographic thought. Although Chinese “strange writing” accounts do include geographically located oddities, when compared with the European emphasis on the flora, fauna, and inhabitants of foreign lands, the Chinese emphasis on encounters with the spirit world, and ghosts, is notable. And indeed, wonders relating to this theme do appear in late medieval and early modern Islamic wonders-of-creation manuscripts. A painting from late seventeenth- or early eighteenth-century India, to be discussed in the Epilogue, offers itself as an example (see fig. 88). In this painting, the prophet Solomon visits a city inhabited by spirit beings who have been pictorially pushed into the literal margins of the page. Whether in China or in the Islamic world, the relationship of those living on earth to those living in the spirit world is, of course, defined cosmographically rather than geographically.

There is no disputing that, during the Mongol period, artists, intellectuals, and bureaucrats in the eastern Islamic world engaged with Chinese visual forms, ideas, and organizational models to highly productive effect. The new level of access to Chinese culture clearly stimulated artistic creativity in the Ilkhanid period, as has been explored in several books and exhibitions. But to what extent can existing studies of the Chinese “strange writing” genre help us define an appropriate approach to the medieval Islamic wonders-of-creation manuscripts? The emphasis on cosmography is clearly important in both cases, but there is an important difference. The Chinese accounts often deal with beings and encounters that transgress rather than uphold the cosmic structure. This theme can be found in the medieval wonders-of-creation manuscripts, but the wonders that fit properly within the cosmic structure are far more numerous. Many of these are not just familiar wonders, but natural species.

A third possible approach is therefore suggested by scholarship on natural wonders, a category in which many of the created wonders included in the Islamic wonders-of-creation manuscripts clearly qualify. Historians of science have done fascinating work on the reactions that natural wonders inspired at different historical moments, and how those reactions figured in the history of investigating the natural world. Despite significant overlap, however, illustrated Islamic wonders-of-creation manuscripts were not actually collections of natural wonders. Whereas natural wonders could be observed with the senses, many of the created wonders in these manuscripts belonged to realms beyond sensory perception. True, painted images of normally invisible wonders such as angels were visible in the manuscripts (see figs. 5, 18). But it would be too simple to suggest that these paintings made invisible wonders visible, and thereby collapsed the distinction between supernatural and natural wonders. When applied to a medieval conception of the created world as a continuum extending beyond the visible, the distinction between supernatural and natural (and thus between the histories of religion and science as they are currently defined), is somewhat anachronistic. The more fundamental reason that the images in the wonders-of-creation manuscripts cannot be studied in the same manner as natural wonders is that images are not tangible in the same sense as natural

13 (facing page, top) Pages from the chapter on the seas and their inhabitants. From front to back of the montage, and from upper right to lower left of facing pages, fol. 51b: a great fish that strikes boats, and an owl-faced fish with another fish; fol. 58b–59a: lamprey, dolphin, a pharmaceutically useful fish, and electric ray; a blessed fish. The Wonders of Creation and the Oddities of Existence of Qazwini. Fars, Iran, 1322. 26.4 × 17.6 cm (each folio). Istanbul, Suleymaniye Library, MSS Yeni Cami 813.

14 (facing page, bottom) Pages from the chapters on trees and plants. From left to right of the montage, and from top to bottom of each page, fol. 117b: the spiny cactus, the elm, and the plane trees; fol. 124b: the almond and the lemon trees; fol. 131a: watercress, carrot, manna plant, thyme, and cress plants. The Wonders of Creation and the Oddities of Existence of Qazwini. Wasit, Iraq, 1280. 30.5 × 20.2 cm (each folio). Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464.
wonders. A manuscript painting of a tree is not an actual tree (see fig. 14). We must attend to the images in the Islamic wonders-of-creation manuscripts as painted images.

The need to attend to the images as paintings might suggest a fourth possible approach: an investigation of wonder as an experience of aesthetic delight. Several historians of Islamic art have pointed out that the success of art was judged partly by its ability to induce wonder in the viewer. Wonder was a key critical term in other art traditions as well, stretching back to antiquity. In Islamic art history, light catching surfaces, glowing colors, and dazzling geometric patterns are all formal features understood to have been linked to the wonder response. Some paintings in the illustrated wonders-of-creation manuscripts lend themselves to analysis in terms of these formal properties (see fig. 5). Many others, however, do not.

When it comes to identifying an appropriate frame within which to analyze these manuscripts, each of these established approaches to wonders and wonder has something to bring to the analysis of the illustrated Islamic wonders-of-creation manuscripts, but none of them is sufficient. What is required methodologically is a coherent symbiosis—a mode of inquiry that builds on these approaches and integrates them into something more. It is difficult to find this symbiosis because, as the children of modernity, we tend to con-
ceptualize the intellectual, the ethical or spiritual, and the visual as distinct registers of human engagement with the world, registers that may or may not have much to do with each other in any given circumstance.

The solution lies in recognizing that for pre-modern readers of these manuscripts, what we would call visual, intellectual, and ethical modes of engagement were not conceived as parallel alternatives but rather as successive steps. According to Ibn Sina, human understanding depends upon human faculties. A select few who possess the faculty of intuition are able to understand truth directly.

It is possible for someone to have a soul bolstered by intense purity and closeness of connection to the rational principles, to the point that he is ablaze with intuition. What I mean is that he will be receptive to the inspiration of the Active Intellect in all things, and the forms contained in the Active Intellect will be imprinted in him concerning all things, either all at once or nearly so. This is a kind of prophecy, or rather the highest of the prophetic faculties, and this faculty is most worthy of being called a holy faculty.\(^\text{41}\)

However, Ibn Sina maintains that most people understand things only with considerable effort and through the use of several faculties, which are ranked, so that “some of these faculties rule others, and... some serve others.”\(^\text{44}\) The five external senses perceive objects fully attached to matter with all their accidental properties. These external senses serve faculties that we might consider to be part of the intellect, but which Ibn Sina calls the five internal senses (faculties of common sense, representation, imagination, estimation, and memory); these perceive the objects even when the matter is not present, and they start to abstract the objects. The internal senses in turn serve what Ibn Sina calls the intellect, which has the potential to apprehend universal forms, and therefore to perceive what is true, pure, and good.\(^\text{45}\)

The wonders-of-creation manuscripts were not made for prophets, but assume an audience of people who must learn with effort. They are also not intended as pedagogical demonstrations of Ibn Sina’s theories of apprehension in all their details, but were loosely informed by these theories. In these manu-

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scripts, then, visual perception of eye-catching painted images of wonders could prompt aesthetic appreciation, so that viewers would engage with the wonders presented in these paintings not only with their eyes, but with their internal senses. This could pave the way for intellectual engagement with the wonders the images represented. That engagement in turn paved the way for awe at God’s divinely ordered cosmos.

I have explained that Ibn Sina’s views of the cosmos, and the particular attraction these views held for conquered intellectuals in the wake of a disorienting conquest, help point the way toward the internal logic of the earliest medieval wonders-of-creation manuscripts. In addition, I have hinted that Ibn Sina’s ideas on perception and abstraction also turn out to be critically useful in understanding how their images were expected to function. Further, it turns out that the assumptions of the Avicennian philosophical tradition are helpful in gaining a better understanding of some of the later manuscripts as well.

Before delving into the question of how this plays out in reference to different types of wonders-of-creation images, the curious reader will want to know more about discussions concerning wonder and wonders that were current in the medieval Islamic world. Similarly, the reader will want to know more about who read the manuscripts.

'AJAB AND 'AJĀ'IB: AN ISLAMIC TERMINOLOGY OF WONDER AND WONDERS

In his introduction to The Wonders of Creation and the Oddities of Existence ('Ajā'ib al-Mašā'īl wa-Qarā'ib al-Mauqūdāt), Qazwini explains that the purpose of his book is to induce the reader to wonder at God’s creation. He then states that the title of the book obliges him to provide four more introductory essays, each explaining one of the words of the title. This is striking because it goes beyond the conventional components of a preface. Further, it shows that Qazwini chose his title so that it could serve a didactic purpose, even as it conformed to the medieval Arabic convention of a rhyming title. Two of the words to which these four essays are devoted are not exactly the same as the four words of his Arabic title, but they are from the same roots, and discussions of
the title words actually are included in the essays on the selected words. One essay is devoted to each of the following words: ‘ajab (wonder) rather than the title word ‘ajā’ib (wonders), makhlūqat (created things), gharāb (strange [adj.] or oddity [n.]), rather than the title word gharā‘īb (oddities), and ma‘ujudāt (things that exist). The essays of immediate concern here are the ones on ‘ajab and gharāb. In Qazwini’s own usage this was an Arabic terminology, but the terms ‘ajab and ‘ajā’ib can be described more generally as “Islamic” because they were absorbed into both Persian and Turkish as loan words from Arabic.

Qazwini defines ‘ajab as “the sense of bewilderment a person feels because of his inability to understand the cause of a thing.”47 Within the broad strokes of a world history of wonder, this definition resonates with a widespread and well-known concept of wonder as a longing to understand. In Plato’s Theaetetus, Socrates states that “Wonder is the feeling of the philosopher and philosophy begins in wonder.”48 Aristotle echoes this and elaborates on it in the Metaphysics: “For it is owing to their wonder that men both now begin and at first began to philosophize; they wondered originally at the obvious difficulties, then advanced little by little and stated difficulties about the greater matters, e.g. about the phenomena of the moon and those of the sun and of the stars, and about the genesis of the universe.”49 Francis Bacon’s wording is “Wonder...is the seed of knowledge.”50

It is striking that Qazwini’s specific articulation of wonder as a state of bewilderment due to the ignorance of a cause finds its closest parallels in the writings of other medieval religious scholars, be they Muslim or Christian. In his tenth-century dictionary of Qur’anic vocabulary, al-Raghib al-Isfahani states that “‘ajab and ta‘ajjub are states which come to a person at the time of that person’s ignorance of the cause of something.”51 Thomas Aquinas, who died only six years before Qazwini, and whose work was deeply informed by the Arabic philosophical tradition,52 used similar terms. According to Aquinas, “We marvel at something when seeing an effect, we do not know its cause.”53 Notably, the experience of wonder being described by these medieval religious thinkers—Qazwini, al-Raghib al-Isfahani, and Aquinas—is more akin to a state of contemplative awe, than to a moment of surprise or of sudden delight.

In his introduction, Qazwini offers numerous examples of created wonders (‘ajā’īb) that will be covered in the book. These include the stars, the human body, and the bee. He thereby emphasizes natural wonders, many of which are familiar, and which we recognize today as real. His point is that these induce awe in anyone who takes the trouble to contemplate them. He then mentions that a subset of wonders are unfamiliar. These are called gharā‘īb (oddities, things that are strange, unusual, rare). According to his definition, “An oddity (al-gharāb) is any wondrous matter which occurs rarely and is contrary to what is commonly known, witnessed, and written about.”54

As examples of gharā‘īb, Qazwini mentions the miracles of the prophets, eclipses, earthquakes, the evil eye, the unique characteristics of unusual souls, asteroids, snowfall out of season, smoke that rises from the earth, and the births of animals with strange forms, such as conjoined twins, the likes of which have not otherwise been seen.55 These are beyond familiar experience and so, he admits, include things whose truth the reader might doubt. But, Qazwini admonishes his reader, nothing is beyond God’s power:

If you want to be certain [of what seems strange], then get to work testing it. But beware of being misled, or of being overcome with fatigue, or of becoming fed-up if [your test] does not come out right once or twice...If you see a magnet that does not attract iron, then do not deny its characteristic property, but set your sights on investigating its various states until its power becomes evident to you.”56

In the case of medieval and early modern Europe, Lorraine Daston and Katharine Park comment: “Wonders had to be rare, mysterious, and real.”57 Qazwini’s rhetorical use of the magnet demonstrates that as in the European case, the wonders he includes in his book have to be real. But the way that he explains the relationship between “wonders” and “oddities” shows that, unlike those Daston and Park analyzed, they did not necessarily have to be rare. According to Qazwini’s understanding, the categories of wonders and oddities overlap, but the terms are not synonymous. Rather, oddities are a particularly strange and rare subset of wonders.
Wonders include all of creation, whether common or rare, because everything God has created is a sign pointing back to the wonder of God. An important point, made by C. E. Dubler in 1954 but still not adequately appreciated among scholars, is that the association of wonder with divine creation was well established in Islamic literature before Qazwini.58

Similar ideas were espoused by many of the medieval philosophers, such as Ibn Rushd (known in the Latin west as Averroes), according to whom the most convincing proof of God is His creation.59 But these ideas circulated not only among specialists in philosophy. In Arabic literature, the association between wonder and creation became particularly important in texts concerned with nature, such as in bestiaries, and in philosophical texts written as adab, or in literature that presented in an entertaining manner what the cultured man should know. One example of how this association appeared in philosophically adab is the allegory Hayy b. Yaqzān (the proper name of the protagonist, meaning “Alive, son of Awake”) by Ibn Tufayl (d. 1185).60 In this text, a boy grows up alone on an island and learns from what he sees around him. What he sees is creation, and it is by wondering at its beauty and perfection that he comes to understand creation as emanation from the First Cause. He is thereby prepared to recognize the truth of Islam when he meets a Muslim. This is but one example of a strongly rooted tradition that conceptualized creation as a collection of natural wonders pointing to God.

Qazwini rigorously upheld his definition of wonders as necessarily created, rather than crafted. In addition to the cosmographical wonders-of-creation book, he also wrote a geography in which he does include architectural monuments. Although it later came to be known as The Wonders of the Lands (Ajāʼīb al-Buldān), it seems that Qazwini himself called it The Monuments of the Lands (Akhār al-Bilād).61 As has been mentioned, this geography was never illustrated, whereas the wonders-of-creation book was illustrated over and over again. The difference is entirely in keeping with the particular role the images in the wonders-of-creation manuscripts played in helping the reader reach a state of wonder at divine creation.

The earliest surviving version of Qazwini’s cosmography was not devoted exclusively to what we would now recognize as real, natural wonders. In his own 1280 manuscript, as one turns from Qazwini’s introduction to his book proper, one encounters not only created wonders that we recognize as natural and real—such as the spiny cactus, the elm, and the pine trees—but also oddities that strike us as fantastical, such as the so-called “Munsak” people. According to Qazwini, the Munsak people had ears like those of elephants, so that when they slept they could use one ear as a mattress and the other as a blanket. Even though this information came from a well-established textual tradition, and probably came into Arabic literature through the Greek texts of Ktesias of Knidos (early fourth century BCE),62 it would still have baffled Qazwini’s readers. The illustration in his own manuscript, which shows two people scampering blithely, each apparently unhindered by the weight of a pair of elephantine ears, made it even more baffling (see fig. 17).

Some scholars have set out to defend Qazwini and similar authors, and have attempted to explain that the inclusion of such oddities should not disqualify them as serious medieval intellectuals. Alauddin Samarrai, for example, tries to explain the appearance of fantastical elements in their texts. After surveying how the Gog and Magog, the Amazon, and other monstrous races were treated in Arabic and Latin texts, Samarrai reminds us that in medieval intellectual culture, both in the Islamic lands and in Europe, the authority of tradition was extremely important. “Learned, intelligent, and even critical minds accepted the reality of such monstrous and marvelous races because the Middle Ages had immense reverence for authority.”63 Therefore, reference to an established source could lend legitimacy to otherwise questionable information. Many of the wonders that strike us as fantastical are mentioned in ancient sources and traditions—often, but not necessarily, classical ones.

It is true that the authority of tradition was important in medieval intellectual culture, both in the Islamic world and in the West, and that deference to established sources offers a partial explanation for the inclusion of surprising wonders in encyclopedias such as Qazwini’s. But as Samarrai himself points out, medieval authors did not repeat these sources blindly, or without a process of critical selection. Consider the case of crocodiles. The ninth-century litterateur Jahiz
had claimed that because crocodiles are found in both the Indus (Hind) and the Nile, the two rivers must have a common source. Famously, the tenth-century historian Mas‘udi directly challenged this claim—precisely on the grounds that Jahiz had neither reliable sources nor personal experience to support it.64

Another modern scholar, Syrinx von Hees, has gone yet further, arguing that the whole concept of a medieval Islamic literary genre related to wonders (‘ajā‘īb) is a modern construction. She draws attention to the lack of medieval books devoted exclusively to the fantastical creatures, objects, and stories that we would now understand as wonders and marvels. She emphasizes, correctly, that the majority of the created things included in Qazwini’s The Wonders of Creation and the Oddities of Existence are natural things—species, materials, and objects that we moderns do recognize as real. These are not just rare real things—such as rainbows—but also familiar real things—such as horses, rain, and spinach. She admits that, interspersed among these, Qazwini’s cosmography includes fantastical things, but she emphasizes that these are exceptions. These exceptions, she says, are disproportionately well known, because modern authors, attracted to their high entertainment value, have placed undue emphasis on them. For von Hees, the emphasis on the “wondrous,” and with it, the very idea of an ‘ajā‘īb genre, are anachronisms.65

Von Hees, one of the few scholars who has made a point of studying The Wonders of Creation and the Oddities of Existence by reading the version of the text preserved in Qazwini’s own 1280 manuscript, is certainly right to call attention to the dominance of real, natural things in this book. But when it comes to whether or not there is any justification in speaking of a medieval Islamic ‘ajā‘īb genre, it is crucially important to recognize that the criteria by which we now decide whether or not something is wondrous, are not the same as the criteria used by medieval Islamic authors. Katharine Park and Lorraine Daston have shown that in Europe, understandings of wonder and wonders have changed significantly over time.66

Nonetheless, the manner in which Qazwini describes wonder and wonders in his preface sits uneasily with the way in which modern scholars of Islamic literature have characterized the literary ‘ajā‘īb genre, of which Qazwini’s books have long been held as the foremost examples. Robert Irwin vividly expresses the established scholarly view:

The taste for the fantastic was so pronounced in the medieval Arab lands that it spawned a distinctive genre of literature, that of ‘ajā‘īb (marvels)… Such books were hugger-mugger compilations of improbable information about the stupendous monuments of antiquity, strange coincidences, the miraculous powers of certain plants, stones and animals, and feats of magic.67

Irwin’s characterization fits wonders-of-creation manuscripts made from the late fourteenth to the eighteenth century better than thirteenth- and early fourteenth-century ones, but the difference occurred gradually. Because by definition, the cosmos includes everything, anything could be fitted into the structure that was understood to organize the cosmos. This is why it was possible to stretch and adapt this structure in later wonders-of-creation encyclopedias to accommodate a larger proportion of wonders more obviously associated with human craft than with divine creation. In late medieval and early modern wonders-of-creation manuscripts, the underlying foundations of the organizational structure in the Neoplatonic doctrine of emanation are not nearly as obvious as they are in the earliest ones. A comparison between Qazwini’s own 1280 Wasit manuscript and the 1388 Tusi manuscript serves to demonstrate this.

In the 1388 Tusi manuscript, as in Qazwini’s 1280 Wasit manuscript, the wonders of the heavens (angels, celestial bodies, and phenomena of the weather) precede earthly wonders. However, several additional kinds of wonders, many of them man-made and/or geographical, are included. The section on earth includes chapters devoted to mosques, churches, places, castles and royal fortifications. There are also sections on treasures and tombs that have no equivalent in the 1280 Qazwini manuscript. In addition to these man-made wonders, several specifically geographical topics are included; there is a chapter on boggy lowlands, and several entries on specific regions are illustrated with painted maps. Further, whereas the section on humans in Qazwini’s 1280 manuscript focuses on anatomy, the corresponding section in the text of the 1388 Tusi manuscript leans more toward cultural geography, and is dominated by lengthy chapters on
the customs of different races and the wondrous people of early epochs. This is followed by a chapter on jinn. The last chapters – on birds, animals, and reptiles – recall the clear structure of Qazwini’s own manuscript and of his cosmography. In the 1388 Tusi manuscript, the appearance of human and geographical themes within the cosmographic hierarchy results in a different understanding of what is involved in the experience of viewing a wondrous sight. In his preface, Tusi states that “Man has no greater pleasure than to contemplate what he has never seen before: this desire is realized by travelers.” From this it could be easy to interpret his book as a geography, and indeed, this seems to have been how the book was interpreted in 1340, when a manuscript of it was completed that was illustrated only with diagrammatic maps. However, the text is ultimately cosmographic, because access to Tusi’s wonders involves travel on a cosmographic scale, and from the 1388 manuscript onward, the illustrations point to its cosmographic variety. The 1388 paintings are metaphorically presented in his book as reflections seen from the horizons. As such they grant visual access, though with some distortion, to viewers who approach them appropriately. As will be explored in Chapter Three, the 1388 Tusi manuscript thereby both extends and inflects a long tradition in wonders-of-creation manuscripts in which the processes according to which their paintings induce wonder are theorized in terms of mirrors.

The textual shifts in the genre are evident not only at the level of the overarching organizational framework, but also within specific chapters, and even specific entries. Consider, for example, the case of how stones and talismans are positioned and treated over time in these manuscripts. The thirteenth-century version of Qazwini’s cosmography includes an unillustrated chapter on stones, and no chapter on talismans. By contrast, the chapter on stones in Sultan Ahmad’s Tusi fourteenth-century manuscript is heavily illustrated. The illustrations are not of the stones per se, but of designs for crafting talismans (see fig. 59). Further, there is a separate chapter on idols and talismans. In later Arabic manuscripts of Qazwini’s book, the individual entries on particular stones became longer. By the fifteenth century, manuscripts of his book in Persian translation often included an extensive chapter on talismans. In some early modern manuscripts of his book, additional texts on talismans by other authors were written into the margins (see fig. 87). The overall direction of this shift is toward what Irwin refers to as “magic,” the possibility that humans can manipulate the order of the cosmos they inhabit.

The shift correlates with an expansion of the range of social groups who read the illustrated wonders-of-creation manuscripts and viewed their paintings. Whereas Qazwini was a member of the intellectual, but not the political elite, the owner of the 1388 Tusi manuscript was a prince. The conditions under which the genre’s audience expanded over the course of the fourteenth century are explained in the next section.

SCHOLARS, BUREAUCRATS, AND PRINCELY FAMILIES

In the thirteenth and fourteenth centuries, illustrated wonders-of-creation manuscripts attracted audiences who had been educated in different traditions, spoke and wrote different languages, belonged to different ethnic groups, and served different roles with respect to the state. From the Arabophone world of the intellectual elite, to the Persianized courts of the Turko-Mongol princes, the changes we see in the manuscripts accord with differences in their audiences’ cultural references and societal roles. By plotting correlations between the audiences and emphases of specific manuscripts in this period, it is possible to see how the manuscripts cumulatively fall into a larger narrative of social and cultural change.

The illustrated wonders-of-creation manuscripts in this period range from the manuscript made for Qazwini himself in Wasit in 1280 to the manuscript of Tusi’s text produced for Sultan Ahmad. Sultan Ahmad was a prince from one of the several competing families that filled the power vacuum in the eastern half of the Islamic world between the disintegration of the Ilkhanid dynasty and the eventual emergence to preeminence of the Timurid dynasty – that is, in the mid- to late fourteenth century. The family to which he belonged was the Jalayirid family (see fig. 2). In 1388, when the Tusi manuscript made for him was completed, his power base was in Baghdad, but
he acknowledged the overlordship of Timur, founder of the Timurid dynasty.

In the types of images they include, as well as in their differing social milieus, Qazwini’s 1280 Wasit manuscript and Sultan Ahmad al-Jalayir’s 1388 Tusi manuscript typify what have long been studied as two separate traditions of Islamic manuscript painting: Arab painting and Persian painting. The conventional perception of the division between the two is conventionally indicated by the fact that the publications, Arab Painting and Persian Painting, are two separate volumes of the Skira series. The 1280 manuscript, written in Arabic, and made for a member of an intellectual rather than a political elite, typifies Arab painting. Most of its images are of separate species (see fig. 14), and are in an idiom suggestive of natural histories or herbal, such as the Arabic De Materia Medica (see fig. 24). The 1388 manuscript, by contrast, typifies Persian painting. It is in Persian, it is a courtly manuscript made for a prince, and most of its images portray narrative scenes (see fig. 44).

Though this text is in prose, many of its images share something of the sensibility of images that appeared as visual accompaniment to poetry, such as an illustration of Alexander visiting a sage that appears in a poetic anthology produced in 1410–11 for the Timurid prince Iskandar Sultan (see fig. 49).

Three manuscripts from the eastern half of the Islamic world that lie chronologically between the 1280 manuscript and the 1388 manuscripts also lie between them in terms of their likely original milieus. The earliest of these is possibly an Arabic Qazwini manuscript that was likely made in Mosul around 1300. Its text differs in various respects from that found in the 1280 Wasit manuscript, demonstrating that an alternate version was already circulating in the first quarter of the fourteenth century. However, the version of the text found in Qazwini’s own manuscript continued to circulate, and appears in two closely related manuscripts, made in the southern Iranian region of Fars in the early 1320s.

It is significant that none of these manuscripts was made for the Mongol Ilkhanids themselves. Rather, all of the Arabic Qazwini manuscripts prepared under Ilkhanid rule were apparently made in areas that were culturally and economically vibrant and yet had the administrative status of provinces within the Mongol system. It therefore seems unlikely that the initial success of Qazwini’s cosmography can be attributed to whatever interest in science the Ilkhanids may have had, as has been suggested.77

The geographical distribution of places where illustrated wonders-of-creation manuscripts first attracted interest echoes a pattern noted by Ann Lambton in her classic study Continuity and Change in Medieval Persia. Lambton comments that, whereas before the conquest, the capital city of Baghdad had been a great center of religious learning, after the conquest, it was the Mamluk metropolises of Cairo and Damascus that fostered education and scholarship in religious fields. The various capitals to which the Ilkhans seasonally brought their courts fostered secular learning instead. In the Ilkhanid realm, Lambton notes: “religious learning continued to be handed down, but mainly, perhaps in the smaller provincial towns as Kirman and Shiraz.”78 The corpus of thirteenth- and fourteenth-century manuscripts surviving from the Islamic east demonstrates that there, wonders-of-creation manuscripts first attracted attention in cities such as Wasit, Mosul, Shiraz, or Kirman, among people such as Qazwini and his own students. Such places were, as Lambton notes, the centers of religious learning under the Ilkhanids.79

The manuscript made in Wasit in 1280 has long been recognized as an important manuscript for the textual history of Qazwini’s The Wonders of Creation and the Oddities of Existence and for the history of Arab painting.80 It has been exhibited a number of times, most recently in 2010, and two of its 468 paintings were published in color in Richard Ernghausen’s classic monograph Arab Painting. It has been analyzed as the main source for defining a “Wasit style,” and it has been considered an important comparative source for a close study of the c.1300 Qazwini manuscript.81 That the manuscript was made for Qazwini himself illustrates the close connection between the manuscript’s emphasis on the divinely established order of the cosmos, and the men of religious learning who constituted its initial audience.

The social class to which Qazwini and his students belonged was called, in classical Islamic sources, “the men of the pen.” This was a broad term, subsuming both religious scholars and bureaucrats at many levels. One reason such a broad category made sense is
that, as we shall see, religious scholars often also served as state bureaucrats. The men of the pen shared a classical Islamic education, in Arabic, consisting of training in Islamic law, within which there existed four official legal schools: Shafi'i, Malaki, Hanbal, and Hanafi. Women were not part of this group—the few known examples of female intellectuals in the first centuries of Islam, such as Rabia al-'Adawiyya al-Qaysiyya, who died in Baṣra in 801, tended to be mystics; their organizations, based on master-disciple relationships, fell outside of the structure that organized the study of law. For male Muslim intellectuals, however, law was in many periods the most reliable field of employment, and numerous thinkers who are now remembered for writing important works in other fields supported themselves as qadis, or judges of Islamic law, or as professors at madrasas, or legal colleges.

The range of ways in which men of the pen might use their expertise in Islamic law to support other intellectual pursuits in the period on which this book focuses, and the range of degrees to which their legal work connected them to official state institutions, can be seen in the examples of three men whose writings serve as supplementary primary sources for this book. These men were active at different points in the fourteenth and early fifteenth centuries. All three were from the western Islamic lands, which the Mongols never conquered.52

The first, Ibn Taymiyya, is the only one of the three remembered today primarily as a jurist. During the first quarter of the fourteenth century, he authored numerous and uncompromising legal opinions on all the controversial matters of the day. These included not only alchemy and astrology, but also communicative strategies found in the early wonders-of-creation books, such as metaphor and imagery. He was also an outspoken critic of the Mamluks under whom he lived, and he got into trouble with them repeatedly. The second, Ibn Battuta, is remembered for recording the travels he undertook between 1325 and 1349 from his home in Morocco to the edges of the Islamic world in southern Russia and south Asia. As part of this, he left us rich descriptions of the central Islamic lands. As he traveled, he was able to collect fees from local Muslims for his services as a self-advertised itinerant qadi. The least rigorously intellectual of the three, he was also the least connected to any state bureaucracy. The third, Ibn Khaldun, is remembered as a great historian and a thoughtful commentator on Islamic civilization. Writing in the late fourteenth and early fifteenth centuries, the very period in which talismanists started to be featured in illustrated wonders-of-creation books, he not only offered his own views of talismanists, but tried to survey his contemporaries’ views as well. He served the Mamluk Sultan Barquq first as a professor of Islamic law of the Maliki school, and then as Egypt’s highest-ranking Maliki qadi. Despite the turbulence of Mamluk politics, he was consistently successful in maneuvering to maintain state patronage.53

While all three of these men hailed from the Islamic west, Qazwini, a madrasa professor and qadi, is a reminder that the classical, Arabophone legal education and career path of the men of the pen also continued to exist in the Islamic east following the Mongol Conquest. Qazwini was from an ethnically Persian family of Central Asia, but in accordance with his training, he conducted his career in Arabic and wrote in Arabic. One of the refugees who fled the Mongol invasions of the Islamic Khwarazmshah empire in Central Asia and north-eastern Iran from 1219 to 1223, he headed west, and studied in Mosul. There, one of his advisors was Athir al-Din al-Abhari, with whom he studied Islamic philosophy in the tradition of Ibn Sina.54 Although Qazwini did not become a philosopher as such, his book is permeated with ideas that were central to philosophy. This is why the writings, thought, and legacy of the tenth-century scholar Ibn Sina are critical for understanding the initial formation of illustrated wonders-of-creation manuscripts, and figure prominently in this study.

Upon completion of his studies, Qazwini served the last Abbasid caliph Musta’sim as a judge, and became a professor of law of the Shafi'i school at the legal college in Wasit, Iraq. But by moving his life further west, Qazwini had delayed rather than avoided the experience of conquest. In February 1258, the Mongols under Hulegu infamously swept into the Abbasid palace at Baghdad and ingloriously killed the caliph. Wasit fell in the same month.55 However, Qazwini’s legal career remained intact.

The formative history of illustrated wonders-of-creation manuscripts went hand in hand with the fate of Qazwini’s class in the east, and its relationship to
the various classes who supported the state after the conquest. In some respects, surprisingly little changed, particularly in places like Wasit. The itinerant Mongol court never came there, and I have seen no evidence that this was a city in which the Mongols forcibly resettled large populations from elsewhere in their empire. Many who had served as part of the Abbasid official state bureaucracy survived the conquest and remained in their posts under the Mongol Ilkhanids, because the Mongols understood the strategic advantages of leaving the local administration intact. When they sacked a city, it was their practice to invite members of the local administrative bureaucracy to come out first, and then reinstall many of these figures after the city capitulated. So there is a degree to which it can be said that in places like Wasit, Qazwin was the same local population, by following the same laws.

At another level, the conquest was an existential shock. It seriously damaged the fundamental underpinnings of the very world order that Qazwin was the class upheld. When the Mongols conquered the caliphal palace in Baghdad, they not only killed the person of the caliph, but arguably destroyed the institution of the caliphate – the central institution of the classical Islamic system of governance. Although one of the family escaped to Egypt, and proclaimed himself a caliph in exile, and although the title of caliph remained a potent symbol of legitimacy in the political discourse of subsequent Islamic states, the institution was irrevocably compromised. The eastern half of the Islamic world fell under the rule of the Mongol Ilkhanids, literally Subordinate-Khans, who paid allegiance to the Great Khans of the Yuan dynasty in China. What had been understood as the political center was redefined as relative periphery in a new world order.

The historian Aziz al-Azemeh has made a general but insightful comment about the ideal of the caliphate in the classical Islamic world that is highly pertinent here. Continuity in the role of legal scholars from one state to another, as well as their role in negotiating historical change, came in part from the fact that in an imperfect world, the theoretical Islamic state with an ideal caliph was always a utopian ideal. Therefore, it was not any individual caliph that sustained the legitimacy of the class of men learned in the law at any given moment, but rather the utopian ideal of the caliphate that this class collectively upheld over time, in spite of the evident imperfections of passing caliphs.  

In the absence of any caliph at all, however flawed, the theoretical illegitimacy of the Mongol state within an Islamic legal framework was clear. Yet, equally clear was the line of authority by which Qazwin served that state. His appointment to the post of qadi of Wasit and Hilla was officially made by the head qadi of the province of Iraq. That post in turn was appointed by the minister of Iraq, who served the Ilkhan directly. During Qazwin’s lifetime, the post of the governor of Iraq was held by ’Ala al-Din ’Ata Malik Juvayni. ’Ala al-Din’s brother, Shams al-Din Juvayni, was even more powerful, serving as the Ṣāhib Dīvān, or minister of finance, of the Ilkhanid realm.

The Juvaynis exemplify the fact that in the eastern Islamic lands, many of the leading court functionaries during this period did not emerge from the Arabophone world of education in Islamic law, but rather belonged to a ministerial class trained for a life of letters in Persian. During the last two centuries of Abbasid rule, there had been many local courts operating with relative autonomy who paid allegiance to the Abbasids; in the Islamic east, the language of these local courts was generally Persian. Persophone ministers and Persian poets remained influential after the Mongol Conquest, constituting the most prominent groups of educated men in the Islamic east. Leading families who had served various courts in ministerial positions for generations, such as the Juvaynis, were educated in Persian letters. Even if they were not from such families, members of the ministerial class tended to write in Persian. Several of them, including ’Ala al-Din Juvayni himself, as well as the ministers Vassaf and Rashid al-Din, wrote Persian histories that serve as important sources for this period.

A eulogy to the powerful minister and historian ’Ala al-Din Juvayni, which did not appear in Qazwin’s own wonders-of-creation manuscript, did appear in the Arabic manuscript of his text likely made in Mosul, c.1300. In his detailed study of this manuscript, Stefano Carboni suggests this provenance, and the governor Fakhr al-Din ’Isa as a possible patron, though he emphasizes that his suggestions are tentative. Von Hees’s work has since demonstrated that Qazwin stud-
ied in Mosul, lending further support to Carboni’s suggestion that the manuscript may have been made there. In addition to the eulogy to Juvayni, the text of the c.1300 manuscript also differs from that of the 1280 manuscript in that the former includes a chapter on jinn. Although a page of a different kind of paper and in a later hand has been inserted into the 1280 manuscript, we may now state with certainty that this folio represented an addition rather than a replacement of a lost original folio, and that this chapter did not appear in the original version of the text. Further, as Carboni has pointed out, the c.1300 manuscript includes a greater number of stories and narrative images.

The appearance of the eulogy to 'Ala al-Din Juvayni in the manuscript of Qazwini’s “wonders of creation” that was made in about 1300 indicates the degree to which members of Qazwini’s class, even as they served as a force for social and cultural continuity, were inextricably linked to the political elite of the Ilkhanid realm. The other differences between the two manuscripts go hand in hand with this. The chapter on jinn includes extensive material on Solomon who, as a legendarily great king, famously tamed jinn to help him rule. The attention to Solomon in the text therefore paves the way for the introduction of paintings of several courtly scenes into the manuscript (see figs. 33–6). Such stories and images were favored among that segment of the political class who participated in court culture.

That class included both established and new elements. The powerful Juvayni family, for example, had served as ministers to several courts in the eastern Islamic world, and claimed descent from the minister of Harun al-Rashid. But as he looked around him, 'Ala al-Din Juvayni saw all manner of social upstarts, and complained:

Lament of declining social standards is a recurring theme in Islamic literature, and Juvayni’s rant must therefore be taken with a grain of salt. But at the same time, as a member of an established ministerial family, he was reacting to an actual phenomenon of social change. His disdain for the Uighur language speaks specifically to the power of rising Turko-Mongol families, whose culture and mores were unfamiliar to him. The term “Turko-Mongol” reflects the complicated ethnic identity that resulted from the fact that large numbers of Turkish troops joined and were assimilated into the Mongol armies as they swept across Central Asia.

Whereas Arab and Persian women could not, like their brothers, follow an education in Islamic law to become members of the Arabophone class of “men of the pen,” Turko-Mongol women were highly visible in public affairs. Given that women were important patrons and readers of illustrated manuscripts produced in Europe in the same era, the situation of the Turko-Mongol women, and their position with respect to the classes who read illustrated books in the eastern Islamic lands, deserves some comment.

In the year 1283, the year that both Qazwini and Juvayni died, a Turko-Mongol woman was appointed the governor of the southern Iranian province of Fars, whose principal city was Shiraz. In this period Fars also included the cities of Yazd and Isfahan, and the city of Kirman was at its border. This woman, Abish, was the daughter-in-law of the first Ilkhan, Hulegu. Abish had mixed success. She antagonized the population in Shiraz, but then went to Kirman, where she apparently won respect and legitimacy. A generation later, Abish’s daughter Kudrujin had taken on many of her mother’s roles at a challenging time. Southern Iran was highly unstable around 1320. Vassaf vividly describes mayhem and vandalism in the small town of Firuzabad, and the resulting disruption of agriculture and consequently also of tax collection there. The reigning Ilkhan, Abu Said, pursued several simultaneous and potentially contradictory schemes to bring stability to the region. Even as the Inju family was charged with administering Mongol estates in Fars, as will be discussed below, Abu Said delegated overlapping authorities to others. In 1319–20, he recognized Mubariz al-Din Muhammad, of the Muzaffarid family, as the governor of Yazd. In the same year he sent Vassaf
to Firuzabad to establish order and collect taxes there. Also in that year, he granted Abish’s daughter Kurdjin a contract to collect taxes in Fars, a task that depended on her success in establishing her own legitimacy with the local population. Like her mother, Kurdjin seems to have been most effective in Kirman. Writing in 1326, Vassaf was particularly impressed by the consistency with which Kurdjin had made sure that funds legally slated for a madrasa in Kirman called the ‘Adudi madrasa were not diverted, but actually reached it.

This has interesting implications for the audiences of the two Qazwini manuscripts made in the Fars region, one around 1320 and the other in 1322. I have written elsewhere about the challenge of identifying these audiences with precision. The manuscripts’ paintings are in a style we associate with the court of a Turko-Mongol family that came to be known as the Inju. The Inju family were centered in Shiraz, and Inju painting has long been seen as a stage within a long-established Shiraz school. The Inju, who would eventually emerge as the effective rulers of the Fars region, were in Shiraz in 1320, but the two Qazwini manuscripts were made before Inju power over Fars was consolidated in the late 1320s. Also, whereas all the other known illustrated manuscripts of the Inju style are in Persian, these two manuscripts are in Arabic. I have therefore previously suggested that these manuscripts were probably made in Shiraz either for the class of Arabic-educated legal bureaucrats (men of the pen) – upon whom the Inju, lacking established power, would have been heavily reliant in the early 1320s – or for minor members or associates of the Inju family, who would have had considerable contact with that legal class.

Kurdjin’s role in supporting the ‘Adudi madrasa in Kirman in the early 1320s offers an example of the kind of interdependence that existed at this time between the men of the pen, particularly those in the madrasas, and the Turko-Mongol families charged with helping to administer Fars. Although the style of painting we have come to call Inju was based in Shiraz, neither of the two Qazwini manuscripts illustrated in this style has a documented location of production. We should therefore not rule out the possibility that Qazwini’s Arabic text, first circulating in the social circles of the Wasit madrasa, might have come into Fars through the ‘Adudi madrasa in Kirman, which was evidently well funded in the early 1320s. Whether the two manuscripts were produced in Kirman, Shiraz, or some other city of Fars, Vassaf’s mention of Kurdjin’s support for the ‘Adudi madrasa tends to suggest that their original audience was more likely among the men of the pen than among the Turko-Mongol administrative families. The madrasas operated in Arabic, the language of these manuscripts, but probably used Persian to communicate with the ruling class. Kurdsin herself, in addition to Uighur, is more likely to have known Persian than Arabic.

After the Ilkhanid dynasty dissolved in 1355, it was not the notable Turko-Mongol women, such as Kurdjin, but rather the men of the family known as the Muzaffarids, who emerged as the rulers of southern Iran, initially under the leadership of Mubariz al-Din Muhammad. Already the governor of Yazd since 1319–20, Mubariz al-Din Muhammad gained control of Kirman in 1339–40, of Shiraz in 1353, and of Isfahan in 1356. The Muzaffarids did not have to adopt Persian as a foreign language. Rather, claiming descent from a notable of Khurasan who had migrated west with the Mongol advance, they hailed from a Persian-speaking region. With their power came access to illustrated manuscripts in the libraries of southern Iran, and their own patronage of illustrated manuscripts of Persian texts, such as the Book of Kings (Shahnama) manuscripts of 1371 and 1393–4, is well known.

While the Muzaffarids strove to fill the post-Ikhshid power vacuum in the south, the Jalayirid family dominated parts of Iraq and north-western Iran. They are an example of the striking degree to which the Turko-Mongol courts had become Persianized by the late fourteenth century. Although the Jalayirids and their name had roots in the Mongol tribal system, they were full participants in the late fourteenth-century production of Persianate court culture. It is typical of the period that the precise nature of their connection with the Mongols was unclear, even in the early fourteenth century. According to Rashid al-Din (d. 1318), the Jalayirids were among those “who are now called Mongols but were not originally so called.” But by the late fourteenth century, the Jalayirid prince Sultan Ahmad himself wrote Persian poetry, and tried desperately, though without success, to recruit the great Persian poet Hafiz to his court.
The Jalayirids might have come across illustrated wonders-of-creation manuscripts either from their access to libraries in Iraq, or through their frequent skirmishes with the Muzaffarids, or both. In the early 1360s the Jalayirids temporarily gained power in Muzaffarid strongholds of southern Iran, and in the middle of the 1370s the Muzaffarids temporarily pushed into Jalayirid strongholds in northwestern Iran. While the expansion or defense of territory was the main objective of such skirmishes, other subsidiary objectives were important, even when territorial expansion failed. Two of these were typically to capture or recruit as many of the rival's calligraphers and painters as possible, and to raid the holdings of his library. The astounding stylistic variety of the illustrated manuscripts produced for the Jalayirid prince Sultan Ahmad suggests considerable fluctuation in both the roster of artists working for him, and the visual references available to them.

Sultan Ahmad’s Tusi manuscript has long been known in scholarship because several of its folios were published in color in 1944. Most scholarship concerning the manuscript has focused on questions of production and patronage. It is an important source for a larger question about the artistic patronage of the Jalayirid Sultan Ahmad. The great stylistic variety among the manuscripts produced for him has challenged two of the basic assumptions that underlie the bulk of Persian painting scholarship: first, the patron is the figure who makes aesthetic decisions when an object is produced by a workshop, and second, those decisions should result in stylistic continuity within the corpus of manuscripts produced under a single patron. The 1388 Tusi manuscript is mentioned as an element of the puzzle of Sultan Ahmad’s patronage in most of the standard surveys of Persian painting, such as those of Basil Gray and Norah Titeley. In addition, the images within the manuscript have been compared with one another to try to determine how many painters were involved in its production.

Whether it was Sultan Ahmad or a cultural advisor who decided that an illustrated manuscript of Tusi’s wonders-of-creation text should be produced, it was a striking decision. The Persian language in which Tusi’s text was composed was much more suitable to the culture of the court than the Arabic language of Qazwini’s original text. Several other aspects of Tusi’s text must have appealed. Many of these are suggested by the text’s alternate title, The World-Seeing Glass (Jām-i Giti Namā). In Islamic tradition, this was an actual object, either a mirror or a goblet, in which a select set of legendary rulers were able to see the whole world. It will be further discussed in Chapter Three. In keeping with this metaphor, Tusi’s book places more emphasis on seeing more regions and locations of the world than does Qazwini’s book. It is thus more apt than Qazwini’s to define the cosmos in geographical terms, and it includes several tales of access to normally inaccessible sights. In its treatment of talismans, it offers a greater amount of information about how one might intervene in the celestially determined course of events.

The powers of seeing the normally inaccessible in different areas of the world, and of intervening in the course of events, are obviously themes that appropriately mirror the ideal role of a prince. Indeed, the fact that this emphasis appeared in the illustrated wonders-of-creation manuscript produced for a Jalayirid prince is an index of the place of astrology and talisman-making in such courts. The Four Discourses (Chabār Maqāla) of Nizami ’Arudi, a classic treatise of advice for princes, discussed the roles of the four functionaries held to be indispensable at every court: the secretary, the poet, the astrologer, and the doctor. The arts of astrology and talisman-making were considered to be of practical value to princes; princes needed to know the auspicious time for starting a state project, and needed specific talismans according to the particular challenges they faced.

**MEDIATING IMAGES, MEDIATING VISIONS**

The arts of astrology and talisman-making, vital to princes, were understood to depend upon a deep knowledge of the structure of the divinely ordered cosmos. Inquiry into the cosmos fell within the broad purview of philosophy, which Qazwini had studied. Even as wonders-of-creation manuscripts emphasized different things in accordance with the interests of different audiences, paradigms originally established and developed in philosophy remained relevant to the genre. Ibn Sina, in whose tradition Qazwini had been
trained, held that most people learned through a process that involved both the senses and the intellect. The images in wonders-of-creation manuscripts, appealing to the sense of sight, had the potential to induce wonder by mediating the relationship between humans and the divinely created cosmos to which they belonged. Different kinds of images or visual experiences did this in different ways, even as the ways different audiences understood the relationship between humans and the cosmos changed over time. Chapters One through Four of this book each explore how this played out in the case of a particular kind of image or type of visual experience.

While the iconic and narrative images that define the purviews of Chapters One and Two, respectively, belong to well-recognized types, the themes of Chapters Three and Four require more explanation. Some of the key images in Chapter Three have a confrontational quality, and are theorized in terms of mirrors. But rather than restricting the chapter’s theme to this single formal type of image, I expand it to a variety of images and experiences in the wonders-of-creation manuscripts that revolve around the metaphor of vision as a mirror. When, in Chapter Three, I wish to refer in a general way to images and other experiences that were theorized in terms of mirrors, I call them mirrored visions. Chapter Four, like Chapters One and Two, is organized around a distinct image type, but it is a type that is less commonly discussed than the iconic or narrative image. These are images intended for use as ingredients in recipes for talismans, but it would be imprecise to think of them as examples of what scholars have termed “picture magic,” because they were not expected to be efficacious in isolation. Rather, their efficacy was understood to depend on their incorporation into complete talismans which could draw on astrological powers. Formally, the talismanic images considered in this chapter resemble astrological images in Islamic manuscripts more broadly in that they have a visually additive quality; the fact that the whole of any single image is composed of the sum of discrete parts is laid bare, even emphasized. The talismanic images’ formally composite look visually expresses the same theoretical logic according to which their efficacy depends on their incorporation into composite talismans.

Iconic, narrative, and composite talismanic images, as well as mirrored visions, occur in multiple manuscripts; for this reason the chapters treating them are not strictly chronological. Yet some types of images and visual experiences are more prevalent in some manuscripts than in others, in keeping with shifts of emphasis among wonders-of-creation manuscripts over time. Therefore, the order of the chapters traces the general arc of the shift of emphasis from cosmic frame to human agency evident in the thirteenth and fourteenth centuries.

The iconic images analyzed in Chapter One are particularly characteristic of the earliest wonders-of-creation manuscripts that circulated among the intellectual elite. For the conquered intellectual elite, the Mongol Conquest was not only traumatic because it was violent, but also because it toppled a political order that had been understood as divinely sanctioned. In the late thirteenth century and in the face of this trauma, survivors of the conquest produced wonders-of-creation manuscripts asserting a universal cosmic order within which all particulars, whether familiar or peculiar, could be contained. Not coincidentally, images in these manuscripts tended to be iconic. Chapter One considers them within the framework of Avicennian philosophy, which permeated the education of the conquered intellectual elite. The cumulative visual impact of groups of related iconic images, such as those of trees and plants (see fig. 14), calls attention to the tension between the particular and the universal. The very simplicity of iconic images of creatures such as the bee (see fig. 19), established in the Qur’an as an exemplary wonder of creation, bespeaks a preference for the kind of abstraction that theoretically characterized Platonic Forms.

Within a generation of so after Qazwini’s death, manuscripts of his encyclopedic cosmography were being produced that included a chapter on jinn. Made of smokeless fire, but sometimes assuming the forms of animals or people, jinn were divinely created beings; in this respect, the chapters on jinn are entirely congruent with the exclusive focus on divinely created wonders that characterizes Qazwini’s 1280 Wasit manuscript. It was believed that Solomon had harnessed their powers as he had harnessed the winds. Images of Solomon and his jinn along with narrative images appear in the manuscript made in about 1300. Unfortunately, we know very little about the audience of this manuscript, but the increased proportion of
narrative images is likely related to the rapid social changes of the period.

By the 1320s, the Ilkhanids were having trouble maintaining authority throughout their realm. Their power was slipping. Minor Turko-Mongol families, with authorities of tax collection and local governance in various cities and associated agricultural areas, were able to operate with increasing de facto autonomy. Some of them established their own minor courts from which would later emerge the “successor dynasties” that filled the power vacuum in Iran, Iraq, and Central Asia after the Ilkhanid dynasty disintegrated in the mid-fourteenth century (see fig. 2).

Illustrated wonders-of-creation manuscripts found a new audience within the domains and courts of the “successor dynasties” from the 1320s onward. The narrative images that appeared alongside iconic images in the wonders-of-creation manuscripts in the early fourteenth century are in keeping with the broader interests this group had in narrative. Like the Ilkhanids, the fourteenth-century Turko-Mongol courts deployed visual and textual narratives to position themselves as participants in local histories, rather than as external interlopers. In so doing they set a pattern later followed at the Timurid and early modern Islamic courts.

Within the wonders-of-creation manuscripts, narrative images brought a new emphasis to the temporal dimensions of the relationship between humans and cosmos in two respects. Initially appearing among iconic images suggestive of Platonic Forms, narrative images stood out in suggesting interaction and change over time. Their increasing prominence in the fourteenth century went hand in hand with new attention in the manuscripts’ texts to wonders that were stories. Both the narrative images and the stories in the texts functioned as wonders in their own right, and prompted an experience of wonder as surprise at the sometimes unexpected turns of the celestial wheels of fate. At another level, formal characteristics linking specific narrative images from various different chapters established visual links across the implicit narrative of creation as emanation in time that ordered the bound codex. In this respect, narrative images in wonders-of-creation manuscripts suggested the disruption of cosmic time. Some of these images brought attention to ancient wonders, not so much because they were foreign or strange, but because their origins lay closer to the origins of the cosmos than did the wonders of the present. A cosmos replete with narrative images was one punctuated by temporal mutability, open to the possibility that wonders of the past could come to the awareness of the present, and evocative of wonder as human surprise.

The mirrored visions treated in Chapter Three include both painted and literary images that can be theorized in terms of mirrors. Pre-modern mirrors of unevenly polished metal, or of curved glass or rock crystal, produced unstable relationships between objects, reflections, and perceptions. These unstable relationships made the mirror not only a frequent motif but also a common explanatory metaphor within medieval theories of perception. For example, the earliest images of the lethally evil-eyed šānājā beast of Tibet, though quite differently conceived by different artists, present the creature in a highly unusual frontal manner (see figs. 52, 53). The danger of these images depends on the theory of vision as intromission. Some medieval theorists held that just as light reflected into the eye from a mirror could inflict harm, rays of vision entering the eye in some other circumstances could also be dangerous. The same theory informs the apotropaic use of fierce faces on objects such as sword guards (see fig. 55).

In the 1388 Tusi manuscript, however, this relationship is inverted. For example, one of the titles of that book, *The World-Shewing Glass*, refers to a metaphor that describes vision in terms of mirroring, but it involves the idea that by holding a concave mirrored surface, one may view otherwise inaccessible sights. This metaphor also explains the illustrated manuscript itself as a mirror in which paintings of a great range of wonders, many of them normally inaccessible to sight, appear like the displaced reflections in a concave mirrored surface. The images in this manuscript echo the sense of the metaphor. Rather than emphasizing the coherence of each classificatory system to which they belong, or focusing the reader’s attention on a series of abstractions that cumulatively point to God, these images include all sorts of details, spinning the reader’s attention outward toward the peculiarities of different wonders and experiences. Some of the mirrored visions in Chapter Three even suggested that humans could find unexpected ways to control their access to different parts of the cosmos.
The talismanic images examined in Chapter Four could not function as talismans by themselves, but appear in wonders-of-creation manuscripts as the visual ingredients in more comprehensive recipes for making talismans. Formally they resemble astrological images in that they are composed according to what I call a logic of visual inventory. That is, their compositional structure emphasizes that they are assemblages of parts. The formally composite quality of the images was necessary for the theoretical efficacy of the talismans to which they belonged. These talismans functioned by manipulating sympathies between different parts of the cosmos that were understood to have been established in the process of emanation. A given talisman had to be crafted under specified conditions, with a particular combination of image, letters, and materials. The reason for this was that, in symbiotic combination, these various aspects were collectively expected to attract or repel the appropriate degrees of sympathetic influences from the appropriate combination of planets to result in the desired outcome. Chapter Four explains that the images that were part of these talismanic recipes were composite for the same reason. The various composite parts lent each whole image a particular symbiotic balance of cosmic sympathies. These images offered an experience of wonder at the very possibility that humans might be able to control the cosmic alignment of stars and spheres that determined the course of earthly events.

Separately, then, Chapters One through Four show how different kinds of images mediated between viewers and cosmos to induce different kinds of wonder. Cumulatively, they unpack the shift of emphasis from cosmic frame to human agency that occurred in the illustrated wonders-of-creation manuscripts over the course of the thirteenth and fourteenth centuries.
Iconic Images

PLATONIC FORMS AND THE AWE-INSPIRING COSMOS

The mind extracts single universals from the particulars, by abstracting their concepts from matter and the appendages of matter and its accidents, by considering what is common in it and what different, and what in its existence is essential and what accidental. From this the principles of conceptualization (ta’ārūq) come about [in] the soul: and this with the help of its employing imagination and estimation.1

Ibn Sina, The Healing, Iran, eleventh century CE

If Mani were alive, he would bite his fingers in astonishment at such design-making and dyeing.2

‘Arif Qandahari, The History of Akbar, India, sixteenth century CE

As testimony to the great beauty of the silks and brocades of the Mughal emperor Akbar, the sixteenth-century court historian Qandahari evoked the image of Mani biting his fingers in astonishment. Mani, the historical founder of Manichaicism, was remembered in medieval and early modern Persianate Islamic culture not only as a false prophet, but also as an artist whose paintings were so beautiful that he had claimed their beauty as proof of his prophecy. His name therefore stood for the utmost skill in painting. The most astonishing of all his paintings was said to have been executed on silk.3 The beauty of Akbar’s unpainted silks and brocades, Qandahari implies, would surpass even the beauty of Mani’s painted silk. As Mani’s followers had been overwhelmed by his painted silk, so Mani himself would have been overwhelmed by the beautiful designs and colors of Akbar’s silks and brocades.

This is but one example among many of how medieval and early modern Islamic aesthetics posit wonder (الج and لعاب) as the human response to that which is dazzlingly, dizzyingly beautiful. In the literary image of Mani biting his fingers in astonishment (لعاب), Qandahari would have Mani respond to Akbar’s textiles with the very gesture that painters of numerous manuscripts of the Quintet of the poet Nizami used to signal the moment in which Shirin falls in love with Khusraw’s portrait (see fig. 48). In prose and in poetry, in Arabic and in Persian, the psychological state

into which visually pleasing objects, paintings, and architecture throw their beholders is conventionally
compared to an ecstatic response to music, to drinking
wine, or to falling in love.

All of these tropes suggest that wonder involves an
experience of overwhelming disorientation. Upon en-
countering beautiful forms, the wondering subject is
deeply absorbed, partly because of, rather than in
spite of, his constantly shifting focus. The words 'ajab
and ta'ajjab share the same root - 'jab - and are often
used synonymously, but ta'ajjab appears in a pattern
that implies an intensification, and a degree of reflex-
ivity. The sense of mirroring vacillation of the psy-
chological experience of wonder is implicit in the
etymological relationship between these two interre-
termed terms. Dazzling colors, surfaces and apertures
which catch, reflect, or refract light, and complex pat-
terns whose macro and micro sub-patterns simultane-
ously attract the eye - scholars have identified these as
formal strategies for inducing 'ajab and ta'ajjab.4

One might therefore expect that the early illustrated
wonders-of-creation manuscripts, whose stated pur-
pose is to induce a state of wonder, would include
paintings that consistently make use of comparable
formal strategies. There are a few select cases in which
it might be possible to argue that they do. The wavy
blue lines of the water backgrounds in the 1322 manu-
script of Qazwini's The Wonders of Creation and the
Oddities of Existence jostle the eye, guiding it along
irregular curves (see fig. 13). But in many cases, the
relationships between the images and the wonder they
are meant to induce is not immediately apparent.
Why, for example, should the reader react with
wonder to small and formally quite simple depictions
of common insects, such as the tick and the bee (fig.
19)?
Another way in which a modern reader approaching a medieval illustrated manuscript on the wonders of creation might expect it to induce wonder could be through an abundance of images of oddities such as monsters. But in fact, there are surprisingly few, particularly in the early manuscripts. Of the 468 images in Qazwini’s own 1280 manuscript of The Wonders of Creation and the Oddities of Existence, for example, only twenty-one appear in the last chapter on “animals that are strange in form and shape.” By contrast, there are sixty-three paintings in the chapter on trees, and 150 in the chapter on smaller plants that immediately follows. In other words, there are about nine times as many paintings of trees and plants as of monsters.

These images of trees and plants do not formally highlight their bizarre properties (see fig. 14). Rather, despite painterly attention to the variety of species depicted, repetition of particular colors within image frames of comparable sizes results in something visually relentless about these images as a group. Looking through one of these manuscripts for the first time, one is likely to come away with the impression that there are pages and pages of trees. Both the quantity and the regularity of these images are initially a bit puzzling. How is all this arboreal saturation supposed to provoke a reaction of wonder in the reader? As in the case of the images of ticks and bees, it is not immediately clear how the numerous images of trees and plants further the stated purpose of these books.

All these paintings of trees, herbs, and lowly insects apparently bored the venerable B. W. Robinson, a scholar remembered not only for his prolific cataloguing of Persian painted manuscripts, but also for his wry pen. He complained that as a group, wonders-of-creation manuscripts “tend to suffer . . . from ‘painter’s fatigue’ – in other words the standard of painting deteriorates as the manuscript proceeds, as if the artist, who may have started off with a fine flourish, found himself, after the first hundred or so miniatures, physically wilting and mentally inert.”

Robinson was practising a kind of art history, more common in his day than in ours, that assumes standards of quality to be universal and therefore obvious. His assessment is harsh. It is odd in its assumption of a single painter for any given manuscript. And it assumes that painters would have blithely added dec-
That Robinson, with his keen eye, missed this basic point says something important about the methodological challenges these manuscripts present. It demonstrates that in many cases, approaching their paintings separately, as if their visually interesting properties should be discernible without reference to the rest of the manuscript in which they appear, is likely to yield disappointing results. This is not to say that the wonders-of-creation manuscripts lack visual sophistication. Rather, it is to suggest that the sophistication in how their images function often depends on two points that the isolated formal analysis of their separate paintings would miss. First, it depends on the relationships of any given painting not just to the text entry it illustrates, but also to the broader structures and purpose of the text of the whole manuscript. Second, it depends on shared characteristics of groups of images, and on the relationships of those groups of images to each other.

THE PLATONIC FORM OF THEbee

If some images depend on visual simplicity to indicate the status of wonders occupying a lowly position in the hierarchy of creation, why should the same images induce wonder in the reader? It helps to return to Qazwini’s discussion of what wonder (‘ajab) is. In his own manuscript, his essay “On the clarification of ‘ajab” is substantial, about twice as long as it appears in any published version. There are no accompanying images, yet it establishes the intellectual frame within which the images in subsequent chapters of his book should be understood.

Qazwini’s essay “On the clarification of ‘ajab” begins with the widespread definition:

They said: ‘ajab is the bewilderment that befalls a person because of his failure to understand the cause of something, or to understand the effect of the cause of something upon it [or alternately, upon him].”

The term I translate as “bewilderment,” haira, resonates with the sense of disorientation mentioned earlier. The subject experiencing haira is bewildered, stunned, wavering. But according to this definition of ‘ajab, the reason for this state is a failure to understand a cause—an intellectual problem, rather than visual be-dazzlement.

Qazwini then elaborates through a detailed discussion of the example of the bee. This example would have immediately evoked the Qur’anic verses after which the sixteenth sura of the Qur’an is named al-Nabî, “The Bee.” For Qazwini and his earliest readers, in whose educations the Qur’an was the central text, the allusion would have been obvious, even though Qazwini does not directly mention it. These verses present the bee, with its wondrous properties, as a sign from God.

And thy Lord revealed unto the bees, saying: “Take unto yourselves, of the mountains, houses, and of the trees, and of what they are building. Then eat all manner of fruit, and follow the ways of your Lord easy to go upon.” Then comes there forth out of their bellies a drink of diverse hues, wherein is healing for men. Surely in that is a sign for people who reflect (16:68–9).

In his discussion of the bee that immediately follows Qazwini’s definition of wonder, Qazwini begins by linking the first of the bee’s wondrous properties mentioned in the Qur’an, the hive, to his definition.

If a person sees a beehive, and has not seen one previously, he will become bewildered because he does not understand who made it. If he then learns that it is the work of the bee, he will be bewildered again by how this weak creature makes these hexagons, the likes of which a skilled engineer would be unable to make with a compass and ruler.”

Here, Qazwini invokes a widely used literary trope that would also have been familiar to his readers: the hive as a reference for the beauty of divinely established proportionality. For example, in his classic treatise on penmanship, the author Tawhidi (d. 1089–90), extols the calligrapher Ibn Muqla (d. 939–40) as follows: “He is a prophet in the field of handwriting; it was poured upon his hand, even as it was revealed to the bees to make their honey cells hexagonal.” In his description of the hive, and his reference to the “hexagons the likes of which a skilled engineer would be unable to make with a compass and ruler,” Qazwini’s discussion of the wonder of the bee does initially conform to an understanding of wonder as visual pleasure, characteristically prompted by geometric pattern, and enhanced by the novelty of the encounter with the pattern.
This discussion, belonging to the introduction of the book rather than to any specific entry, is not illustrated. However, the later entry on the bee generally is, and it is interesting to see how the discussion in the introduction relates to the various paintings different artists at different times provided for the entry. These are generally in keeping with the different ways they illustrate the manuscript as a whole. In a manuscript of Qazwini’s text that was made in the sixteenth century for the Ottoman Sultan Suleyman I (r. 1520–66), the image accompanying the entry on the bee emphasizes the hive (fig. 20). The hive’s separate cells appear in two roundels, visually accented by the golden ground against which they appear, and framed beneath a pointed arch. To the right, five creatures who look more like birds than bees fly in a lower, less prominent space. Like other images in this manuscript, this is an image composed of multiple parts, suggesting a scene. Such images are indicative of how wonder was understood from the late fourteenth century to the sixteenth century, as opposed to how it was understood in the late thirteenth and early fourteenth century.

In the earlier manuscripts of Qazwini’s The Wonders of Creation, the artists tend to ignore the hive and provide instead a simple depiction of the bee as a species. This is very much in keeping with how they illustrate other species. In the manuscript made in southern Iran in 1322, the artist shows a pair of specimens of the bee, one with wings closed, and the other with wings open (see fig. 19). Legs of both specimens are carefully jointed and positioned, and the bee’s characteristic yellow and black stripes are visible beneath the wings. The viewer who observes this image closely will be rewarded with details that suggest repeated previous acts of close observation of actual bees as a group—whether by this painter, or by the painter(s) upon whose work this one drew. Emphasizing the form of the tiny insect itself, the image calls attention to the paradox in Qazwini’s introductory discussion of how the bee evokes a reaction conforming to his definition of wonder, as a failure to understand. The hive is visually amazing, but in Qazwini’s account, the first reason a person who sees it will be amazed is not that he is dazzled by its proportions, as the trope of the hive implies. Rather, according to Qazwini, it is that “he does not understand who made it.” Subsequently, “If he then learns that it is the work of the
bee, he will be bewildered again by how this weak creature makes these hexagons.” Later in the text, in the entry on the bee, Qazwini also foregrounds the bee’s physical fragility, beginning that passage with the observation that this is a creature with a “delicate frame.” Like the image, the text leads the viewer/reader to hone in on the bee with increasing focus.

The skill with which Qazwini plays with references his readers already know is impressive. He uses those references to guide them from what they already accept, to how it is trying to get them to look and read. He builds his introductory essay on points his readers already recognize: the Qur’anic assertion that the bee is a sign of its creator, and the widespread cultural trope of the bee’s hive as the standard of visually amazing proportionality. But from their recognition of these references, he turns them to the endlessly paradoxical relationship between the bee’s tiny body and all it can achieve. Following the passage given above, he continues to lay out the successive moments of bewilderment a person experiences as he comes to a deeper and deeper sense of wonderment over the bee. Qazwini says that the person will be further bewildered by the wax; by the honey; by the fact that the various compartments of the hive are identical; by the bee’s inexplicable knowledge that it will need the honey in winter; and by the perfect storage system of the hive that keeps the honey moist and protects it from dust.

By the time the reader encounters the bee entry later in the encyclopedia, beginning with the description of the creature’s “delicate frame” and accompanied by a carefully observed depiction of the bee’s form, he is primed as to how he should approach the combined verbal-visual presentation of this wonder. The entry is a cue for the reader to enter into a close contemplation of the essential created bee. The compositional simplicity of the images in the earlier manuscripts excludes anything that might distract the viewer into speculating on one particular bee as opposed to another bee, or on one moment in a narrative concerning the bee, as opposed to the broader general idea of “the bee.” Such information would be considered accidental, not in the sense that it would be unintended, but in the specifically philosophical sense that it would be an inessential appendage of information. Rather than surrounding the bee with potential distractions, the image sharpens the viewer’s focus on the bee as a species. The image therefore presents the distilled, abstracted form of the bee species.

The greater wondrous truth of the bee concerns only what is essential to the species, including its form. Notably the word that Qazwini uses to introduce the illustrations in his manuscript is āra. This term (not to be confused with a Qur’anic sura or chapter) is commonly translated as “picture”; it is exactly the same word that medieval philosophers writing in Arabic used to refer to a Platonic Form. Qazwini’s choice of this word may be contrasted with that of the eighth-century author Ibn Muqaffa. His book of animal stories, Kalila wa-Dimna, was named after its jackal protagonists and included numerous pictures that Ibn Muqaffa called “images” (khayalātī). The “picture/form” (āra) of the bee that is visible on the page of Qazwini’s book is uncluttered, abstracted, and essentialized, as is a Platonic Form.

What role, in the case of the bee, does the painted āra play in the process of coming to learn and appreciate the most important truth about it, that it should evoke wonder? The bee, as a species, has the form of a “weak creature” — and this contrasts with everything the bee is capable of accomplishing. The essential and wondrous truth of the bee is that its slight form is paradoxically inextricable from all its amazing behaviors. Rather than being caught in an aesthetic state of wonder, the eye darting back and forth from one part of the bee’s beautifully proportioned hive to the next, the reader is here invited to suspend himself in an intellectual state of wonder. It is the intellect that is dazzled, disoriented, and amazed, as the reader’s attention moves between the bee’s delicate form, and a series of interrelated observations about its capabilities. The painted image serves as a portal to help the intellect reach that point. The tension that drives the process is the incongruity between the humble appearance of the “weak creature,” on the one hand, and its impressive products and behaviors, on the other. The simple images in the early manuscripts not only foreground what someone thinking carefully about the bee should notice first, but also what he must keep in mind as a contrast to its abilities in order to appreciate the wondrous paradox of the bee.

In his introductory essay, the example of the bee serves for Qazwini as the specific instance that demon-
strates a broader truth: “Everything in the world is like this,” he declares. Like the bee – identified in the Qur’anic sura of the Bee as a sign (ayya) (16:69), and like rain, cattle, the date-palm and the vine, also identified as signs in the same sura (16:65–8) – any created wonder, inspiring wonder at God’s creation, is ultimately an indexical sign of the Creator and therefore a wonder of creation. Although Qazwini admits that people get jaded, and fail to appreciate this, he insists that any created thing should serve the same purpose; any created thing, whether familiar or unfamiliar, can provoke as much wonder as the bee.

Several subsequent entries in the encyclopedia echo this idea. For example, the entry on the camel begins: “Indeed, it is a wondrous animal, but the wonder of it has fallen from people’s eyes because they have seen it so much.” The text goes on to enumerate the reasons why people should wonder at the camel, including his capacity to carry not only humans, but also extensive quantities of their household belongings, even as he forgoes food and water for days. Presumably, the artist of the 1280 manuscript might have chosen to illustrate the entry with an image of a camel caravan, such as that painted in the 1230s by the artist Yahya b. Mahmud al-Wasiti, whose name suggests that his family hailed from Wasit (fig. 21). But instead, the artist of the 1280 manuscript presents this highly domesticated animal bare as God made him, stripped of scenery and saddle bags (fig. 22).

Wonder, for Qazwini then, is not only a form of bewilderment provoked by what is novel or strange. It is also the appropriate response to even the most familiar aspects of creation. Neither does Qazwini understand wonder as the seed of inquiry which prompts a solution that then hastens its own demise. The more one knows about the bee or the camel, the more amazing it becomes. Wonder, instead, is something that can be achieved through disciplined intelligence, aided and even focused by visual contemplations. For as Qazwini points out, it is part of common experience to “see things about which the most intelligent of the discerning ones are bewildered, and about which the most clever souls are astonished (ta’ajub),”

This does not mean that Qazwini sees wonder as a reason not to investigate. Rather, in order to reach the desired state of wonder at God’s creation, Qazwini hopes his reader will look, think, and discern. This emerges from his comment on the Qur’anic verse: “Behold what is in the heavens and in the earth!” (10:1). According to Qazwini’s interpretation, “what is intended is not the eye’s fickle glance, for the beasts share with that humans. Rather, what is intended is a thoughtful, sensitive look at it, and a search for what can be discerned in it, and wisdom of judgment concerning it. Then he will recognize the wonder of God’s creation.”

If Qazwini can hold up the lowly bee as an example of a broader truth that all created things, ethically considered, evoke wonder, then can the simple form of the bee similarly serve as an example of the broader manner in which the straightforwardly presented images in early Qazwini manuscripts function? It suggests that the primary way in which many of the images in the early manuscripts of Qazwini’s encyclopedia induce wonder is not through dazzling or disorienting formal characteristics. The kinds of images that so bored B. W. Robinson are designed to guide the reader toward wonder in other ways. Most of these images, stripped of extraneous and potentially distracting visual information, serve to focus the reader’s attention on a particular created wonder, and thereby help him achieve a depth of contemplation of that created thing that allows him to recognize that it is a wonder, and be amazed.

After laying out the all-encompassing classification system of his encyclopedia, Qazwini remarks:

There is no end to the study and classification of [the] different manifest and hidden attributes, forms, and meanings [of things that exist]. In all of this [are things] held from thought and from sight.

Behind this statement is the Neoplatonic idea that visible things have not only visible forms, but also invisible ones. The “form” (šūra) of the bee is both the visible image on the page and its invisible essential “Form” (šūra), in the philosophical sense of a Platonic Form.

In the earliest wonders-of-creation manuscripts, the image on the page aids the mental process of abstraction through which the viewer/reader may also come to conceptualize the Platonic Form. The reader encountering Qazwini’s entry on the bee does not get distracted by the tangible matter of any specific bee, which would have accidental characteristics not necessarily shared by other bees. Instead, he abstracts from his experience of bees what is essential. In his mind, the reader comes to understand the wondrous truth of the bee through a process that recalls Ibn Sina’s description of the manner in which most people are able to apprehend truth. In parallel with his importance to intellectual life in medieval Europe, his impact on subsequent Arabic and Islamic scholars of philosophy cannot be overestimated. His work established the parameters of their work, whether or not they agreed with him.22

According to Ibn Sina, truth is necessarily abstract, and most people are only able to apprehend it through a process that he referred to as “conceptualization . . . [in] the soul.” The word Ibn Sina uses for conceptualization, taṣawwur, shares the same root as šīra (picture, image, Form).

The mind extracts single universals from the particulars, by abstracting their concepts from matter and the appendages of matter and its accidents, by considering what is common in it and what different, and what in its existence is essential and what accidental. From this the principles of conceptualization (taṣawwur) come about [in] the soul: and this with the help of its employing imagination and estimation.23

WONDER, JURISTS, AND PHILOSOPHY

The early illustrated wonders-of-creation encyclopedias are designed to lead readers to respond appropriately to God and his creation through a collection of images of natural wonders, understood as signs pointing to God. This strategy goes hand in hand with the basic tenets of medieval Islamic philosophy regarding human understanding and perception. It was widely believed that most humans, incapable of apprehending universal truths directly, could only perceive universals through particulars. This model of perception is elaborated in Ibn Sina’s writings, and it is of fundamental importance for understanding how closely related groups of images function visually within the wonders-of-creation manuscripts.

Other scholars have made the general case that philosophical thought could inform the ways viewers looked at medieval and early modern Islamic art.24 Here, the specific case must be made that philosophical thought in the tradition of Ibn Sina could have been relevant to an encyclopedia of the wonders of creation written by someone like Qazwini, who was after all not just a jurist and, as such, a product of madrasa training, but also a madrasa professor himself. Two objections are likely to be raised against this suggestion. A number of readers might object that wonders literature in general and Islamic wonders literature in particular is rich with entertaining anecdote, but lacking in logic, the very root of philosophy. However, this is a mischaracterization. As detailed in the previous chapter, it is based largely on modern readings of later versions of Qazwini’s text. It is also based on unspoken assumptions that entertaining texts do not aspire to make larger ethical points. Specialist historians, meanwhile, are likely to find the suggestion that philosophy in the tradition of Ibn Sina might inform a book written by a madrasa professor highly incongruous, first and foremost because philosophy was banned from the madrasa curriculum.

Two generations before Qazwini, a professor at the ‘Aziziyya Madrasa in Damascus, Sayf al-Din al-Amidi (d. 1233), was in fact fired in 1229 for teaching philosophy and philosophical theology.25 Further, this ban speaks to the successful influence of the great scholar al-Ghazzali (d. 1111), who specifically attacked the writings of Ibn Sina. The suggestion that the madrasa professor Qazwini wrote a book infused with philosophical ideas in the tradition of Ibn Sina therefore demands justification and explanation.

Qazwini’s encyclopedia of the wonders of creation was not philosophical per se, but it was permeated with the assumptions of philosophical thought. Ibn Sina is one of the sources whom Qazwini most frequently cites, calling him simply “the Shaykh.” And although Qazwini did not mention them directly, he also used the popular philosophical writings of the Brethren of Purity as one of his sources.26 The exact
identity of this group is subject to debate, but they seem to have composed their encyclopedia, *The Epistles of the Brethren of Purity*, in the late tenth century. Although they claimed to guard their knowledge for a select group of the sincere and intelligent, their encyclopedia in fact helped to popularize philosophical thought for several centuries after it was written. Their text became a classic that was widely read by the intellectual elite.

As for Qazwini, he was not himself a philosopher, but we know that he studied philosophy. And, as I will review below, he is directly linked through this study to a group of leading philosophers of his era in Iraq who worked in the tradition of Ibn Sina, many of whom studied and/or taught in madrasas. It will become clear that although support for philosophy among madrasa scholars had deeper roots in the Khurasan region of eastern Iran than in Iraq, we also find it in thirteenth-century Iraq. It is tempting to suggest that this may be related to the influx of scholar refugees from Khurasan to western Iran, Iraq, Syria, and points further west in this period, but until further investigation, this suggestion remains only a hypothesis.

After Syrinx von Hees’s systematic review of the evidence, there is no doubt that Qazwini studied philosophy in Mosul under the direct guidance of Athir al-Din al-Abhari (d. 1264).27 Abhari was a leading philosopher of his era. His work not only survives, but it generated numerous commentaries and super-commentaries. His two known works show that he engaged directly with classical philosophical traditions as they were available to him, and with their specific legacy in the Islamic lands as established by Ibn Sina. Abhari wrote an introduction to logic for which he used a Greek title – *Isâghûji* (*Eisagoge*). He also wrote a book entitled *Philosophical Guidance* (*Hidayat al-bikra*), which treated the branches of philosophy as established by Ibn Sina – logic, physics, and metaphysics.28

The philosophical circle in which Qazwini’s teacher Abhari was himself trained is closely associated with madrasas, even though it included non-Muslim as well as Muslim scholars. This is detailed in the accompanying table (table 1).29 Abhari had studied in Mosul with the philosopher Kamal al-Din b. Yunus (d. 1242) who himself had studied in the Nizamiyya madrasa in Baghdad before teaching in the Mosul madrasa. After his death, the Mosul madrasa came to be known after him as al-Madrasa al-Kamâlîyya.30 Kamal al-Din was an important figure in what we might think of as graduate studies in philosophy. Students came from far and wide to study with him, and he presided over the philosophical training of several leading intellects of the era, including Theodore of Antioch and Nasir al-Din Tusi. Theodore of Antioch, a Christian, was later recruited to the Sicilian court of Frederick II along with one of Kamal al-Din’s Muslim protégés; there the two served as experts on the subject of the soul.31 Nasir al-Din Tusi, the great astronomer, directed the Maragha observatory, a major research institution supported by the Ilkhanids.

All these figures – Abhari, Kamal al-Din b. Yunus, Theodore of Antioch, and Nasir al-Din Tusi – appear in a lineage of the history of Arabic philosophy recently compiled by Dimitri Gutas; all four of them are therein identified as major philosophers working in the tradition of Ibn Sina.32 Interestingly, Gutas lists them as “direct disciples [of Ibn Sina] in Iran, Khurasan.” In literal point of fact the place of work these four had in common was Mosul, Iraq; but they shared intellectual proclivities more often found among scholars from Khurasan.

The fact that philosophy, madrasas, and Khurasan were associated with each other in this period emerges from a fascinating *isnâd*, a chain of master–student relationships, which has been brilliantly analyzed by Ahmed al-Rahim. This *isnâd* traces the transmission of philosophical knowledge from Ibn Sina down to Qazwini’s contemporary, the astronomer Nasir al-Din Tusi (d. 1274) through a chain of five intermediary scholars, of whom several studied and/or taught in the Nizamiyya madrasas of Khurasan. As al-Rahim points out, this *isnâd* is not meant as an exhaustive list of all the authorities with whom each of the scholars mentioned studied, but is meant to establish a direct philosophical lineage from Ibn Sina to Nasir al-Din Tusi which went through the madrasas.33

We do not know whether or not this *isnâd* is accurate in all its details, but the fact that it circulated widely shows that the concept of the madrasa professor who was also a philosopher was far from unknown; indeed, it had proponents who actively disseminated it. We also know that Nasir al-Din Tusi first
Table 1. The intellectual heritage of philosophy in thirteenth-century Iraq, with indication of scholars’ madrasa affiliations

| IRAQ: THE MOSUL CIRCLE OF KAMAL AL-DIN MUSA B. YUNUS AL-SHAFTI |
|-------------------|-------------------|
| Ibn Sina          | (d. 1037)         |
| Bahmanyar         | (d. 1066)         |
| Lawkari           | (d. first quarter 12th century) |
| Ibn Ghilan        | (active mid 12th century) |
| – Studied at Nizamiyya madrasas at Marv and Nishapur, Khurasan |
| – Studied and taught in Nishapur |
| Farid al-Din Damad |
| Taught in the Nizamiyya madrasa in Nishapur |

| KHURASAN: FROM IBN SINA TO NASIR AL-DIN TUSI |
|-------------------|-------------------|
| Nasir al-Din Tusi | (d. 1274)         |
| – Studied in the Nizamiyya madrasa in Nishapur, Khurasan |
| – Subsequently studied in Mosul |

Kamal al-Din Musa b. Yunus al-Shafi’i (d. 1242)
- Taught in the Nizamiyya madrasa in Baghdad
- Taught in the Mosul madrasa, which after his death became known as “al-Madrasa al-Kamaliyya” after him

Athir al-Din al-Abhari (d. 1264)
- Studied and taught in Mosul
- Qazwini (d. 1283)
  - Studied in Mosul
  - Taught in al-Madrasa al-Sharabiyya in Wasit, Iraq

Theodore of Antioch

studied in Nishapur, but was one of many intellectuals of the era who fled to the west, at which point he became Kamal al-Din Yunus’s student, alongside Qazwini’s teacher Abhari, in Mosul. Though Nasir al-Din Tusi is of course best remembered for his direction of the renowned astronomical observatory in Maragha, he also wrote several philosophical works, and he defended Ibn Sina’s support of Neoplatonic creation by emanation.29 He and Qazwini belonged to overlapping intellectual circles. Not only did they share a common intellectual ancestor in Kamal al-Din b. Yunus, but the librarian of Nasir al-Din Tusi’s observatory, Ibn al-Fuwati, is one of the main sources for Qazwini’s biography beyond Qazwini’s own writings.

To summarize, Qazwini the madrasa professor studied with the prominent philosopher Abhari, who was in turn the student of Kamal al-Din b. Yunus – a philosopher so closely associated with a madrasa in Mosul that it came to be known by his name. Further, in this period, a widely circulated isnad claimed a direct philosophical lineage from Ibn Sina to Nasir al-Din Tusi; though Nasir al-Din Tusi carried out his
most famous work in Maragha under the Ilkhanids, this lineage went through the madrasas of Khurasan, in north eastern Iran.

The question then arises: how can these points be explained, given that philosophy was banned from the madrasas? The explanation must begin with a review of the circumstances under which philosophy was banned from the madrasa curriculum in the first place. The formal banishment of philosophy from the madrasas occurred in the eleventh century, but should be understood within a longer narrative of what may well be termed the medieval Islamic culture wars. At stake was the relationship between reason and revelation, and by association, the validity of the so-called “foreign sciences,” or traditions of learning that had initially developed through reason, rather than in the framework offered by revelation. It is important to recognize that this was not an evenly polarized debate concerning whether revelation and the Islamic sciences, on the one hand, or reason and the foreign sciences, on the other, were better. Rather, everyone engaged in the debate acknowledged the primacy of revelation, and of the Islamic sciences which, when necessary, made recourse to the traditions concerning the practice of the Prophet Muhammad to find information supplementary to that provided in revelation. The primacy of revelation and the Islamic sciences was theoretically undisputed. The issue was instead whether or not reason and the foreign sciences were acceptable as auxiliary paths to truth. In other words, the debate was not a direct conflict between two paths toward knowledge; rather, it was a disagreement that precisely concerned whether or not those two paths were in conflict at all. This is clear from the following defense of philosophy, articulated by the tenth-century philosopher Abū al Hasa am al-'Amiri, who hailed from Khurasan.55

Some scholars of the hadith [the traditions concerning the Prophet Muhammad] have attacked the philosophical sciences on the assumption that they contradict the religious sciences and that all those interested in the philosophical sciences and occupied in their study forfeit this world and the next. In their view, they contain only impressive words and empty phrases, varnished over with deceptive ideas, so as to deceive poor blockheads and lead conceited fools astray. That is not right. Like the religious sciences, the foundation and branches of the philosophical sciences rest on dogmas in harmony with pure reason and confirmed through fully valid proofs. One knows very well that there should be no contradiction between the demands of the true religion and what proofs confirm and reason demands.56

The conflict between these two visions of what constituted valid paths to truth was very much alive in the eleventh century, when the powerful vizier Nizam al-Mulk (d. 1092) established the first of the madrasas which would eventually be known after him as the Nizamiyya madrasas. As George Makdisi has pointed out, Nizam was “an astute politician,”57 supporting the proponents of the more inclusive view in Khurasan where that position prevailed at the time, and supporting those who favored a more exclusive definition of orthodoxy in Baghdad where that position prevailed.

In a scenario that modern academics will find tantalizingly familiar, Nizam’s strategy for ensuring that the madrasa he founded in Baghdad would be highly influential was firstly, to identify a leading scholar of the day to direct the academic program, and secondly, to go to great lengths to successfully recruit this chosen star. The scholar Nizam pursued was Abu Ishaq al-Shirazi (d. 1083). If Nizam’s position in the culture wars was flexible, depending on the local political realities in Khurasan or Baghdad, Shirazi’s position was uncompromising. He was vehemently opposed to what he understood as the contamination of the legal sciences by independent opinion and the foreign sciences, including philosophy. He associated the pure approach he preferred with the Shafi’i school of law, which had been named after the great ninth-century legal scholar al-Shafi’i (d. 820), and which had spread throughout the Islamic world in the tenth century. According to Shirazi, the Prophet himself, appearing in a dream, explained the superiority and purity of the Shafi’i school as follows:

Follow whatever there is in the personal opinion of Abu Hamida that is in conformity with the sunna [that is, the traditional practice of the Prophet]; but Shafi’i doctrine is not personal opinion; Shafi’i simply adhered to my sunna, and refuted those who went against it.58

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When Nizam first attempted to recruit Shirazi for his Baghdad madrasa, Shirazi initially turned down the appointment. Frustrated, Nizam asked: “for whom did I find this College if not for Abu Ishaq [al-Shirazi]?” However, eventually Nizam did succeed in his recruitment efforts. Makdisi suggests quite plausibly that Nizam likely succeeded by including what Shirazi wanted into the endowment (waqf) deed of the madrasa. This deed was legally binding not only for Baghdad madrasa, but also for the other Nizamiyya madrasas built later. It does in fact include stipulations more in keeping with Shirazi’s unequivocal position than with Nizam’s political flexibility. The endowment deed stipulated that law professors, as well as those who sought to hold other posts, must not only follow Shafi’i law but also ascribe to the Shafi’i model of what constituted valid sources of law. This last stipulation was specifically meant to protect the purity of the law from the contaminations of excessive independent opinions fostered by the methods associated with the foreign sciences and philosophy. The ban on philosophy should be seen within this larger picture.

In practice, it seems that the foreign sciences and philosophy made their way into the Shafi’i madrasas anyway. The madrasas soon became the leading employers of scholars in the Islamic east. One presumably unintended result of the waqf was this: any scholar seeking a job had a strong motive to declare himself an adherent of the Shafi’i school, regardless of how his own intellectual inclinations may have related to Shafi’i’s own thought. It was not difficult to do this. And apparently it was not uncommon. Makdisi offers the following amusing verses, penned by the students of a scholar named Wajih al-Din al-Wasiti. The students joke that their professor shifts easily among the four schools of Islamic law (Shafi’i, Hanbali, Hanafi, and Maliki), motivated by sheer expediency:

Who’ll take this message to Wajih,  
Even if it does no good?  
First you’re Hanbali, then you’re Hanafi,  
Is it because you have no food?  
Then you’re a Shafi’i, not from piety,  
Simply to get that vacancy.  
And there’s no doubt that soon you’ll be,  
Mark well my words, a Maliki!**

As such scholars entered the Shafi’i madrasas, they changed the Shafi’i school itself. Makdisi has aptly labeled this phenomenon the “infiltration of the curricula of the colleges.”

This offers a slightly different angle from which to consider the facts that a madrasa came to be known after the philosopher Kamal al-Din b. Yunus, even though one of his most famous students was a Christian, and that a widely circulated isnad of the period traced Nasir al-Din Tusi’s philosophical lineage to Ibn Sina through a series of known madrasa professors. Considered from the context of an ongoing “infiltration” of the madrasas, these points now seem to suggest that this phenomenon was particularly strong in Qazwini’s era. Indeed, Dimitri Gutas has argued that far from being successfully quashed, the study of philosophy in the tradition of Ibn Sina underwent a resurgence precisely in this period, leading him to term this, “The Golden Age of Arabic Philosophy.”

Qazwini, then, had deep and direct exposure to what was in his time a living tradition of rigorous philosophical inquiry in the tradition of Ibn Sina. The lines between legal scholars and philosophers in the Islamic world were not nearly as sharp as intellectual history has tended to draw them, and many figures we now remember as philosophers were better known in their own time as legal scholars. As has been shown, in Qazwini’s milieu, many philosophers studied and or taught in the institutions of legal study, the madrasas.

**VISUAL IDIOMS AND THE STUDY OF CREATION**

Given the importance of philosophy to The Wonders of Creation and the Oddities of Existence, one might seek a relationship between its images and those found in philosophical texts. Of all known surviving manuscripts, the closest to Qazwini’s own in time and space is in fact a manuscript of The Epistles of the Brethren of Purity, whose writings, as previously mentioned, popularized philosophical thought. The colophons in this manuscript document that it was completed in Baghdad in 1287; Qazwini’s own manuscript was completed in Wasit in 1280. Wasit is about 80 miles or 130 km south-east of Baghdad, and it was the fourth relay station on the Abbasid postal road from
Baghdad to Basra. This suggests that the medieval travel distance between the cities was about four days. In medieval Islamic cartography, Baghdad and Wasit were sometimes mapped together as the defining features of the portion of the Tigris they shared.

The 1287 manuscript of The Epistles of the Brethren of Purity is exceptional as a manuscript squarely within the philosophical textual tradition that includes painted illustration. The only illustration is a double-page frontispiece, which was likely read as an author portrait of the Brethren (fig. 23). The heavy curves indicating drapery and the exaggerated scale of the hands in this frontispiece are in a style quite close to that found in various images in Qazwini's 1280 Wasit manuscript, such as that of the Archangel Michael (see fig. 18). Such similarities have led one scholar to suggest, quite plausibly, that the same painter may have painted both manuscripts.

However, the stylistic similarities between the two manuscripts are of limited help when we turn from the painterly production of the images in the 1280 Wasit manuscript to their reception by Qazwini's earliest audience. Despite the stylistic similarities between the Brethren of Purity manuscript and the Wasit manuscript, evident in the drapery and the facial features, very different compositional choices have been made. The double-page frontispiece in the Epistles of the Brethren of Purity, shows several men enclosed in an architectural frame. This is no iconic image of a distinct entity, but rather a scene of a group of scholars and their books. As Eva Hoffman has shown in her study of author portraits in thirteenth-century Arabic manuscripts, such frontispieces often introduced texts that were understood as developments of the classical intellectual heritage. This image may have been intended to depict not only the Brethren, but possibly also Aristotle, whom they saw as their intellectual ancestor. It is probably therefore better to understand the idiom of this image in terms of this perceived relationship to the classical intellectual heritage, rather than as representative of what we might call a specifically philosophical idiom.

23 Frontispiece, The Epistles of the Brethren of Purity. Baghdad, Iraq, 1287. 31.5 x 22.5 cm (each folio). Istanbul, Suleymaniye Library, MSS Esad Efendi 1638, fols. 3b-4a.
“Style” and “idiom,” of course, have overlapping definitions, but for the sake of clarity I distinguish between them. The traditional usage of style in art history generally, as well as the prevalent usage of the word “style” within the specialized field of Islamic manuscript painting, support my use of the word in the sense of the association between formal properties of painted illustrations and their regional or sociocultural origins of production. My use of “idiom” for the association between formal properties of painted manuscript illustrations and the kinds of texts they illustrate has several precedents within the field of Islamic manuscript painting, but may not be obvious to readers outside the field. In private conversation, historians of literature have suggested the term “genre” to me, since the sonnet, for example, is a genre in which a characteristic form is paired with a characteristic subject matter. But this seems potentially confusing because “genre” is a term that already has a specialized usage in art history, a usage that has nothing to do with the subtleties of relationships between text and image (for example, the genre of landscape painting).

The word “idiom” has been used to explain some of the puzzling features of one particularly challenging manuscript, the Kitāb al-Bulhān. This is an astrological manuscript (see fig. 76) about which Stefano Carboni has written an extensive study. The formal differences between the Jalayirid period images in this manuscript and several other examples of Jalayirid period painting are striking. In his introduction to Carboni’s study, Ernst Grube points out that the differences between these images and others of the Jalayirid period are less surprising when one realizes that particular visual forms were deemed appropriate for the manuscript as a specifically scientific text. Grube refers to the images as belonging to a “visual idiom of science.” Similarly, in their overview of the various kinds of images that can be found in Timurid manuscript painting, Thomas Lentz and Glenn Lowry explain that “different texts required different conventions, which collectively constituted an idiom.” They go on to describe a historical idiom, a scientific idiom, and a poetic idiom. I follow Grube, Lentz, and Lowry in using “idiom” to refer to forms of painting characteristically associated with particular kinds of texts.

Scholars have established that visual idioms appropriate for different textual types can explain why some Islamic manuscript paintings do not have the normative stylistic features we might expect given their patrons or dynastic contexts of production. Further it has been demonstrated that identification of visual idioms reveals some of the non-literal ways in which texts and images relate. It is not only that specific passages of text in the Kitāb al-Bulhān offer literal explanations for the accompanying images; the scientific (largely astrological) nature of the text as a whole explains why the paintings in this manuscript are so different from other paintings made under the same dynasty, such as the paintings for poetic texts, for example (see fig. 50).

Implicit in this is the reverse: that the recognition of visual idioms also makes it possible to see non-literal ways in which images affect the meanings of texts. This is important not only for art historians because it exposes a sophisticated function of the images, but also for intellectual historians whose ultimate object of inquiry is the text itself. To explore this is to explore one of the processes through which the images function to direct readers’ approaches to and interpretations of texts.

The manuscripts whose images most closely recall the iconic images in the early wonders-of-creation manuscripts are those whose texts are devoted to the study of nature. In terms of their idiom, the wonders-of-creation images’ closest cousins are the zoological images of bestiaries or the botanical and zoological images in pharmaceutical texts. The images of the dryopteris and polypodium plants in a Dioscorides manuscript from the first half of the thirteenth century serve as examples (fig. 24). As in the Wasit Qazwini manuscript, the subjects of the images in Dioscorides manuscripts are most commonly depicted in isolation against a plain paper ground. Interestingly, the entries in the sections of The Wonders of Creation and the Oddities of Existence that deal with plants and animals also resemble the entries in pharmaceutical manuscripts at a textual level. Each entry typically begins with a physical description of the plant or animal, and then proceeds to discuss its special characteristics, such as its pharmaceutical properties.

Neither pharmaceutical nor zoological manuscripts contained direct models for images of such wonders
as archangels. Yet, in the earliest Qazwini manuscripts, the visual idiom associated with the study of nature is often used for images of wonders other than plants or animals. In Qazwini's own manuscript, each of the archangels is depicted as a separate being, shown in isolation, distinguishable from yet similar to the others (see fig. 18). This follows the general compositional contours established in the botanical sections of pharmaceutical manuscripts of numerous different kinds of plants. This visual idiom is well suited to the model of creation as a collection of separate particulars, related within classifications. It serves to present the wondrous things of creation as separate entities, each one complete unto itself, but also neatly catalogued into an overarching hierarchical order of creation. Each iconic image of a created wonder draws attention to the idea of that wonder in general, rather than its disposition at a specific moment in time.

I have argued both that the visual idiom of the Wasit manuscript generally recalls works of botany and zoology, and that the visually distilled quality of its individual images, along with their cumulative impact, function specifically in accordance with philosophical concepts of abstraction and emanation. Are these points in conflict with one another? Not necessarily, because the various sciences were not understood as a series of separate, insulated fields, but as hierarchically subsumed into one another. Ibn Sina describes three possible ways in which, as he puts it, different sciences might collaborate. In laying out the first possible relationship, Ibn Sina states explicitly that all sciences are subsumed into philosophy:

1. The one science may be subordinate to the other. Then the lower science receives its principles from the higher one, for example, music from arithmetic, medicine from natural science and all the sciences from the first philosophy. Ibn Sina’s elaboration of the other two possible ways that different sciences might relate to each other makes clear that in all cases, the collaboration is not simply additive, but is understood to involve a transfer of general principles from one science to another:

2. Or both sciences may share the same object like natural science and astronomy, both of them con-
cerned with the universe. Natural science studies the substance of the object, and astronomy its accidents. Whoever studies the substance of an object thereby supplies the student of another science with its principles. Thus the astronomer, for example, learns from the natural scientist that the movement of spheres is bound to be circular.

3. Or both sciences may share the same genus, one of them studying a simple kind, such as arithmetic, for example, and the other a more complex kind, like geometry, for example. Whoever studies the simpler one thereby supplies the principles for anyone studying another science. 77

All three ways mentioned imply the subordination of some sciences to others. The idea that philosophy subsumes all the other sciences explains much about medieval Islamic intellectual life, including, for example, why Qazwini’s contemporary, Nasir al-Din Tusi, was both an astronomer and a philosopher.

Ibn Sina’s assertion that, while both astronomy and natural science are concerned with the universe, it is astronomy that takes its principles from natural science, is suggestive. The idea that the approach of natural science could be applied to other sciences helps to explain how the visual idiom of natural science could be applied to other topics within Qazwini’s encyclopedia. As for Ibn Sina’s remark that all sciences are subordinate to the first philosophy, it helps explain why the same visual idiom was appropriate for use throughout a cosmography informed by philosophical ideas.

When readers in the late thirteenth century encountered images in the 1280 Wasit manuscript that visually reminded them of earlier books on the study of nature, they would also implicitly understand from those images that this book belonged broadly to the intellectual traditions subsumed within philosophy. The images connote botany and zoology, subfields within the study of nature, a subject which was itself subsumed into the larger rubric of philosophy. They would therefore have emphasized the philosophical attitudes toward knowledge that permeate Qazwini’s encyclopedia, according to which any subject can find a place and in which different views of the same subject can be seen as different expressions of, or approaches to, the same essential truth.

SEEING THE FOREST THROUGH THE TREES

Philosophy, then, is an established element of the intellectual backdrop against which Qazwini writes: “The Prophet, Peace be Upon Him, said, ‘Contemplate God’s creation.’ Intelligent contemplation comes only to one who has been bewildered by what is known... For when that has happened, the eye of discernment opens for him, and he sees ‘ajab (wonder) in everything.” 53 The numerous images in his own manuscript of his book speak to the well-established importance of the act of looking as a path toward understanding God’s creation through nature’s visible signs. As ‘Amiri had put it, of the three branches of the philosophical sciences, “One of them rests on sensual perception, namely, natural science.” 59

The early manuscripts of Qazwini’s book and their images encourage the encounter with creation at multiple levels. The image of the bee in the 1322 manuscript serves as an example of how individual images can function as iconic portals for contemplation of a particular species. But the images also have a cumulative impact. This is evident from the plentifully and densely illustrated chapters on trees. As mentioned earlier, in any given manuscript, these chapters typically provide a high percentage of the total number of illustrations. They also tend to be visually unified by a base palette of specific greens and browns occasionally augmented by additional accent colors. The same palette tends to extend into the subsequent chapter on plants. Floral blossoms might be depicted in the accent colors, but the prevailing pigments in these two contiguous chapters are consistent in any given manuscript. Tree images are larger than plant images, but image sizes tend to be relatively consistent within each group, regardless of the comparative sizes of the species depicted. 60 With striking consistency, the images of trees and plants are exclusively dedicated to the physical form of one example of the species under discussion, regardless of what else might be mentioned in the text. This is not only true of early Arabic manuscripts, in which the same basic point could be made with reference to the images in other classifications as well. It also remains typical of the trees and plant chapters in the later Persian wonders-of-creation manuscripts, even though narrative images and images of
oddsities become more prevalent in chapters on other topics.

In Qazwini’s own manuscript, the thirty-one folios comprising the chapters on trees and plants are densely illustrated with 193 paintings. Four basic green pigments dominate these pages, tying the images together (see fig. 14). This encourages the viewer to see the various paintings collectively, and to see these pages cumulatively as a visual presentation of a classification of creation. Those dominant green pigments are: grass green (the elm and plane trees, fol. 117b), a very similar green which is just slightly bluer and darker (spiny citrus, fol. 117b, the almond, 124b); a juniper green in which the blue is more pronounced (carrot and manna plants, fol. 131a), and, least frequent, a yellowish pistachio green (pistachio, fol. 122a, not shown). All of these can be applied in lighter or darker versions, sometimes resulting in what almost seems to qualify as a different color: for example, a very light application of the juniper green for the leaves of the thyme plant (fol. 131a) results in a green the color of light eucalyptus leaves. They can also be blended together (peony, fol. 121b, not shown). Similar use is made of brown pigments. In Qazwini’s manuscript, the recurring browns are brownish black, chocolate brown, grayish brown, and reddish brown. Application of these pigments in varying thicknesses, and sometimes blended into each other, results in a wide range of closely related variations. In this way, color visually unites all the paintings found in the chapters treating these two classifications, even as it hints at the variety of plant and tree species.

In the 1322 manuscript, trunks are not mere supports for foliage, but a point of visual interest in their own right. Here, we see the impact of the Chinese landscape painting tradition. Sometimes a trunk emerges from a mound of ground shaded darker on top and lighter on the bottom (pepper, fig. 25). At other times the images appear as cropped details, featuring textured trunks, sometimes rising vertically (white poplar, fig. 25), but often writhing along a diagonal within their allotted spaces (aloë, peony, fig. 25). This results in more various overall tree shapes than in Qazwini’s own manuscript. Yet in the 1322 manuscript, the colors play the same role of visually tying the classification together. The specific range of greens and browns is not the same, but it is used to the same effect. In the 1322 manuscript, olive green appears frequently (elm, fig. 26), and is supplemented by a dark muddy green, the color of well-cooked spinach (the right part of the painting of the willow, fig. 26). Among browns, light tan appears frequently (elm, fig. 26). The lush elm tree is larger than the others found on the double-page spread of 98b–99a, and the cropped image makes it seem even larger. Yet with olive green leaves echoing those of several of the other nearby plants, and with a light tan knotted trunk recalling the slight trunk of the castor oil plant, the image of the elm becomes part of a larger visual whole.

In the trees and plants chapters of any given manuscript, the limited palettes and regularity of image size draw attention to the broader classifications to which specific trees belong. Consider how they visually contain the image of the plane tree in Qazwini’s own manuscript (fol. 117b, see fig. 14). Qazwini’s description of the plane tree emphasizes that its leaves look like hands. Taken literally, this trait brings the plane tree into the cross-culturally recognized category of exotic wonders with hybrid physical characteristics. Yet the plane tree was hardly exotic. In the region stretching from Iran to Anatolia it was biologically an established species well before the advent of Islam. In the medieval period, it was a familiar feature of the local landscape, as it remains today. As such the plane tree appears frequently in medieval Persian poetry.

Artists of later manuscripts generally interpreted Qazwini’s description in a loose sense, supplying each of the leaves with five lobes (plane tree, fig. 26). But the artist of Qazwini’s own manuscript interpreted the description more literally. Though the lobes of a few of the leaves are more regular, many leaves feature one lobe that is significantly shorter than the others, as the thumb is to the other four digits of the hand. Two of them even seem to have jointed thumbs, bent at a dramatic angle. Nonetheless, most of the leaves sway fluidly, so that the two with angular thumbs blend into the greater whole. Observed from a slight distance, the image of the plane tree is structured like the other trees in the manuscript, with a display of leaves distinctive to the tree surmounting a relatively straight narrow trunk in the bottom middle of the image space. Further, the pigments used for the plane tree are also used for the adjacent elm. The leaves are painted the same grass green, and the trunks are
The aesthetic experience of wonder, the eye is overwhelmed, unable to choose a definitive resting point. The hive is visually dazzling in its perfect proportionality. Qandahari claims that even Mani would bite his fingers in astonishment at the brilliant color and design of Akbar’s silks. In the intellectual experience of wonder, it is the mind that is overwhelmed, unable to rest on any one point in a nexus of interrelated points. But the distinction between aesthetic and intellectual experiences of wonder should not be drawn too sharply. After all, theories of perception depended on the integration of emotions, the senses, and the intellect. Individually, iconic images of discrete wonders such as the bee provide a portal for guiding attention deeper and deeper into the nexus of interrelated points that concern this small creature. Seemingly simple images, images that focused the eye rather than jolting it, could ultimately lead to a similar experience. A compositionally simple image of any one of the created things which serve as signs of God could help direct the reader’s attention toward a web of related points concerning that single created wonder. When the intellect is caught up in that web of related points, the subject is in a state of wonderment, specifically at God’s creation. Collectively, the numerous images of trees, with their cumulative impact, take that process to another level of abstraction. As his eye and his mind move together between the trees and the forest, between the particular and the universal, the wondering subject is deeply absorbed, partly because of, rather than in spite of, his constantly shifting focus.
Narrative Images

ASTONISHING ANECDOTES AND COSMIC TIME

As for the wonders the Exalted Creator crafted, by they perceived by the senses or understood by the intellect—
they are indubitable and flawless.

As for the curious stories linked to relating them—I have had no hand in them.

And as for the strange characteristics [of things]... life does not supply experience of all of them, [but] there is no point in dismissing all of them for the sake of doubt in some of them.

Zakariyya b. Muhammad al-Qazwini

The earliest Islamic illustrated encyclopedias of the wonders of creation emphasize familiar and known created wonders. The iconic images in which these are often portrayed tend to present them in an abstracted state of timelessness. But from the start, the manuscripts also include those few rare and unusual wonders classified as oddities, as well as wonders that unfold in time. When presented in the text, the latter are what Qazwini refers to as “curious stories” or as “amazing stories.” When presented visually, they are narrative images.2

The degree to which narrative images are emphasized within wonders-of-creation manuscripts varies con-

siderably as we look back on the highly diverse artistic and sociopolitical landscape of the Ilkhanid period, in which there were already multiple versions of Qazwini’s cosmographic text. Over the course of the fourteenth century, both narrative images and amazing stories receive increasing emphasis, but the change happens more rapidly in the case of the images. This shift does not occur with linear regularity, but in general, it correlates with increased participation of the Turko-Mongol political class in the cultural life of the eastern Islamic lands.3 In and of itself, the cosmographic framework of the wonders-of-creation manuscripts would have been of considerable intrinsic interest for the conquered intellectual elite, who experienced the Mongol Conquest as an inversion of world order. This was less true for the Turko-Mongol families who settled in the Islamic lands following the conquest. Their interest in manuscripts illustrated with

narrative images is well known. It has long been rec-
erized that through projects such as The Com-
pendium of Chronicles (Jāmi‘ al-Tawārikh) and The
Book of Kings (Shāhānāma), they deployed both visual
and textual narratives to position themselves as par-
cipants in local histories, rather than as external
interlopers.4 It has also recently been argued that the
narrative text and images in a Persian Book of Ascen-
sion (Mi‘rājnāma) may have been used to propagate
Sunni Islam in the Ilkhanid period.5

As narrative images became increasingly prominent
in wonders-of-creation manuscripts over the course of
the fourteenth century, the experience of wonder these
manuscripts induced shifted away from contemplative
awe and toward astonished surprise. Whereas the iconic
images analyzed in the last chapter collectively evoke
the timeless constancy of divinely ordained cosmic
order, narrative images, by definition, evoke scenarios
of temporal change. Within the wonders-of-creation
manuscripts, most iconic images clearly correspond to
the titles of the encyclopedia entries they accompany.
But it is not so easy to map narrative images neatly
onto the structure of the wonders-of-creation texts.
These images, presupposing interactions of multiple
actors, defy such attempts. Though they often include
depiction of the wonder whose name serves as the title
for the associated encyclopedia entry, they also typi-
cally depict other beings interacting with that wonder
and/or with each other. Therefore, while iconic images
in sequence collectively map out the overarching cos-
mospheric structure of the wonders-of-creation man-
scripts, narrative images pull attention away from that
structure, and so subvert it. In so doing, they sometimes
also disrupt the implied overarching narrative that
these manuscripts share: the narrative of cosmic time.
Rather than cumulatively building up a sense of awe,
narrative images punctuate the reader’s progress through
the full manuscript with surprising subversions.

WONDROUS STORY,
NARRATIVE IMAGE

Alongside the iconic images that dominated the ear-
liest illustrated wonders-of-creation manuscripts, nar-
rative images were also included from the beginning.
Sometimes they appear in conjunction with the amaz-
ing stories that are their textual counterparts. One of
the best-known images from Qazwini’s 1280 manu-
script of his cosmographic encyclopedia is an image
of a man grasping the talons of a giant bird in flight
(fig. 27).6 As the bird is identified as a rūkh (or Roc,
as it is also known in the west), the story is often
referred to as the story of the rūkh bird. But this story
is not found in the chapter on birds, instead figuring
as its own entry in a subchapter on the Persian Sea in
the chapter on seas. After a general discussion of the
Persian Sea and after specific entries treating its
various islands, Qazwini writes that he will conclude
the section with an amazing story told on the autho-
ry of the author of a book called The Wonders of the
Sea (Ajā‘īb al-Balā‘). The copyist of Qazwini’s 1280
manuscript, Muhammad b. Muhammad b. ‘Ali al-
Dimashqi al-Mutabbib, penned the phrase “let us con-
clude” in color. This was how he also penned the
names of constellations, plants, or animals that served
as the identifying textual tags for different encyclopa-
dia entries. The graphic convention serves to intro-
duce the text that follows, the story, as its own entry
in the encyclopedia and a wonder in its own right. As
Roy Mottahedeh has shown, in The Thousand and
One Nights amazing stories were also conceptualized
as wonders (ajā‘īb) in their own right. Qazwini’s story
concerning the rūkh is clearly related to the Thou-
sand and One Nights’ Second Voyage of Sindbad the
Sailor, in which Sindbad escapes from an island by attach-
ing himself to the legs of the giant bird rūkh.7

Qazwini relates his story as follows. A man report-
edly told the author of The Wonders of the Sea that
he had gotten into debt, and had therefore left his
home in Isfahan. Eventually he joined several merchants
on a boat, which got caught in a whirlpool in the
Persian Sea. A wise man pronounced that most of them
could be spared, but only if one of them were to give
himself up for the sake of the others. The Isfahani
debtor asked a group of Isfahaniis on board whether
they would assume his debts and provide for his
family if he sacrificed himself. They agreed. The wise
man then explained that they should sacrifice the Isfah-
ani by leaving him on a nearby island, and so they
did. There, the Isfahani saw a gargantuan bird perched
in a tree. After a few days of observing the bird’s
habit of flying away each day and returning at night,
one morning he grabbed onto the talons of this bird.
He held on as the bird flew away from the island, over
the sea, and finally over the mainland. He dropped
down and landed safely on a haystack in a village.
The villagers, according to Qazwini, were greatly
amazed by what the Isfahani told them about how he
had survived. So the village head gave him money, and
eventually he was able to return to his family not only
alive, but also rich. This concluding detail emphasizes
that the astonishing anecdote itself is a countable,
exchangeable entity similar to those related in The
Thousand and One Nights. As Shahrazad uses *a‘īdāb*
stories as exchangeable goods with which she can bar-
ter nightly extensions of her life, so here the Isfahani
ultimately receives a financial reward for his story.

In Qazwini’s 1280 Wasit manuscript, the narrative
painting accompanying this story stands out among
the more frequent iconic representations of created
wonders. It depicts both the bird and the Isfahani, aloft
in their highly unusual journey, with perilous terrain
below. The image arrests the reader’s attention at a
temporal point in the story at which the reader, along
with the Isfahani, hangs on to the hope of a successful
outcome of this dangerous flight. The tension of
the moment is visually intensified in the painting by
the fact that whereas the bird flies from right to left,
the Isfahani faces right as he holds onto the bird’s feet.
The bird flies along in the direction of the Arabic text,
and the Isfahani is dragged backwards against it. His
proper right foot grazes against the single smooth
patch of the terrain below, which otherwise consists
of a series of jagged hillocks tilted stubbornly against
the direction of the bird’s flight.

The same story is illustrated quite differently in the
Qazwini manuscript likely made in Mosul around
1300. Stefano Carboni, who suggests this attribution,
also notes that this manuscript generally gives more
emphasis to stories and narrative images than the
1280 manuscript. This is evident in several places,
including its unusual transmission of the Isfahani and the
*rukb.* While it is not possible to determine whether,
as some scholars have suggested, this manuscript pre-
serves a recension of Qazwini’s text that had already
existed in his lifetime, we do know is that it existed
very early in the history of the text, within a genera-
tion of Qazwini’s death at the latest. The manuscript
bears no documentation of its date or place of pro-
duction, but it is unquestionably a manuscript made
for a noncourtly audience in the early Ilkhanid period.
The fact that Qazwini studied in Mosul supports Car-
boni’s argument that it was likely made there around
1300, suggesting that Qazwini, or at least his work,
would have been remembered by the next generation
of Mosul intellectuals.

Interestingly, this is the earliest surviving manu-
script to include a eulogy to ‘Ala al-Din ‘Ata Malik
Juvayni, who has long been presumed to have been
Qazwini’s patron. Our earliest surviving record of this
eulogy thus first appears about twenty years after
both Qazwini and ‘Ala al-Din Juvayni died in the
year 1283. While it is not impossible that this eulogy
reflects some agreement reached while they were both
alive, it may also have been added posthumously. ‘Ala
al-Din was the brother of Shams al-Din Juvayni, chief
minister to the Ilkhan Hulegu, who also served in the
administration of Hulegu’s successor Abaqa. ‘Ala al-
Din himself was the author of the Persian history of
Genghis Khan, *The History of the World-Conqueror*,
and held the title of *Sâlīb Dīwān* of the province of
Iraq; in addition to responsibilities of financial admin-
istration, this title also made ‘Ala al-Din responsible
for many appointments in Iraq, including that of the
highest ranking judge. It would have been ‘Ala al-
Din’s direct judicial appointee who, in turn, would
have appointed Qazwini and other qadis at his level.

In a sense, then, we may think of Qazwini as a member
of a “Juvayni administration,” two levels below
Juvayni. This underlines that there were indeed strong
connections between the class of intellectual scholar
bureaucrats and the high-ranking administrators who
worked directly for the Ilkhanid court in the early
Mongol period. By around 1300, when this manu-
script was produced, these connections had been solidi-
fied over two generations. The eulogy to Juvayni in
this manuscript, then, might well be taken as an indi-
cation that its initial audience was more closely con-
ected to the political elite than Qazwini himself had
been. This would have been the case if, like Qazwini’s
1280 manuscript, the manuscript from around 1300
also initially circulated among the class of intellectual
scholar bureaucrats. It would also have been the case
if, as Carboni suggested when he argued that this manu-
script may have been made in Mosul, its patron may
have been Fakhr al-Din ‘Isa, who was the governor of
Mosul at the time.
The c.1300 manuscript features two images associated with the story of the Isfahani who was rescued by the rikh, but neither of them shows what would later become the standard scene of the Isfahani dangling from the bird. Instead, the first of the illustrations of this story in the c.1300 manuscript shows the most bizarre sight that the Isfahani encounters in the course of the story: the enormous bird sitting on a tree (fig. 28). Despite paper damage and paint loss, the basic elements of the composition remain clear. A single wing of the brightly colored bird is as large as the trunk of the tree; in its overall bulk, the bird seems about as big as the entire tree canopy. The sturdy structure of the tree that can support this bird’s enormous bulk is emphasized. The tree trunk is thick and squat and leans slightly left of the center of the tree, counterbalancing the mass of the bird’s upper body, which is slightly right of the tree’s center. The gnarled trunk finds support in an extensive and well-developed root structure, visible above the grassy ground. The artist has taken an element from the narrative, the report that this enormous bird regularly perched in a certain tree, and has used that element to emphasize the bird’s most salient physical characteristic: its enormous size, which marks him as an oddity. The Isfahani is not included in the scene, which instead depicts the oddity that he saw.

The second illustration on the same page (fig. 28), by contrast, shows the striking normalcy of the village where the Isfahani suddenly found himself after his bizarre adventure. Again, the Isfahani is not depicted. Neither does the image show either of the exceptional events that took place in that village, that is, the traveler falling on the haystack, or the village head giving him money. Rather, it shows a scene of daily life in the village. On the right, two men (one original, one entirely overpainted) sit and look out from a building. To their left, two cows turn a mill wheel while a man tends them. The scene depicted could have occurred on the day when the Isfahani fell into the village, or on any other day.

By the end of the first quarter of the fourteenth century, the choice to illustrate this story with an image depicting the moment in which the bird in flight carries the man, as in Qazwini’s late thirteenth-century Wasit manuscript, had become the established norm. This is the moment illustrated in both the 1322 manuscript and the undated Inju fragment now in Gotha, which served as its model. Depicting this moment remained the favored way to illustrate this story in subsequent centuries as well.28

In later Persian Qazwini manuscripts, the basic compositional type first established in the 1280 image was even transferred from the depiction of one story to another. Not only did it continue to be used to illustrate the amazing story of the debtor from Isfahani, but it also reappeared later in the section on birds, as an illustration for the entry for a bird called ’angä. It begins with the description of the ’angä bird—like the rikh, it is enormous. It goes on to describe the ’angä’s peculiar behavior, including the information that it once snatched a bridegroom away from his wedding and flew off with him. In the Ilkhanid period, this ’angä entry was regularly illustrated with an iconic image. Even when landscape elements are included in the 1320s, early paintings of this creature do not suggest any obvious narrative (fig. 29). By the early fifteenth century, the entry came instead to be regularly illustrated with a narrative image of a bird in flight lifting a human (fig. 30).29 In other words, a basic visual composition, which had appeared as one of the few narrative images in Qazwini’s 1280 manuscript, proliferated in subsequent manuscripts to the point of being transferred to another entry of the encyclopedia. That repetition and transfer signals the broader shift toward increased emphasis on visual narrative in the wonders-of-creation manuscripts that had occurred by the end of the fourteenth century.

Although iconic images remained important in Qazwini manuscripts, the increased emphasis given to narrative images reflected what it meant for these manuscripts to induce wonder in their readers. Whether they accompany the story at the end of the chapter on the Persian Sea or the entry for the ’angä, narrative images of large birds in flight carrying humans are arresting. Not only are they arresting in the sense that they grab the viewer’s attention, but in the literal sense in that they halt the flow of his movement through the book as a whole. This is also true of the unusual pair of images that illustrate the Persian Sea story in the c.1300 manuscript. Considered separately


from the rest of the manuscript—which despite containing more narrative images than the 1280 Wasit manuscript is still dominated by iconic images—the two Persian Sea story images are very much in keeping with Qazwini’s overall strategy of subsuming and thereby absorbing the utterly implausible into the known, even into the mundane. In sequence, the two images—the first depicting a most unusual sight, and the other depicting the most mundane village activities—present a sharp contrast. The sequential pairing reminds the reader that according to the story, the second scene, normalcy, replaces and thus overcomes the first scene, oddity. Yet, like the more common images of large birds aloft with their human hangars, these images disrupt the viewer’s sense of the cosmic structure of the whole book. As the reader moves from the first page to the last page of the bound codex, the iconic images cumulatively and gradually induce an experience of awe at the divine order of creation; by contrast, as he arrives at particular places within the codex where he encounters narrative images, they induce a reaction of surprise.

TEXTUAL REPETITION AND VISUAL AMBIGUITY

If iconic images call attention to ideas and entities as they would exist out of time, narrative images, like textual narratives, unfold within time. However, despite this basic similarity between narrative images and narrative texts, their respective temporal orders are fundamentally different. The order in which the written words and sentences are read is highly determined by convention—in Arabic, Persian, and Ottoman, one reads right to left, top to bottom—even in cases where the structure of the text itself is not linear. By contrast, the order in which the viewer should notice the various aspects of a painted narrative image is much more open. There is therefore a tension between the temporal determinacy inherent in the stories and the temporal indeterminacy inherent in the narrative images. That tension complicates the pace of the viewer’s encounter with wonders that unfolds in time.

This may be seen in the entry on the lemon tree in the manuscript likely made in Mosul around 1300. The text of this entry, as in the text of Qazwini’s 1280
manuscript, begins with a descriptive passage, and then continues with a story about the lemon. The c.1300 manuscript is unusual in that the entry is accompanied not by a single image of the lemon tree, but by a pair of images, one iconic and one narrative. The only other Qazwini manuscript I know in which the story concerning the lemon tree is illustrated with a narrative image is a nineteenth-century Persian Wonders of Creation manuscript produced in Qajar Iran that is now in Cairo. More typically, as in the 1280 Wasit manuscript, the entry is illustrated by a single iconic image of the lemon tree as a natural wonder (see fig. 14).

In the c.1300 manuscript, the descriptive passage at the start of the entry covers basic information about the lemon, describing its natural habitat (warm regions), its taste (bitter), and one of its characteristic properties (its juice can be used as an antidote against snake and viper toxins). The first of the c.1300 images for this entry accompanies this descriptive text. The tree bears bright yellow fruit and is surrounded by a gold frame (fig. 31). Grass and flowers below give a minimal suggestion of the surrounding landscape. The ground and the gold frame, for which there are no counterparts in the 1280 Wasit example, soften the visual idiom associated with the study of nature discussed in Chapter One. Nonetheless, the image remains unmistakably iconic. It functions like the images discussed in Chapter One in that it focuses the reader's attention on the general idea of the lemon tree as a species.

Following the descriptive passage and the accompanying iconic image, the entry on the lemon tree continues with a story concerning the efficacy of lemon juice against snakebites. This story was reportedly related by one Abu Ja’far b. ‘Abdallah, identified as a resident of Basra. It takes up one of the basic properties mentioned in the description of the lemon tree, elaborates upon it in narrative form, and in so doing, draws additional attention to it. As the descriptive passage was accompanied by an iconic image, this story is accompanied by a narrative image (fig. 32).

In the story, Abu Ja’far relates that he had an estate with a garden next to the house. A very large snake appeared in the garden, so he asked a snake charmer to come and get rid of it. A man came and fumigated the place with incense, but the snake attacked him and he
died. So Abu Ja'far left the garden and the house. Then one day another man came and asked about the snake. When Abu Ja'far told him what had happened before, the man explained that the first snake charmer had been his brother and that he wanted revenge. So Abu Ja'far showed him to the garden, and the man took some oil and anointed himself and fumigated the place with incense. From the safety of his roof Abu Ja'far watched as the man chased the snake and grabbed it, but it bit his hand and he died that night. This time more people left the estate. Then after a few days yet another man came. He made inquiries similar to those the previous man had made, and he looked like him too. He explained that since the first two snake charmers were his brothers, he was compelled to take his revenge by killing the snake. So, as before, Abu Ja'far showed him to the garden and went to observe what would happen from his roof. This third man anointed himself with oil and fumigated the place. The snake came, and he grabbed it, but it bit his thumb. The man took out a knife that he had with him and cut off his thumb right away, and they carried him to the village. There he saw someone playing with a lemon. He asked Abu Ja'far if indeed lemons were available in Basra. He told them that in Oman, his homeland, lemons were used to keep people alive. So Abu Ja'far gave him some lemon, which he put on his wound and ate quickly. The amount of time after which his brothers had died passed, and he survived. God, he exclaimed, had rescued him with the lemon. Later he was able to cut off the snake’s head and tail, and boil them in a saucepan, and to pull out its teeth and put them in a gaseous water. Having done this, he left.

The structure of the narrative text of the entry accords well with Roy Mottahedeh’s analysis of stories that are wonders (ajā'ib) in their own right in The Thousand and One Nights. He shows that, in the vocabulary of medieval Arabic literary criticism, it is not just the surprising events that are important in these stories, but also the way that the reader experiences


32 (facing page) A story about the lemon: one of the brothers from Basra tries to drive out a snake (above); the apricot tree (below). The Wonders of Creation and the Oddities of Existence of Qazwini. Probably Mosul, Iraq. c. 1300, 31 x 20 cm (full folio). London, British Library, MSS Or. 14140, fol. 89a.
surprise after a period of ṣabr (patience). As a story builds up a background of expectation against which the surprise will eventually be staged, the reader waits with ṣabr. The ṣabr intensifies the effect of the surprising events when they eventually unfold. The pairing of the ṣabr and the surprise, and the dynamic between them, is critical. It is through the combination of these two psychological states that the full effect of 'aṣābīb stories is achieved. In fact, in modern cultural contexts a single word describes the symbiotic effect that occurs when ṣabr and surprise are paired. This is clear from Mottahedeh’s insight that the pairing of ṣabr and surprise is “somehow a cognate of suspense.”

Mottahedeh further points out that the pairing of ṣabr with surprise often involves “partial replication” and even “ironical duplication” of textual elements. Mottahedeh’s theory aptly describes the way the lemon story works. Repetitions in the story establish a clear pattern. The reader has ṣabr as each new snake charmer enters the story, prepares for the snake with incense, and then struggles with the snake. When the second of the brothers comes and Abu Ja‘far retreats to the relative safety of his roof, this not only heightens the reader’s sense of danger, but also stretches out the story, demanding more ṣabr. It also becomes an additional detail to be added to the next cycle of repetition. The deaths of the first two brothers set up the reader to expect the death of the last brother as well. When he is bitten as the first two were and carried away as the second brother was, the text does at first hint that it will fulfill that expectation. But unlike the other two, the last brother cuts off his thumb, and then, at the last minute, he notices the lemon, and is able to save himself. This, of course, is the twist in the story that is thrown into sharp relief against the background of ṣabr, resulting in intensified surprise. It is also the twist that highlights the wondrous properties of the lemon, a familiar plant, known in both Oman and Basra.

In the accompanying narrative image, Abu Ja‘far is shown safely situated on the roof of his house, looking down to the garden below, where one of the snake charmers grapples with the snake. Although the illustration appears in the text during the account of the third brother, the image gives no visual indication of whether it is the second brother or the third brother who is depicted. One could say that this is in keeping with the text, which says that the third brother looked like the previous one. However, the point is not just that the brothers resembled each other, but that they were placed in what initially seemed to be the same situation.

Insofar as it can be interpreted as an illustration of either of two similar moments in the text, the narrative image accompanying the entry for the lemon in the c.1300 manuscript visually emphasizes the repetitive and cyclical aspects of the text. But it does this through a visual ambiguity of reference rather than visual repetition per se. For this reason, the image extends the temporal dimension of the reader’s visual encounter with the challenging situation that both the second and the third brother is faced, and moves it out of the sequence of events as related in the text. Though the pages from this manuscript are now loose rather than bound, the two images for the entry on the lemon tree would originally have appeared on the same double-page spread of the open bound manuscript. The second of them, the narrative image, would have been visible to the reader as he started to read the first, descriptive portion of the entry on the facing page. It would have remained visible as he proceeded through the narrative portion and through the tales of each of the brothers who can each be read into the image. The continuing visual availability of the image extends the reader’s experience of ṣabr, making it ongoing, rather than periodic as in the text. However, the temporal sequence of the textual story remains important to the role this image fills in inducing wonder in the context of the manuscript. By extending the reader’s experience of ṣabr beyond that induced by the text alone, the image intensifies the feeling of amazed and surprised relief when the text ultimately explains that the third brother survived. Ultimately, the image augments the text’s structural intensification of surprise.

**VISUAL REPETITION AND COSMIC TIME**

Repetition establishes patterns, whether these serve to allow extrapolation of the universal from the particular, as considered in the previous chapter, or whether they establish expectations and thereby heighten the surprise experienced when the pattern is disrupted, as considered in the example of the lemon story and the associated c.1300 images. But repetitions also play the
opposite role. They not only establish patterns, but also disrupt linearly established orders of events. The disruptive role of repetition, in both text and image, is particularly important when we consider how illustrated wonders-of-creation encyclopedias function as complete bound codices that induce wonder at the cosmos.

I have explained that the organizing framework of the illustrated wonders-of-creation encyclopedias was an Avicennian cosmographic framework, informed by a Neoplatonic model of creation by emanation. This frame serves to define how particular wonders relate to each other and to the universal cosmos, but at the same time, it also structures the reader’s experience of the text. Even though the reader can delve directly into the separate entries of the encyclopedia without following the sequential order of the frame, the frame is nonetheless a textual structure that suggests a coherence of the whole. In this sense its function is similar to that of the frame stories of several other texts which were often illustrated in medieval Arabic and Persian manuscripts. Though the frame story of *The Thousand and One Nights* is well known today, it was rarely illustrated until the modern period. Other texts that were widely disseminated in medieval Islamic literary circles, often in illustrated manuscripts, include the Arabic *Maqāmāt* (roughly “the stopping places”), the Persian *Haft Paykar* (Seven Princesses), and *Kalila wa-Dimna* (named after its jackal protagonists Kalila and Dimna), which, like the wonders-of-creation manuscripts, circulated in both Arabic and Persian versions. The underlying structure of a textual frame within which discrete parts are nested is common to them all.

The narrative characteristics of the wonders-of-creation manuscripts’ overarching textual frames are less obvious than those of these other titles. Their cosmographic structures do not feature characters, whether human or animal, embroiled in plots. Without a character-driven macronarrative or obvious plot, their organization may at first seem atemporal. I do not mean that they may seem ahistorical—the appeal of Avicennian cosmography definitely has a history. I mean, rather, that whereas the order in which the stories occur within *The Thousand and One Nights* is determined by the passage of time in Shahrazad’s extended negotiation for her life, the order in which the entries occur within the illustrated wonders-of-creation manuscripts is defined by the various realms of creation. Yet insofar as those realms of creation are classified according to a system that emerges from a model of creation by emanation, that system implies a temporal narrative of the origins of the cosmos. There is no clear frame story, yet the frame does have a temporal aspect, because it structures the relationships between the various wonders of creation within a hierarchy understood to have emanated in order in cosmic time.

Repetitions across the classification system disrupt that order. In entries concerning specific wonders of creation, Qazwini and Tusi both often repeat information about other associated wonders, even though those are separately treated under the classification to which they belong. The illustrations in some manuscripts, such as the 1280 *Wasit* manuscript and the two *Inju* manuscripts of Qazwini’s text, tend to ignore such textual repetitions, thereby upholding a consistent emphasis on the overall cosmographic order. In contrast, the illustrations in others, including the c. 1300 manuscript of Qazwini’s text, as well as the 1388 manuscript of Tusi’s text, give visual emphasis to some of the textual repetitions that undermine the classification of creation suggested by the textual frame.

The manuscript made in about 1300 includes four very similar images found in two different sections of the codex. The four images are all enthronement scenes featuring angels or jinn or both, and they are all visually prominent within the codex because of their large size. Three of these images show Solomon enthroned; one shows the Devil, Iblis, enthroned. Though enthronement scenes are of course a very common image type in this period, they are nonetheless quite unexpected and therefore notable within the context of this particular text. In this context, therefore, their basic similarities amount to a compositional repetition.

The first of the four prominent enthronement scenes appears in the chapter on angels and accompanies the entry on the Angel of Death (fig. 33). The enthroned ruler is Solomon, who wears a crown and a deep blue robe. His throne, atypically for an enthronement scene, is not positioned at the center of the image but rather slightly to the left to accommodate the great bulk of the Angel of Death on the right. The artist indicates the Angel’s great size by crowding him into the image space and by devoting the equivalent of fifteen lines of
text to the vertical length of his bent posture. Further, the Angel of Death leans over the throne, which would typically be the most prominent part of an enthronement scene. It is only within the left two thirds of the image that Solomon's throne is comparatively high and occupies a central position symmetrically flanked by smaller figures who attend him. These include a jinn, immediately to the right of Solomon's throne, and a man at the far left of the page, whose face is still visible despite significant paper loss.

The jinn, who is small, furry, and pug-faced, has horns and a light green robe and is tucked in between Solomon and the Angel of Death. He appears here even though the story that is being illustrated, in which Solomon's companion asks the wise ruler to summon the winds to rescue him from the Angel of Death, is not ostensibly about jinn. The inclusion of the jinn in the image underlines the compositional similarities between this image and the other three enthronement scenes in the manuscript. It also refers to Solomon's special relationship with the jinn. Solomon was said to have enlisted the labor and power of the jinn in the construction of his magnificent palace; further, his wife, Bilqis (as the Queen of Sheba is known in Arabic sources), was said to have been half human, half jinn.29

The jinn chapter appears in this manuscript, as well as in subsequent Persian translations that emphasize stories, but not in the manuscript made for Qazwini himself in Wasit in 1280, nor in the manuscript that was made in southern Iran in 1322. The first set of entries in the chapter on jinn describe specific jinn, but a subsequent section entitled, “amazing stories about jinn,” likayet ajiba ‘an al-jinn, presents a series of stories as entries.30

Three prominent enthronement scene illustrations appear among the illustrations of the stories on jinn. While the second and third of these, like the image of the Angel of Death, depict Solomon's court, the first does not ostensibly concern Solomon but rather Iblis, the Devil (fig. 34). Nonetheless, the image evokes Solomon in various ways. The accompanying text cites Jabir b. ‘Abd Allah as the authority who described how Iblis, whose throne stood on water, summoned his followers and questioned each of them in turn. In the image, Iblis, with no crown or robe but rather with horns, tail, and wings, is shown enthroned near the center. A series of blue waves across the bottom of the image space indicate water. The waves recall a widely circulated story in which Solomon's throne was also surrounded by water.31 The entry makes no mention that Iblis is a fallen angel, but his wings mark him as such in the image. He is flanked by three creatures, mentioned in the text in only the vaguest of terms, by the third person plural pronoun. In the image, “they” are depicted standing upright with animal forms, and therefore resemble Solomon's jinn. On the left side of the page, there is a bird-like jinn, and on the right, a donkey-like jinn and another animal-like jinn with a badly damaged face. Carboni describes it as “feline,” and it holds two fish.32 The bird jinn and the donkey jinn, like Iblis, also have wings; faintly sketched lines above the shoulders of the jinn holding the fish may suggest the tops of wings, but no wings were actually painted.

The next two enthronement scenes depict, again, Solomon's court. The reader is compelled to consider them in conjunction with the ones just discussed. The multiple enthronement scenes of the same ruler at different points in the codex immediately draw attention to the text's repeated mention of Solomon in both the angels chapter and the jinn chapter. Further, the illustrations of Solomon enthroned with his jinn in the jinn chapter are formally very similar to the scene of Iblis enthroned. The reader cannot fail to notice the similarities because the three images appear in direct succession in the manuscript. The enthronement of Iblis, surrounded by followers visually depicted as jinn-like creatures, appears on folio 99b (see fig. 34); the first image of Solomon and his jinn immediately faces it on folio 100a (fig. 35); and the second image of Solomon and his jinn appears on folio 100b (fig. 36), as soon as the reader turns the page.

In each of the images of Solomon enthroned in the chapter on jinn, the wise ruler sits in the middle,
flanked at the ground level by two figures on each side. In the first of the two images, these flanking figures include a canine jinn, two men, and a bird-like jinn (see fig. 35). The two jinn below are juxtaposed against two angels who fly above Solomon’s throne. In the second, there are no angels but only the four flanking figures (see fig. 36). These include a canine jinn; a man; and two jinn with anthropomorphic upper bodies, the lower bodies of birds, and the exaggerated features conventionally used to depict savages. One of the two savage-bird jinn has wings, ambiguously like those of both angels and birds. Both images of Solomon enthroned with his jinn share with the enthronement of Iblis the details that in each case at least one of the jinn on the right side of the page resembles a quadruped, and the jinn on the far left side of the page has the legs of a bird.

The jinn shown flanking the thrones of Iblis and of Solomon in these images – hybrid, standing upright, flanking the ruler, holding objects – recall the attendant figures from the neo-Assyrian wall reliefs of ancient Mesopotamia, such as those from the Northwest Palace of the Assyrian King Ashurnasirpal II (fig. 37). The ancient site of this palace, Nimrud, later became the location of Mosul. While most if not all of Ashurnasirpal’s palace would have been buried in the medieval period, similar images are also found on ancient cylinder seals. These were small objects which probably did emerge from time to time when the inhabitants of medieval Mosul dug into their soil. In other words, the jinn in the enthronement scenes of the c.1300 manuscript visually recall some of the oldest throne attendants whose images could have been known in medieval Iraq. In medieval Iraq, ideas of the appearance of the jinn who attended the ancient courts of Solomon and Iblis were evidently drawn from local ruins of antiquity.

It is no accident that an antique compositional type is used as the basis of a pattern of visual repetition that disruptively links angels and jinn across the hierarchical cosmographic order of the manuscript. To explain why, it is useful to consider briefly an idea...
recently put forward by two historians of Renaissance art. Alexander Nagel and Christopher Wood argue that people in medieval and Renaissance Europe understood visual replicas of very old images according to a double logic: even when they knew a replica had been recently made, they simultaneously considered it to authentically possess the antiquity of the lost original. I would argue that a related mode of thinking also existed in the medieval Islamic world, but that it was perhaps more internally logical than Nagel and Wood’s analysis might suggest. It seems likely that in the medieval Islamic milieu, ancient images, whether replicas or originals, were conceptually linked with mutability – not just of time, but also of cosmic space and hierarchy. This was because they were perceived as ultimately hailing from a vaguely distant past, closer to the era of cosmic origins than the present. In ages closer to cosmic origins, the various realms of creation were understood to have been much closer together in space, time, and cosmographic status. It was through their connection with that era that ancient images, even when they appeared as replicas, were perceived as potentially capable of bringing normally lost possibilities back within reach of the present.

The repetition of an antique compositional type across the four enthronement scenes in the c.1300 manuscript links not only Solomon and the Devil, but also angels and jinn. This is in spite of the way the two classes of beings are clearly separated in the cosmographic hierarchy laid out by the text’s frame. The visual insistence on the association interestingly suggests a strong preference for one of two opposing views on the origins of jinn. These two views were laid out in later versions of Qazwini’s text, although, as the page in question is missing from the c.1300 manuscript, it is not possible to be certain whether they were also laid out in this early fourteenth-century version. In the beginning of the chapter on jinn as it appears in later manuscripts, the text explains that one group belonging to the Mu'tazila believe that both jinn (jinns) and devils (shayātīn) are attributable to mankind. Another group – the text continues without explicitly naming them – are of the opinion that God created the angels from the light of fire, the jinn from its flames, and the devils from its smoke, and that all these are types the viewer cannot see. Yet, the text continues, all these beings can take on whatever forms they wish, and the viewer can see them when their forms are condensed. The cumulative impact of the four enthronement scenes, hinging on an association of angels and jinn, seems to accord well with this second view, in which the angels and the jinn are linked like siblings by their respective creation from different aspects of fire. The distribution of illustrations within the codex of the manuscript made around 1300 also seems to resonate loosely with the statement presented as part of the second view that angels and jinn are visible when their forms are condensed. In both the angels chapter and in the jinn chapter, dense clusters of large images follow each other closely in the manuscript.

The introductory discussion for the chapter on jinn continues with a report on the early history of jinn that explains how both the Angel of Death and the Devil Iblis are linked to them. According to that report, the jinn inhabited the earth before Adam, and God favored them with power, prophecy, religion, and law. But they became arrogant and strayed from their prophets, so God sent an army of angels to earth, and the jinn scattered to the peripheral regions, such as islands, and many of them were taken prisoner. One jinn youth was taken prisoner by the Angel of Death, who raised him among the angels. The jinn youth stayed among the angels for a long time, until God told the angels to bow before Adam. The one who did not, Iblis, was of the jinn. In other words, the Devil, a fallen angel, was originally a jinn raised among angels. This happened in a simultaneously distant and recognizable age, vaguely before the time of Adam, and after the establishment of earth, prophecy, religion, and law. The four prominent enthronement scene images considered here are like the surprises in 'ajāb stories considered earlier in that they amaze by disrupting established structures of time. But the disruption prompted by the enthronements has more resonance because it challenges the order of the cosmos upheld in the overall organization of the text. Compositionally patterned after an antique visual template, the enthronement scenes pull the reader’s attention back to a time in which the very order of the cosmos was thought to have been in flux.
In the 1280 manuscript, the painting accompanies the encyclopedia entry for **tannin**, which is found in the chapter on sea creatures. In accordance with Arabic rules of alphabetical order, this entry occurs immediately after the crocodile (**timşāb**). Qazwini’s entry on the **tannin** begins with a physical description:

**al-Tannin** It is an animal of gargantuan nature, terrifying to behold, with an immensely long body, a big head, flashing eyes, a wide mouth and belly, and many teeth. It has gulped countless animals. The animals of the sea are terrified of the severity of its strength. When it moves, the waves of the sea surge forth because of its swimming. When it fills its belly with animals, it gets indigestion, and then it curls up and raises its middle out of the water like a rainbow, in order to digest whatever is in its belly in the warmth of the sun. Some say that they saw a fallen **tannin**, and found that its length was approximately two farsangs. Its coloring is like that of a leopard. It is scaled like a fish, and it has two great wings like a fish’s fins. Its head is like a big hill, and like a person’s head. It has excessively long ears, and very big round eyes. From its neck sprout six long necks, each about twenty cubits long, and each [ending] with a snake’s head.  

The entry then continues with a report of a story about the **tannin** which confirms what the physical description already suggests: this is exceptionally strange creature.

Shaddad b. Aflah al-Muqri said, “I was at a gathering with ’Amr al-Bakkali, and talk of the **tannin** came up. He said, ‘Have you heard about the **tannin**?’ and we said, ‘No.’ He said, ‘It was an insubordinate land snake, eating the beasts of the land, and so it grew. As its depravity increased, the beasts of the land recovered from it, for God sent an angel to haul it off and topple it over into the sea. Then it did to the beasts of the sea what it had done to the beasts of the land, and its body got bigger. Then the beasts of the sea recovered from it, for God sent an angel to pull its head out of the sea and lower a cloud over it. Then [the cloud] carried it off, and dropped it into the land of Gog and Magog.”
The text then loops back to include a narrative detail that brings the tannin’s behavior into the specific and known geographical location of Antioch.

The cloud had carried it into the sea of Antioch. Its body had beaten against the walls of the city, and more than ten of its towers had been ruined.40

The entry finally concludes with more general information about the tannin’s characteristic behavior, and a reiteration of the idea that its destructive force is ultimately contained.

It is said that the clouds have been charged with grabbing it whenever they see it, just as the magnet grabs iron. So it does not raise its head from the water, because it is afraid of the clouds. It does not come out except in the extreme heat of summer. And thus the world has recovered. As for the characteristics of its parts, it has been declared that eating its meat causes courage. Helaius [?] said: cleaving it apart and putting it on one’s bites [or bites from it] provides a clear benefit.41

The 1388 Tusi manuscript also includes Bakkali’s story, in a shorter form and in a different context.

Clouds have the power to draw dragons from the seas and to hurl them into the wilderness. The tannin was in the deep of the sea and wouldn’t raise his head for fear of the clouds. As the magnet stone pulls iron, so the cloud pulled the head of the tannin to itself. 'Amr al-Bakkali said that the tannin was an insubordinate dragon that ate snakes. Then, it went into the sea and ate fish and got really big, until its tail was a farsang long. The beasts of the sea [cried out] to God, lamenting its depravity. So God sent a cloud which drew [the tannin] to itself, and cast it into the land of the Gog and Magog, and it became nourishment for them.42

This passage appears immediately before the 1388 painting, suggesting that the wild people in the painting may be identified as the Gog and Magog. But critically, neither the passage nor the painting appear within any entry for “tannin.” Rather, they appear under the entry for “clouds” in the chapter on “air.” The appearance of this painting in this location, then, does not just complicate the visual presentation of the tannin itself with the inclusion of the Gog and Magog, it also complicates the textual presentation of the cloud. Whereas the text incorporates Bakkali’s story in such a manner that it serves to emphasize a larger point about the power of clouds, the image draws attention away from this point, and toward the messiness of the tannin’s role as nourishment for the Gog and Magog.

The texts of two manuscripts present Bakkali’s story differently, establishing different foils against which the images function. Qazwini’s version emphasizes the various stages of the tannin’s unruly lifecycle, going as he does from land to sea to air to the land of Gog and Magog. The creature’s lifecycle involves transgression of the order of the realms of creation, the very order delineated by Qazwini’s chapters. By contrast, Tusi’s text frames the account within a larger point about the power of clouds. But in both cases, the images work against the accompanying text, the 1280 image bringing the tannin back into the cosmographic frame and the 1388 image pulling the reader’s attention away from the entry on the cloud and the larger chapter on the air to which it belongs.

Both tannins certainly fit Qazwini’s definition of “an oddity (al-gharib),” as “any wondrous matter which occurs rarely and is contrary to what is commonly known, witnessed, and written about.”43 Qazwini anticipates his readers will doubt such oddities, yet he admonishes them to take them seriously. In the following couplet, he suggests that no matter how unlikely an oddity might seem, much is to be gained from seeking and acknowledging whatever truth it contains.

I heard something amazing; I was considering it a fantasy of sleep or a flight from the night. But when I got accustomed to it, I heeded its truth, and I saw it as a faithful friend, like one with sound advice.44

In Arabic, “advice” and the verb for the interpretation of dreams both come from the same root. The last word of the couplet therefore emphasizes the inextricable link between dreams and understanding. Qazwini’s insistence on the importance of what we might deem a kind of poetic truth is in keeping with medieval theories of the imagination as a faculty that could apprehend normally invisible truths along with visible ones. According to these theories, the faculty of imagination, which allowed eventual understanding
from initial sense perception, also offered the possibility of understanding through dreams. Nevertheless, How might the 1280 painting of the tannin have shaped Qazwini’s students’ sense of the truth or sound advice that they could glean by learning about this terrifying creature? Encountering the painting in the 1280s, Qazwini’s students would have recognized the depicted creature as a dragon. Though recognizable, the image would have been quite striking to them, because it was exactly at this time that the Chinese dragon motif was first introduced into Islamic art. In 1280, the motif was novel enough that Qazwini’s students would have perceived the image as a specifically Chinese dragon, or, more loosely, as a dragon from the East (fig. 40). These students were the survivors and the children of the survivors of the Mongol Conquest. Seeing the 1280 image of a ferocious beast from the East as the visual counterpart to the textual account of the rapacious tannin, who ravaged the creatures of the land and the sea, they could hardly have failed to interpret it as the metaphorical image of the brutal Mongol armies. This interpretation would have been even more obvious in the thirteenth century than it is now.

There is a certain tension between this interpretation, which identifies the tannin with a specific historical timeframe, and the interpretation of the iconic image as an image which puts forward a timeless tannin. That tension parallels the way in which the conquered intellectual elite and their counterparts living in the Mamlik lands from the mid-thirteenth to the early fourteenth centuries understood the Mongols. Though the Mongols were evidently present in lived historical time, they were also identified with timeless forces of chaos. A world map now in Oxford clearly identifies the Mongols with the Gog and Magog (fig. 41). The map, which like most other medieval Islamic maps is oriented with south at the top, shows Africa in the upper half, Europe in the lower right, and Asia in the lower left. A curve in the far lower left of the map, whose northeasterly location generally corresponds to that of the Great Wall of China, is identified by an inscription as “Barrier built by Alexander the Great.” Medieval Islamic literature of the Alexander romance emphasizes that Alexander the Great built a wall to defend civilization from the Gog and Magog. On the map, additional inscriptions indicate that the people living behind Alexander’s wall are the Gog and Magog. It may or may not have been a coincidence that the year in which Qazwini’s Wasit manuscript was completed, 1280, was the Mongol “year of the dragon.” Further, Genghis Khan himself had responded favorably to a missive which addressed the Mongols as “the Dragon Court.”

As a metaphor for the forces of chaos who engage in combat with the divine, and who seek to destroy civilization itself, the tannin and the variation tannim had a deep history in the literatures of the region. In the Book of Ezekiel, Yahweh proclaims his punishment of Pharaoh Hophra for the fall of Jerusalem: “You are like a lion among the nations, You are like a dragon [tannim] in the seas . . . I will haul you up in my dragnet . . . I will strew your flesh upon the mountains, I will fill the valleys with your carcass.” In a struggle over civilization itself, divine forces of order battle with dragons, the forces of chaos. The divine force attacks the dragon from above. At the end of the battle, the body of the dragon is rent apart.
The dragon is like a lion, or a serpent, or like both. These tropes occur not only in the Hebrew Bible, but repeatedly characterize dragons in ancient Mesopotamian mythology.50

Qazwini does not specifically mention his sources for the tannin, but the parallels to Ezekiel are clear. Qazwini’s tannin is so unruly that God has to send an angel to fight it with a cloud who hoists it through the sky. The entry ends with reference to the rent flesh of the tannin. Its appearance is compared to both feline and aquatic species. That Tusi also includes Bakkali’s story suggests that Qazwini likely drew his information about the tannin from widely circulating traditions. But was he aware that these traditions invoked past cultural epochs? For a number of reasons, it seems likely that Qazwini would have understood that the tannin was an ancient creature, and known that it was associated with Ezekiel. Ezekiel was generally known in educated circles, and he would have been particularly well known to Qazwini. Though the name Ezekiel does not appear in the Qur’an, the prevailing view among Shafi’i scholars of the Ilkhanid period was that the prophet the Jews called Ezekiel was one and the same as the figure referred to in the Qur’an as Dhul Kifl. It was understood that this was the person buried at a shrine known to Jews as the shrine of Ezekiel and to Muslims as the shrine of Dhul Kifl.51 This shrine was in Qazwini’s time, and remains today, in Kifl, Iraq. Kifl lies only about 20 km south of Hilla, Iraq. Qazwini knew the area well; for two years before moving to Wasit, he had lived in Hilla and served as its chief qadi.52 During his sojourn in Hilla he would also have found himself just south of the site of ancient Babylon, within 10 km of its ruins. From a medieval Islamic point of view, Mesopotamian history, which we tend to view through the
frame of “the Ancient Near East,” was instead perceived through the frame of the history of the prophets. Specifically, Babylonian history was most readily approached through the experience of exile of the Jewish prophets in Babylon.

In *The Monuments of the Lands*, Qazwini gives a clear sense of the place of the historical Babylon in the life of his own time. He mentions Babylon’s antiquity almost immediately, saying that it “was on the shores of the Euphrates in the land of Iraq in ancient times.” Then, he comments on the sites there that attract visits from his contemporaries. In keeping with a medieval Islamic manner of understanding antiquity through the prism of the history of the pre-Islamic prophets, these sites are not defined by their relevance to Babylonian society but rather by their place in the traditions of the Abrahamic religions. According to Qazwini, Christians and Jews of his own time go to Babylon to visit the den of Daniel. Qazwini does not elaborate, but the reference is to the lion’s den in which Daniel miraculously survived imprisonment while Darius ruled Babylon (Daniel, 5:13–6:23). He then relates that most people (by which he means Muslims, who were the majority of the population) go to Babylon to see the well of the fallen angels Harut and Marut (figs. 42, 43).

Given the proximity of Babylon and Kif to Hilla, Qazwini and the artist or artists who painted his 1280 manuscript must have been aware that the *tannin* had something to do with Ezekiel and with Babylon. They would also have had access to visual models in Babylon’s ruins. Indeed, when Qazwini mentions that six long snakes sprout from the *tannin*’s neck, he includes a detail that recalls the seven-headed Mesopotamian serpent dragon *mumasabhu*. This is iconographically recognizable from its seven long snake necks each ending with its own head. This makes it all the more striking that the 1280 painting depicts the *tannin* as a dragon from the East, and in so doing specifically identifies it with the Mongols. What now becomes clear is the degree of visual bombast in this interpretation. By illustrating the 1280 manuscript with one of the earliest examples of the Chinese dragon type in Islamic art, rather than with the more obvious choice of Ancient Near Eastern dragon iconography, the painter was hitting his audience over the head, making it impossible for them to miss the point: the Mongols were the *tannins* of the age, the very force of chaos against civilization itself.

The specific shape of the 1280 dragon image would therefore have suggested to Qazwini’s students that the story of the *tannin* contained the larger and invisible truth concerning the Mongols. In those students’ lived historical experience, the Mongols were part of their visible thirteenth-century present. But if the specific form of the image identifies the *tannin* as a monstrous force from the East, it is the iconic format in which that form is presented within the context of the 1280 manuscript that contains this chaotic force within the larger invisible truth of cosmic order. The same format is used for other more obviously containable wonders throughout the manuscript. As the iconic format of the image serves to uphold the order of this hierarchy, it also reinforces the idea that even this most peculiar of oddities can be contained. One might object that the *tannin* does not properly belong in the chapter on sea creatures because he is not exclusively a sea creature; but the iconic format of the painting and the general textual structure of the encyclopedic cosmography together insist that he is.

In the 1388 Tusi manuscript, the roles played by the text and image in the 1280 Qazwini manuscript respectively are inverted. In the 1388 Tusi manuscript, it is the text that accompanies the painting of the *tannin* that serves to contain Bakkal’s story within the larger cosmographic order. The text does this by framing the story in such a manner that it elucidates a larger point about clouds, which in turn fit into a larger chapter on the air. It is the narrative image in the 1388 manuscript that pulls the attention of the reader/viewer away from how the cosmos fits together, and toward the particularities of the Gog and Magog deriving nourishment from the banished *tannin*.

These changes accord with the circumstances under which the 1388 manuscript was made. By the late fourteenth century, the motif of the “Chinese dragon” had been so fully absorbed into Islamic art that it no longer stood out as a bombastically eastern reference. Likewise, powerful princely families such as the Jalayirids who traced their lineage to the Mongols had become active producers of Persian court culture. Sultan Ahmad was not just an assiduous patron of the arts of the book, but also wrote his own Persian poetry. The narrative image diverts attention from the cos-
mographic order; the Gog and Magog caress their cloud-fearing tamin, so that rather than appearing as a present danger, the tamin appears as the pet of a small and distant group of wild people. In the context of the 1388 manuscript, this narrative image serves as one of many indications that the princes of the Jalayirid family are culturally conversant with the same references as the authors and artists they patronize; they are familiar with the motif of the “Chinese dragon” and they know the recurring characters of Islamic literature such the Gog and Magog. Far from serving as a register of this family’s cultural alterity, the image asserts their full participation in Persian court culture.

By the late fourteenth and early fifteenth centuries, when wonders-of-creation manuscripts generally give more emphasis to both visual and textual narratives than was previously the case, we also find that a greater proportion of these manuscripts are being produced in Persian rather than in Arabic. The increased emphasis on stories is associated with, but not entirely correlative with this shift. The c.1300 manuscript that was
likely made in Mosul is in Arabic and serves as an important reminder of the importance of wonders that unfold against time from the beginning of the tradition.

In Ilkhanid Mosul, the link between the administrative and religious bureaucracies had been particularly strong, because some of those teaching Shi'i law and serving as qadis were descendants of its first postconquest governor. The class of intellectual bureaucrats in Mosul were leading provincial figures for whom it was expedient to stress the contacts between the geographically dissipated religious bureaucracy and the central Ilkhanid administrative system. This might explain why this is the manuscript in which we first find a eulogy to Juwayni that implies his patronage of Qazwini.

That audience's comparatively more direct interest in the central Ilkhanid political system coincides with the emphasis on narrations found in the text and illustrations of the c.1350 manuscript. In the case of this manuscript, the additional focus on narrative can be seen in a broader context of a growing interest in the illustration of narrative texts among the ruling Ilkhanids. The Ilkhanid interest in narratives is evident in the kinds of texts that were produced as illustrated manuscripts at the central Ilkhanid courts. These included histories such as *The Compendium of Chronicles* (*Jāmi‘ al-Tawārikh*) and epics such as *The Book of Kings* (*Shāhnāma*). Even beyond the court, though, readers whose cultural preferences and habits were partly conditioned by those of the Ilkhanids with whom they claimed indirect association, apparently approached Qazwini's text with a predilection for the stories it contained.

Over the course of the fourteenth and fifteenth centuries, Turkic-Mongol princely families following in the Ilkhanids' footsteps became more deeply rooted in the eastern half of the medieval Islamic world which they ruled. That the Jalayirid prince Sultan Ahmad, the patron of the late fourteenth-century manuscript of Tusi's wonders-of-creation encyclopedia, wrote poetry in Persian, signals the manner in which families such as his participated in the production of distinctive late medieval and early modern Islamic court cultures often described as Perso-Turkic.

The increasing prevalence of narrative images in the wonders-of-creation manuscripts over the course of the fourteenth century inflected what wondering at creation while reading these manuscripts meant. Both narrative images, and *'ajā'ib* that are stories that play out against the order of time, depend for their psychological impact on the structural intensification of surprise. In this respect, both bear a loose similarity with *gharā'ib* (oddities) such as the *tannin*, that subset of wonders that are themselves particularly strange. Increased attention to narrative images and *'ajā'ib* stories in these manuscripts meant that the reader's experience of wonder was comparatively less an experience of awe than had previously been the case, and more an experience of surprise.

As this occurred, to what degree did the philosophical underpinnings of the wonders-of-creation manuscripts remain relevant? When it comes to the increased emphasis on the stories within the texts, it is important to remember that there was nothing incongruous about presenting philosophical ideas through entertaining narratives. This is clear from the existence of texts of philosophical *adab* (that is, entertaining literature presenting information that the educated person should know), such as the allegory *Huwwa b. Yaqzan* (the proper name of the protagonist, meaning "Alive, son of Awake") by Ibn Tufayl (d. 1185).

When it comes to the narrative images, an answer to this question must begin with a consideration of how these images induced surprise. Although some of them might appear surprising even if removed from the context of the manuscript from which they came, such a reading would be ahistorical because these paintings were not encountered separately like framed paintings on a wall, but were rather encountered within the written and painted pages of a full codex. In that context, the way they induce surprise is to visually complicate the text's presentation of how time unfolds. As in the images associated with the *rukhb* bird's rescue of the debtor from Isfahani, or with the story concerning the lemon tree, they can do this individually with respect to the way time unfolds within a specific astonishing anecdote related within a single encyclopedia entry. However, as in the various images of Solomon and his court, they can also do this through their formal relationships with each other and with respect to the way cosmic time unfolds across the codex. In some cases, such as the 1388 image of the *tannin* and the Gog and Magog that accompanies Tusi’s encyclopedia entry for the cloud, even an individual image that
illustrates a specific astonishing anecdote also disrupts temporal cosmic order. It is therefore highly relevant that even in the case of Sultan Ahmad’s 1388 Tusi manuscript, which is dominated by narrative images, the overall textual structure of the book remains a structure ordered by Avicennian classifications of the cosmos. Unlike the iconic images that collectively map that structure, narrative images pull the reader’s attention away from it, but in so doing, they nonetheless depend on that structure as their reference point.

The next two chapters will show that despite the increasing degrees of emphasis they place on wonders that unfold in time and on wonders that are oddities, the wonders-of-creation manuscripts made for princes from the late fourteenth through the mid-sixteenth century are not to be dismissed as mere courtly entertainment, but are rather best interpreted through enduring theoretical principles which underlie models of vision, astrology, and talismans. These principles are often misunderstood as intellectually shallow popular magic. However, they ultimately depended on ideas that had become widely accepted in what was in that period establishment Islam. These included not only Ibn Sina’s theorization of Islamic Neoplatonic ideas of sympathy but also his theorization of Aristotelean ideas of the perceptive soul.
کنیست ازان می‌فکنی که حفار آنها اکثریت نازلات بر اثر دیکه طول و مزمنی‌ای از زندگی اختصاص دانست که در کنار یک دیکه که اما دیگری داشته و می‌گذرد نماهایی از کنار خارج می‌کند. آنچه دیگری نیست از درون دیکه قرار گرفته ای در آن یک قباد به همراه دیگری از درون دیکه قرار گرفته برق باشد. گرچه فرموله که بیشتر از دیگری است، اما در اینجا دیده می‌شود که مثلاً دیگری در درون دیکه قرار گرفته باشد. گرچه فرموله که بیشتر از دیگری است، اما در اینجا دیده می‌شود که مثلاً دیگری در درون دیکه قرار گرفته باشد.
Mirrored Visions

PENUMBRAL WONDERS AND THE POSITION OF THE VIEWER

And we have put together this book, because not everyone can travel the horizons to see what he has not seen. We have told of the wonders of the world that we have seen and heard, and when possible, we have made pictures of them.

Muhammad b. Mahmud b. Ahmad al-Tusi

If there were reality in a reflection, then if the observer were to move from one place to another, he would see that thing according to its first description, and this is not the case.

Zakariyya b. Muhammad al-Qazwini

In the 1388 Tusi manuscript made for the Jalayirid Sultan Ahmad, the image accompanying the entry for a mountain known as Mount Qaf, shows Alexander the Great in a pale blue tunic and small golden crown. He follows a resplendent angel, who lays his hands on the mountain as he turns back toward Alexander (fig. 44). This is the only painting in the chapter on mountains. The text relates that as Mount Qaf is located on the horizon, it normally lies beyond reach, but Alexander the Great, having been led there by an angel, was granted exceptional access to this wondrous sight.

In some ways, the image reinforces and even extends this account. Through his posture—arms outstretched toward the mountain, wings extended as if to frame it, all the while gently turning back toward Alexander—the angel seems to display the mountain not only to Alexander, but also to the manuscript's reader. For that reader, the exceptional appearance of the image of Mount Qaf within the otherwise unillustrated chapter on mountains echoes Alexander’s exceptional access to it as related in the text. But at the same time, the painting hints that Alexander’s access—and the viewers'—is somehow incomplete. The angel touches the mountain, whereas Alexander remains in the corner at a slight remove. Indeed, the angel's body, which is comparable to the mountain in size, remains between Alexander and the mountain. The angel's body does not come between the viewer and the mountain, but in a painting tradition in which spatial distance is conventionally plotted vertically within the
image space, with nearer things being depicted at the bottom of the image and further things at the top, the mountain’s position in the middle and upper registers of the image suggests that the viewer of the painting, like Alexander, also stands back at a slight remove from the ultimately inaccessible Mount Qaf.

Insofar as it reinforces the text entry’s account of exceptional access to a normally inaccessible wonder, this painting demonstrates one of more provocative potential roles of images in the 1388 Tusi manuscript. That is, it suggests that the images are there in part to make invisible wonders visible. This potential role for the images is also implicit in a passage from Tusi’s introduction, in which he says that “we have put together this book, because not everyone can travel the horizons to see what he has not seen. We have told of the wonders of the world that we have seen and heard, and when possible, we have made pictures of them.” Tusi’s book includes numerous wondrous sights located on the horizons of experience, the world, and the cosmos. Metaphorically, these may be described as penumbral wonders. In invoking the penumbra, that is, “the partially shaded region around the shadow of an opaque body... esp. that surrounding the total shadow of the moon, or of the earth,” I intend here simultaneous suggestions of the earth’s celestial margins, and of inaccessible sights. Mount Qaf is such a wonder.

Yet even as the painting offers the viewer an image of Mount Qaf, it calls attention to the limits of Alexander’s access to this wondrous sight, and so complicates the idea that paintings can provide unusual visual access. It signals that even if it offers some visual access to that which is otherwise invisible or difficult to see, that access is incomplete. That Tusi may have recognized this tension in what the presence of paintings in his book could and could not do is suggested by one of the several titles he gave his book. In addition to calling it The Wonders of Creation (Ajā’ib al-Maḥkūmāt) and The Book of Wonders (Ajā’īb mā’āl) he also referred to his book as The World-Showing Glass (Jām-i Gīti Namā). In late medieval and early modern Islamic court culture, the “world-showing glass” was understood as a specific object which gave exceptional rulers exclusive views of the whole world. Some versions of Tusi’s text explicitly state that his book of wonders as a whole is a description of a world-reflecting mirror that had been presented to Alexander.

In calling his book The World-Showing Glass, Tusi suggests that illustrated manuscripts of his book are like optical instruments that allow access to inflected visions – not only of what is reflected in them, but also of what is seen through them. The paintings they contain play a role that is theorized in terms of mirrors and translucent materials. Like the various sights that can be seen in a mirror or through a translucent material, the paintings reveal much that cannot be seen directly... but always with some distortion. And, as in a mirror, the degree to which the viewer encounters the revealing or deceitful qualities of any given image depends very much on how he positions himself with respect to it. As will be explained, the painterly tradition within which the 1388 manuscript was made is such that the means by which the viewer positions himself with respect to the paintings is psychological or ethical rather than physical.

This suggests a rather different role for images than that played by the iconic images in the early Qazwini manuscripts, particularly the 1280 Wasit manuscript. If in the 1388 Tusi manuscript, painting theoretically functions as an optical tool, in the 1280 Qazwini manuscript, it functions as a tool of intellectual abstraction. This important difference holds true even though the Qazwini manuscripts also include numerous paintings of invisible wonders. Like Tusi, Qazwini does note that many created wonders are invisible; unlike Tusi, he notes this as a basic structural fact of the cosmos rather than as an intriguing challenge. In his systematic definition of existents he notes:

Existents are divided into those whose source we do not know and upon which we cannot look – for how many of the things that exist are there that we do not have knowledge of, as God the Exalted said: “He has created other things beyond your knowledge” [Qur’an 16:8] and into those whose beauty we know but whose details we do not. These are divided into what sight (baṣar) can perceive and what it cannot. Some such that it does not perceive include the [celestial] throne and its base and the angels and the jinn and the devils and so on. Vision (naẓār) is held back, restricted from these things, and we cannot say anything about them except
what has been confirmed in the texts and the traditions and in traces.\textsuperscript{9}

Qazwini invokes invisibility as a classificatory criterion; Tusi invokes it as an enticement. Sultan Ahmad's court, for which the 1388 Tusi manuscript was made, was a milieu in which revolutionary shifts in Persian painting history occurred. The paintings this manuscript contains engage with the problem of the viewer's psychological position in a manner that is not evident in the previous on-the-fly manuscripts, but which would remain of interest in the subsequent trajectory of Persian painting. This chapter begins by examining the broader cultural reference invoked by Tusi's metaphor of the world-showing glass. It then considers how the paintings in the 1388 manuscript engage with that metaphor as a theorization of painting. It then compares the theorization of mirroring as it relates to painting in the 1388 Tusi manuscript with questions of the viewer's position, mirroring, and painting in the early Qazwini manuscripts. The comparison shows that while the metaphorical comparison of painting to mirroring was long established in Islamic literature, the very different ways in which the paintings in the early Qazwini manuscripts and the 1388 Tusi manuscript engage with that metaphor point to broader shifts in Islamic manuscript painting. The paintings in the 1388 manuscript bring the theoretical implications of Tusi's comparison to bear on what were at the time relatively new visual problems. As a result, the codex itself serves as an optical tool and an instrument of human agency in a manner that previous manuscripts in the genre had not. Consequently, its paintings induce wonder differently than previously.

THE WORLD-SHOWING GLASS

In the middle of these coats [that is, in the center of the eye] lies the crystalline coat [the crystalline humor], which is like a mirror, partaking equally of the nature of air and of the nature of water.

Ibn Rushd\textsuperscript{10}

According to medieval and early modern Islamic literary and courtly tradition, the "world-showing glass" was a physical object in which reflections of the whole world were visible. As an optical instrument, its first and foremost quality was that it was \textit{sām}. This Persian word, like the English "glass," can mean a drinking vessel, an object made of glass material, or a mirror. When we think of a mirror, what comes to mind is the modern flat glass mirror with an evenly reflective surface. Our mirrors are backed with a metallic silver coating. The process used to make them was not invented until the nineteenth century, though from the sixteenth century on, somewhat similar mirrors were made out of flat glass backed with a tin and mercury amalgam.\textsuperscript{11} But the range of medieval mirrors was far greater and so was the range of the visual effects of mirroring.\textsuperscript{12} The wide range of the kinds of things that might have been considered as mirrors is implicit in the term \textit{mirāt}, used in both Arabic and Persian. Derived from the Arabic verb "to see," it literally means, "an instrument of seeing."\textsuperscript{13} Mirrors could be made of opaque materials whose surfaces, often curved, might be partly dull as well as partly reflective, catching shadow as well as light. They could also be made of translucent materials which changed not only the appearance of things seen on their reflected surfaces, but also the appearance of things seen through them, and sometimes having prismatic effects. Most surviving objects now recognized as medieval Islamic mirrors are metal, generally with either concave or convex surfaces. Their degree of reflection depends on their degree of polish. In addition to these, medieval Islamic literature also calls attention to mirrors made of materials which, while they may have reflective surfaces, may also be transparent or translucent - crystal, glass, and pools of water or wine.\textsuperscript{14}

Literary references to these emphasize not only that which may be seen both on and through instruments of seeing, but also the simultaneous abilities of mirrors to reveal and to deceive. One example is the widely disseminated medieval Islamic account about what happened when Solomon decided to trick Bilqis into walking on a reflective surface so that he could find out whether or not the rumor that she had hairy legs was true. On the occasion of her visit to his court he had prepared a special floor of glass above water, with fish swimming below, and she had to walk across this floor to approach his throne. Bilqis fell for the trick, and pulled up her skirts.\textsuperscript{15} The capacity of the reflective glass floor to reveal otherwise inaccessible sights would pre-
umably have sufficed for Solomon's purposes, but in
the event it was the capacity of the translucent glass to
negate itself from Bilqis' perception, making her think
that she would walk through the water and fish below,
that prompted her make her legs directly accessible to
Solomon's sight. Similarly, among the numerous visual
tricks associated with Mani is a crystal surface that
convincingly presents itself as a body of water. In dif-
ferent tellings, Mani is sometimes the trickster and at
other times the tricked, but the reflective and translu-
cent crystal surface remains the simultaneously re-
vealing and deceiving optical device. 16

The world-showing glass was also an optical instru-
ment of both reflection and refraction. In Arabic lit-
erature before the eleventh century it appears as a mir-
ror that was shattered and reassembled as it passed
through a series of owners including Adam, Solomon,
and the Umayyad and Abbasid treasuries. 17 In occa-
sional instances, it was envisioned as an architectu-
ral form. Writing in Persian prose in the twelfth cen-
tury, Tarsusi describes Alexander's lighthouse as a tower
with mirrors and identifies it as Jamshid's glass (jām-i
Jamshid). 18 However, it was generally understood as
an object. In the Persian poetic tradition that was
central to the literary canon of the Perso-Turkic courts
such as Sultan Ahmad's, it is figured as either a mirror
or a cup. In the banquets and ceremonies of the same
courts it is figured specifically as a princely drinking
vessel. In the Persian tradition, exceptional ancient
rulers had been given this object: in different accounts
it appears as a prized possession of Jamshid, Solomon,
Kay Khusraw, and Alexander the Great.

In the Perso-Turkic courts, courtly accounts inter-
sected with literary ones to suggest that this object
was both actual and elusive. This object was under-
stood as a single physical entity that had passed from
one great legendary ruler to the next. The greatest of
contemporary rulers might join this list of legendary
rulers by coming into possession of it. But crucially,
part of what made contemporary rulers' occasional
claims of possessing the object powerful was a sense
of exclusivity, and this depended on its elusiveness. In
keeping with this, it was an object that repeatedly dis-
appeared. Like Adam's mirror of Arabic tradition, it
was shattered, lost, found, and reassembled, and like
the Holy Grail of medieval Europe, the importance of
the world-showing cup lay largely in its generally
remaining out of reach. The cup was a powerful polit-
cal symbol in medieval and pre-modern Islamic
courts precisely because of the near paradox that
while its actual physical existence could not be dis-
proved, its history was necessarily mysterious, elusive,
and perpetually incomplete.

The combined effects of passing references to the
world-showing glass in different accounts together
hinted at the possibility of constructing for it a history
of ownership in which legend wove in and out of his-
torical reality. The cup's power required that it should
have what we would now refer to as a prestigious
provenance, but also that this provenance should be
spotty. It is worth sketching one of the possible outlines
of this provenance not in order to argue that an authen-
tic world-showing cup existed, but rather to show the
powerful implications of a cultural trope that emerged
from a complicated and on-going symbiosis of literary
tradition, court ceremony, and actual objects.

The most common name of this object in Persian
literary tradition was the “glass of Jamshid,” or jām-i
Jamshid. The name signals that its prestigious but
spotty provenance began with the great Jamshid of
ancient Persian mythology. Jamshid was credited with
triumphing over the demons, called diw in Persian,
inventing the crafts, and building a proverbially mag-
nificent palace. In the medieval Islamic world there
was a tendency to conflate Jamshid with the great pre-
Islamic prophet and king Solomon—who was also
credited with triumphing over spirits who could be
forces of good or ill, called jinn in Arabic, inventing
the crafts, and building a proverbially magnificent
palace. Several medieval authors did try to insist that
the two were not in fact the same person, but their
arguments failed to untangle the conflation between
them in medieval literary memory. 19 Just as this con-
flation allowed the site of Persepolis to be identified
simultaneously as the Palace of Jamshid and as the
Palace of Solomon, so it also allowed the cup of
Jamshid and the cup of Solomon to be understood as
a single cup. The cup apparently then disappeared . . .
until it surfaced as the cup of Kay Khusraw, another
but later great ruler of ancient Iranian mythology and
easily amalgamated to either of the two historical
Sasanian monarchs named Khusraw. Writing at the
turn of the fourteenth century, the Indo-Persian poet
Amir Khusraw Dihlavi (1253–1325) made it clear that
this was indeed the same cup that was later possessed by Alexander the Great—who, as is well known, figures prominently in both history and legend. In Alexander’s Mirror (Al-‘inā‘-i Iskandārī), Amir Khusraw Dihlavī alluded to the use that Alexander made of Kay Khusraw’s cup.  

The Book of Suleyman, or Suleymannama, is a court history in Persian verse for and about the sixteenth-century Ottoman Sultan Suleyman I, who shared the name of the great pre-Islamic Solomon. Produced at Suleyman I’s court during his reign, it weaves the literary tradition of the cup into the history of the court and attests to how court ceremonial vowe the sixteenth-century Ottoman court into this literary tradition. In the text of this history, the court historian Arifi relates that the cup, which Suleyman received at a ceremony held on the eve of his Nahavand campaign against the Safavids, was from Alexander the Great. The cup is said to have flashed the world’s secrets, or in a punning meaning, its colors (rāzān). The word for the flashing, ṭakhsb, suggests rays of light, lightning, and rainbows; its semantic range evokes the sun and the colors white and red, while the same verses also compare the cup itself to the sun and to wine, suggesting its own red color. Subsequent to the ceremony in which it was presented to Suleyman I, the cup is said to have disappeared. Alexander’s cup, in other words, reappears at the Ottoman court, where its presence as an actual object is witnessed in a specific ceremony; and then its whereabouts, once more, elude human knowledge.

The painting of this scene in the Suleymannama manuscript places the elusive object into the bold visual culture of Suleyman I’s court (fig. 45). A delicate cup rests in Suleyman’s hand. A visual confluence of various reds in, of, and behind the cup make it a visually elusive object within the painting while simultaneously suggesting that it is an actual object of the sixteenth-century Ottoman court. The wine within is the dark red wine associated with Persian-Turkic princely traditions. The cup itself is a lighter, cloudier, more opaque pinkish-red, as a translucent rock crystal or glass might appear with wine inside. The red and gold pattern behind the cup recalls actual textiles and wood painting known from this period. In the center of the painting, Suleyman sits enthroned in the princely posture of Persian painting iconography in which the wine cup is a princely accouterment. To the sides, attendants appear in front of various tile and wall-painting patterns similar to those that adorned sixteenth-century Ottoman court life. The only opening affording a view to the world beyond those walls, however, appears directly above the sultan, who holds the world-showing cup.

Directly below the sultan, a marble pavement frames a mirroring surface of water painted with silver. The blue segments of the marble serve as a contrast for the pink, white, and red sections, inviting the viewer’s eye to dart around the whole kaleidoscopic pattern of the pavement. As the sultan looks into the mirroring liquid surface of the wine, surrounded by the flashing pink and red sides of the cup, the viewer looks into the mirrored surface of the liquid pond, surrounded by flashes of pink and red of marble pavement.

An object now in the Cabinet des médailles of the Bibliothèque nationale in Paris intriguingly invites analysis in the terms established in the Islamic tradition of the elusive world-showing glass (fig. 46). This object, which was known in medieval Europe as “The Cup of Solomon,” is a shallow cup or bowl with a diameter of 28.2 cm and a height of 5 cm. Sides of colored glass, crystal, and garnet set into an openwork gold frame rise up from a base formed of a rock crystal medallion 7.4 cm in diameter. This medallion is engraved with a princely figure, and modern scholarly attempts to identify the cup’s time and place of production focus on this figure. The Cabinet des médailles has long referred to this object as the “Cup of Khusraw II.” The identification of the figure with this particular Sasanian monarch, based on comparisons with coins, is contested. Yet although a Central Asian provenance has been tentatively suggested, the prevailing opinion is that the cup is originally Sasanian, and no one disputes that this is possible.

Whether or not the figure in the medallion represents Khusraw II, we know that the cup came to the Cabinet des médailles from the treasury of Saint Denis in 1791, and we know that there it was known as the cup of Solomon. In medieval Europe, tradition held that Solomon’s cup had been given to Saint Denis by Charles the Bald. Competing traditions and theories as to how it got to the Frankish court circulated in the medieval world and have continued to circulate to the present. It was generally said to have been given
to either Charles the Bald or to Charlemagne. According to one theory still in circulation, Harun al-Rashid gave it to Charlemagne; according to another, it was given to Charlemagne by Justinian’s armies.

We will probably never know how this cup got from Sasanian Iran, if that is indeed where it was made, to the medieval treasury of Saint Denis. But the interesting thing is that in the lack of agreement over the identity of the princely figure represented on the medallion and in the lack of certainty over how it got to the Frankish court, the cup may be seen as a record of the history of Islamic court culture. It is a discourse that punctuates the unarticulated passage of successive centuries and civilizations with the names of legendarily great leaders... exactly the kind of discourse that was used, in the pre-modern Islamic world, to perpetuate the elusive power of the world-showing cup.

The formal characteristics of the cup now in the Cabinet des médailles would also seem to achieve exactly the effects sought in the actual objects that made occasional appearances in Islamic courts as the
world-showing glass. Its sides, rising up at an angle from the rock crystal bottom to the rim, are held together by a frame of interconnected circles of gold. White, red, and green pieces of rock crystal, garnet, and glass fill the spaces within the frame. The round pieces within the golden circles are red and white; the pieces in the interstices between the circles are green. When one considers how these formal qualities would have been enlivened by use in courtly ceremonial, it seems plausible to suggest that at some now lost point in its history, this may have been among the objects that were identified as the worldshowing glass. Even if this is not the case, it offers an excellent model for what actual objects presented as the world-showing glass may have looked like. Its probable Sassanian origin supports this hypothesis, as within the Islamic tradition, the world-showing glass should have been a pre-Islamic object.

At the critical moment of its possession by the ruler, the cup would have been filled with red wine; as the prince tipped it toward his lips, it would have moved. The refraction of light in the wine and in the crystal, garnet, and glass facets of the cup’s sides would have changed dynamically as the cup tipped. As the position of the wine within the cup’s colored sides shifted, light would have been filtered by different permutations of crystal, garnet, glass, and wine. As light and red wine moved against the translucent red and white pieces that occupy the circles of the golden frame, flashes of red and white color would dominate the cup’s overall appearance. But as the light and wine moved against the dark green pieces that occupy the interstices between the circles of the frame, the color of those pieces, forming the shimmering background for the circles, would appear to change. Light filtering through those pieces alone would appear green, but when red wine augmented the green, as an additional filter, the light would appear yellow, glowing along with the golden frame itself. This suggestion is not only in keeping both with the observations of combined color filters in modern optics but also with Aristotle’s statement, repeated in the fourteenth century by Qarafi, that a dark background behind red makes it appear yellow. The garnet must have enhanced the object’s multicolored effect, because although the garnet used for this cup is predominantly red, this stone’s color appears differently depending on the light. The multiple angles at which light would have hit the various facets of the glass’s sides, bottom, and moving surface of the wine within would have been refracted prismatic through the object, flashing red and white, and flashing the rainbow colors of the whole world.

Surfaces of crystal, garnet, glass, and wine would not only refract light, but reflect it as well. In addition to reflecting the image of the prince directly in front of it, the interior sides of the concave cup would also reflect what surrounded him. Fragments of the surfaces of the architecture, objects, and courtiers surrounding the prince—perhaps a bit of a textile from a courtier’s robe, a glint of metal from a candlestick holder, a small section of patterned wall or ceiling—would be reflected in the multiple reflective pieces of the cup’s sides. Shifting kaleidoscopically as the cup tipped, the array of fragments of sights from what was behind and peripheral to the ruler would have hinted at reflections of the far-flung world. As the prince drank, tipping the cup upward, the dim reflection of his own face on the surface of the wine would be replaced by the clearly carved image of the princely figure in the rock crystal bottom of the cup.

In the arts of the early modern Islamic courts, portraits of rulers visually distinguished one ruler from the next, but this was not the case in the tradition of medieval Persian portraiture, with which all the early modern courts were deeply familiar, and which they all claimed as their own artistic inheritance. In the medieval Persian tradition, a princely portrait was understood to be most true, most recognizably representative of a great ruler, precisely when it did not compromise the princely ideal with the quirks of individual faces. In the rock crystal image at the bottom of the cup, an image predating the advent of Islam, the prince drinking from the cup would encounter the image of himself as timeless ruler.

The translucent rock crystal in which the image appeared was similar to the substance of the mirror-like crystalline humor of the eye. Both were perceived as white rather than colored, and both were perceived as transparent and luminous. Apparently, rock crystal was considered a particularly suitable material for a courtly world-showing glass. The poetic description in the Süleymannname of the cup of Alexander presented to Süleyman suggests a prismatic,
crystal-like material. Further, the Mughal emperor Jahangir had a cup, also made of rock crystal, identified in its inscription as “the world-showing glass.”

In the case of the cup now in the Cabinet des médailles, the similarity between the eye and the cup goes further. In the classic description of the eye’s anatomy by Hunayn b. Ishaq, the crystalline humor, corresponding to what we call the crystalline lens, is situated at the center of the eye. It is round but slightly flattened, a shape which, according to Hunayn, “enables it to receive impressions of more perceptible objects than would be the case if were perfectly round.” The cup with rounded sides and a flat bottom, incised with an image as if having received the texture of an impression, recalls this description. In Hunayn’s model, the crystalline humor in the center of the eye is surrounded by the vitreous, or glass-like humor. In the comment quoted at the beginning of this section, Ibn Rushd (d. 1198), known in the West as Averroes, likens this humor to a mirror. Hunayn describes it as “an intermediary” between the (white) crystalline humor and the (red) blood. According to medieval logic, the reason an intermediary is needed has to do with the contrast between red and white. The crystalline humor and the blood, being sharply distinguished by the contrast between colorless white and deeply colored red, lack the quality of sympathy that would allow the crystalline humor to receive nutrients from the blood. So the vitreous humor, being closer to both red and white, comes between as an intermediary. Surrounding the flattened rock crystal center of the Cabinet des médailles cup are curved sides in which pieces of green glass appear between alternating red and white circles, round like the eye.

The various functions medieval authors ascribed to the crystalline humor were not limited to the receipt of visual impressions. According to Ibn al-Haytham (d. 1039), known as Alhazen in the West, the crystalline humor also receives forms and allows them to pass through, though with some resistance. Further, he analyzes its role as a refraction device. The rock crystal bottom of the Cabinet des médailles cup would have received the image of the prince, allowed images of the world beyond to pass through for his perception, all the while refracting light. A cup like this one would have served the prince as an optical object, a mirror in the literal Arabic sense of an “instrument of seeing.” In an optical sense as well as in a poetic one, it would have adorned and served him as an externalized eye.

Regardless of whether the actual cup in the Cabinet des médailles was ever specifically identified as the world-showing glass of Perso-Turkic tradition, it calls attention to a range of possible associations that readers of wonders-of-creation manuscripts may have had when they encountered Tusi’s metaphorical description of his book as a world-showing glass. In different manuscripts, the metaphor would have been salient in different ways. Readers of manuscripts that were not illustrated could simply have understood it as a poetic description of the cosmographic scope of the text. Readers of the 1340 manuscript, illustrated only with maps, could have understood it in a more visual yet delimited sense; the diagrammatic views of different areas of the world in that manuscript rendered it “world-showing.” The properties of the 1388 manuscript that invite a more extended interpretation of the metaphor as an optical device lie not just in the extensive painting program but also in the stylistic conventions of the paintings themselves—conventions which were emergent in the late fourteenth century.

A LATE FOURTEENTH-CENTURY VIEW FROM THE HORIZONS

What are those properties of the 1388 manuscript of Tusi’s book through which it engages with the metaphor of the world-showing glass as an “instrument of seeing”? This question may be addressed by comparing the degrees to which the metaphor fits this manuscript as opposed to the earlier Qazwini manuscripts at both textual and visual levels.

The basic topic of Tusi’s wonders-of-creation book overlaps directly with Qazwini’s, and yet fundamental differences in how the books were conceived are evident in the content of the texts. Tusi’s book, like Qazwini’s, is cosmographic in scope and is hierarchically organized. Within that hierarchical cosmographic framework, Tusi’s wonders, like Qazwini’s, are ultimately presented as God’s signs. But Qazwini’s rigorously systematic hierarchy excludes what is not made by God and shows the coherence of the world and all that is in it as God’s creation. Tusi acknowl-
edges the same principle, but stretches it outward. He includes additional chapters on the wonders of different lands and on man-made architectural wonders such as mosques, churches, and graves, topics Qazwini had relegated to a different book. It is true that like Qazwini, he does include familiar wonders such as animals and plants. However, less emphasis is given to these, and much more is placed on wondrous sights at the limits of experience. In those few chapters of Tusi’s cosmography that contain several wonders of nature, such as the chapter on trees, there are far fewer illustrations in the Tusi manuscript than in the early Qazwini manuscripts. Whereas sixty-four entries on trees are illustrated in the 1280 Wasit Qazwini manuscript, only seven are illustrated in the 1388 Tusi manuscript. Many of the wonders Tusi presents have only been seen by one person, through the intervention of God or angels, or through travel so exceptional that it became legendary.

If, in comparison to the early Qazwini manuscripts, it is the text of the 1388 Tusi manuscript that stretches the book’s cosmographic framework, then it is the 1388 paintings that spin the reader’s attention away from that framework, and outward toward the horizons. The illustrations in Sultan Ahmad’s Tusi manuscript do not obviously and overwhelmingly emphasize the text’s cosmographic framework, as they do in the early Qazwini manuscripts. Further, the illustrations in the 1388 Tusi manuscript do not function as a clear visual inventory of created wonders, as they do in the 1280 Wasit Qazwini manuscript. As discussed in previous chapters, most of the paintings in the early Qazwini manuscripts are iconic; as such, they are visual representations of the main subject of the entry they accompany. Although a few narrative paintings do occur in Qazwini’s 1280 manuscript, with a few more in the early fourteenth-century Qazwini manuscripts, the 1388 Tusi manuscript is dominated by narrative paintings. Many of them depict a scene mentioned at some point in the entry regardless of whether that scene includes the ostensible subject of the entry. An example considered in the last chapter is the painting accompanying the entry for “cloud,” which does not show a cloud, but rather the land surrounding the Gog and Magog (see fig. 39). The paintings in the Tusi manuscript are in this sense decoupled from the text’s cosmographic framework. Though the reader might notice a preponderance of angels, trees, or graves at different points in the book, the complete cycle of paintings does not offer a quick overview of how the wonders of creation fit together. Whereas the images in the Qazwini manuscripts collectively remind the reader of the macrologic of the book’s cosmographic organization, the images in the Tusi manuscript constantly draw his attention toward the microinformation associated with different entries. By emphasizing the kaleidoscopic variety of information mentioned in the various entries, the Tusi manuscript paintings collectively dissipate the reader’s attention in many different directions. That narrative images dominate the image program encourages the reader, who travels through the book rather than through the cosmos, to pursue the mental journeys suggested by the separate entries to their disparate ends. The paintings collectively make the experience of viewing this manuscript metaphorically akin to the external visual effects of the prismatic drinking cups that appeared in court ceremonies as the actual world-showing glass.

The same metaphor also implies the opposite effect. When actual glasses flashed colors outward toward the horizons, they hinted at the inverse effect within the glass, that is, the colors that flashed outward from the glass hinted at images from the horizons gathered inward within the glass, visible only to the ruler. In his text, Tusi mentions the horizons as the place from which the wonders in his book should be viewed. This has an interesting parallel in a particular use of the horizon line, which became widespread in the history of Persian painting. Within the stylistic range of the 1388 Tusi manuscript, which not only echoes the remarkable diversity of late fourteenth-century Jalayirid painting, but also includes a few later paintings, there are a few examples. One such example may be found in a painting likely done in the early fifteenth century that accompanies the entry for a place called Saba (Sabā) in the chapter on boggy lowlands (fig. 47). The text relates an incident in which the people of Saba came out to see their gardens, and were startled to discover that the ground emitted a burnt smell.

In the accompanying image, the painter fills most of the wide and low image space with a dreary grey landscape that, while not bereft of plants, is bereft of greenery. He calls attention to the burnt gardens by rendering not only some starkly twiggy stems, but also
a few tufts of leaves, in a dark gray/brown. The landscape, according to convention, is rendered as hilly. Here, it slopes downward at the sides of the image space. The slope opens up some space behind the horizon line at the upper corners of the image. On the left side, where the text has not taken up the full width of the page, the painter extends this space upward. These corner spaces are populated with figures who view the main scene of the image from the horizon. In an unusual gesture, the figure at the far right covers his lower face with his entire hand, apparently seeking to block the repugnant smell. The man beside him hangs his head sadly. At the far left, two men hold handkerchiefs to their faces to wipe their tears, while a third, turned toward them, raises one finger to his mouth. In Arabic, Persian, and Ottoman Turkish, verbal reference to this conventional gesture indicates a psychological state of wonder. To say that a person was amazed, a writer might say: “he bit his fingers in astonishment,” or “she held up the finger of astonishment.” In painting, the gesture signals an emotional state of wonder. Through these figures, the painter shows that the people of Saba react to their burnt garden with a specific kind of wonder; their particular experience of amazed disorientation is not one of delight but is tinged with repugnance, sadness, and dismay. However, these figures also signal more than their own psychological reaction to the scene. They also model the level of attention and the affective psychological response anticipated from the viewer of the painting.

The placement of spectator figures at the horizon line is quite common in classical Persian manuscript painting from the late fourteenth century onward (see fig. 50), and these figures often serve to model the psychological approach the viewer should take to the painting, although the same role is sometimes played...
by other figures within the main scene. A well-known
poetic anthology completed for the Timurid prince
Iskandar Sultan in 1410–11 includes examples of each
of these scenarios. One painting shows Shirin gazing
at Khusrav's portrait. A small face hiding behind the
tree at the far left horizon of the painting represents
the portrait's painter Shapur, who spies on the scene
below to observe the effect of his handiwork. In this
image (fig. 48), two of the four handmaidens stand-
ing behind Shirin raise the finger of astonishment,
indicating both Shirin's disoriented, love-struck emo-
tional swoon, and the dizzying sense of delight with
which the viewer should respond to the painting.
Another painting shows Alexander the Great with a
golden crown and splendid blue robe adorned with
golden dragons being led to the cave of a bare-headed
sage in a plain tunic. Along with other insights, the
sage advises Alexander of his mortality. A figure at the
horizon line watches the scene attentively, pointing one
finger to the celestial realm of the wheels of fortune
(fig. 49). The figure so indicates that in viewing the
painting the viewer should be amazed not only by the
splendor of Alexander's robe, or by the contrast
between Alexander's majesty and the sage's simplicity,
but also at the awesome and leveling power of the
wheels of fortune, before whom all people are eventu-
ally turned to dust.

That spectators who model the viewer's anticipated
response to the painting are frequently located on the
horizon line during the classical period of Persian paint-
ing is not a coincidence, but is directly related to the
spatial conventions of the tradition. The Jalayirid
manuscript through which these conventions became
unequivocally established for the subsequent trajec-
tory of Persian painting is a collection of poems, or
Divān, by the poet Khwaju Kirmnī, that was com-
pleted for Sultan Ahmad in 1396. Among the paint-
ings in this manuscript is one which shows the lovers
Humay and Humayun in a garden (fig. 50). Two
figures directly behind the lovers pluck roses in full
bloom, modeling the psychological affect with which
the viewer should delight in the ripeness of the scene.
Diagonals, such as those that demarcate the top edges
of the sides of the couple's throne, or that used to
indicate one side of the golden table on which their
wine flasks are displayed, are sometimes used to indi-
cate that solid vertical planes are positioned perpen-
icularly to the plane of the paper. However, the presence of these diagonals should not confuse the modern viewer into expecting the painting to follow the spatial conventions determined by the laws of linear perspective, which though familiar today, were not actually formulated until the early fifteenth century.

Whereas linear perspective dictates that distant objects should be depicted in a smaller scale than near ones, the conventions of classical Persian manuscript painting dictate instead that they be positioned higher on the page. The vertical plane of the page therefore assumes considerable importance. Accordingly, hills serve as particularly conducive backdrops for outdoor scenes. As backdrops, they frame and identify which parts of the painting belong to its primary scene even as they establish clear horizon lines. Figures on the horizon line such as those picking roses behind Humay and Hurnayun appear, like the viewer of the painting, to be at the conceptual edge of the main scene. Yet, because they are shown in the same scale as the figures anywhere else in the painting, they remain visually accessible and can clearly model the viewer's anticipated response. In so doing, they invite him to consider the painting from their point of view, and, in the mirror of his imagination, to wonder at the painting from the horizons. Even though many of the paintings in the 1388 Tusi manuscript are horizontal, and even though there is a degree of stylistic variety within the manuscript, one can see that several of them were conceived according to the basic compositional principles of spatial organization that would lead to the general preference for the vertically oriented image spaces in Persian painting from the late fourteenth century onward.

Readers familiar with the history of linear perspective in the West are likely to note that whereas, in that tradition, the perspective of a painting can define the precise physical location in which a viewer should stand when viewing the painting, the point of view in question here is psychological or intellectual, rather than physical. Yet it is not unrelated to the interest in using verticality to represent depth that was emergent in late fourteenth-century Persian painting. Modern viewers, whose habits of looking have been deeply shaped by the conventions of single-point perspective, might see Persian painting as "flat," but understood in its own terms, and in comparison to its own visual heritage,
the convention of using the vertical space of the page to indicate both height and depth simultaneously that became prevalent in the end of the fourteenth century suggested spaces through which viewers might mentally move on multiple axes. Previously, the challenge of how to suggest movement in Islamic painting seems to have been understood most often as a problem of suggesting that a depicted figure moved along a single axis; color contrast might suggest that a figure moved in or out of a wall. But with the elaborated use of the vertical plane of the page to indicate both height and depth simultaneously, the viewer was invited to move mentally within the scene.

Insofar as the iconic images of the earlier wonders-of-creation manuscripts, particularly those of Qazwini’s 1280 manuscript, tend to be removed from the vagaries of spatial context, they appear comparatively more fixed (see fig. 14). It is telling that even when the late thirteenth- and early fourteenth-century painters of the early Qazwini manuscripts presented narrative images, they used the vertical register of the page almost exclusively to represent height (see figs. 27, 28), resulting in images which, though suggestive of the vagaries of time, are nonetheless flatter and therefore less susceptible to the vagaries of space. In keeping with the metaphorical description of the 1388 manuscript as a world-showing glass, its paintings present fleeting sights which require the viewer to occupy a particular position psychologically. The paintings in the 1280 manuscript, by contrast, make no such demand.

What explains the difference? Questions of reflections and the position of the viewer are theorized quite differently in the two texts. This is evident from a consideration of how the two authors treat the rainbow, a wonder of vision that Ibn Sina had discussed extensively.

REFLECTION, REALITY, AND THE RAINBOW

The rainbow... is the light of the disc of the sun that the moisture in the air accepts ... The bow accepts the entire disc, but half of it is under the earth, so that no one sees it whole as it would appear from the sky.

Tusi

As an optical device that parallels the world-showing glass, the 1388 manuscript gathers together inflected images of sights that would generally be visible only from exceptional locations. The metaphor has traction in this manuscript partly because the text contains Tusi’s frequent reminders of the normally inaccessible status of these sites. He even reminds the reader of this when he describes one of the phenomena that all of us do see, though rarely: the rainbow.

Of the various wondrous sights that Tusi includes, this one would seem potentially compatible with the traditions of natural history and philosophy that permeate Qazwini’s book. Since Aristotle, writers had carefully explained the factors critical to seeing a rainbow. Ibn Sina, for example, emphasizes that in order for a rainbow to appear, moisture particles in the air must act as mirrors, and in order for them to act as mirrors, there must be a dark body such as a cloud or a mountain behind them. Further, Ibn Sina suggests that from a high mountain, it might be possible to see more than only a semicircle of the bow. Ibn Sina’s sequence of essays treating the halo and the rainbow therefore include the two main points of Tusi’s brief description quoted at the start of this section: it requires moisture, and how much of the bow one sees depends on where one is. But in the manner in which he phrases the second point, Tusi incorporates his otherwise fairly standard comments on the rainbow into his theme of inaccessible sights. Tusi suggests that in order to fully appreciate the wonder of the rainbow and see it whole, one would have to make the impossible journey to the sky. Even here, then, he posits for the viewer a position of impossible omniscience parallel to that promised by the world-showing glass.

Qazwini’s description of the rainbow is much longer and engages with Ibn Sina’s essay in a more substantial but also a more critical manner. Together, Tusi’s and Qazwini’s discussions of rainbows serve to

remind us of how deeply learning in the tradition of Ibn Sina lay behind the wonders-of-creation manuscripts. At the same time, they serve to point out the two authors' very different understandings of wondrous sights, mirrored visions, and the relevance of the position of the viewer.

Qazwini begins by listing the specific conditions under which rainbows occur. They occur when water particles fall opposite the sun; and the sun is exposed near the approaching horizon; and there is a dense body such as a mountain or a shadowy cloud behind the particles. This initial set of conditions is fully in the tradition of Ibn Sina's explication of the rainbow. Ibn Sina also mentions that a mountain or dark cloud is necessary for the rainbow to appear, and elaborates on the cloud. Though Qazwini does not elaborate on the cloud, the painter of the 1322 manuscript places such a cloud behind his depiction of the rainbow (fig. 51). Qazwini then continues as follows:

If the viewer turns his back to the sun and looks in the direction of the particles, then the rays of vision will be reflected from those particles to the sun because they are shiny. He then explains that the rays of vision will go straight through the water particles and that therefore the rainbow will not be seen if any of these conditions are lacking.

Ibn Sina had also explained that if the correct conditions were lacking, rays would pass directly through the water particles rather than reflecting on them, and the rainbow would not appear. In his discussion, he was referring to the light rays from the sun which reflect off the moisture particles. By contrast, in his presentation of Ibn Sina's scenario, Qazwini leaves open the possibility that the rays of vision go from the viewer to the particles and then to the sun; his discussion could be interpreted according to the medieval model of vision by extression, which Ibn Sina assiduously opposed. Strikingly, one of the places in which Ibn Sina explicitly opposed it was in his discussion of the rainbow and the halo. There, he says that according to one school of thought, people think that rays come out of the eye and extend themselves. After elaborating on this theory and commenting that "the matter is not like that," he explains that according to the correct school of thought, "rays certainly do not come out of the eye, but rather, from the seen object." The idea that rays of vision come from the seen object was the defining position of a competing medieval model of vision by intromission.

What are we to make of it that in the discussion of rainbows, Qazwini is vague about this point? Qazwini was not a theorist of vision but rather an author who was aware of visual theories. His contemporary Nasir al-Din Tusi wrote explicitly in support of vision as extrussion but in at least one instance also drew on the theory of vision as intromission. One possibility is that Qazwini was trying not to contradict Nasir al-Din Tusi's arguments on the direction of visual rays while at the same time preserving Ibn Sina's authority.

After this carefully packaged departure from Ibn Sina on this point, Qazwini continues with a story of Ibn Sina's:

Ibn Sina said: I saw a rainbow in the atmosphere of a bath, which was not imaginary, but rather its colors were true (la `alai sabil khayal bal kurnat ahsani bi haqqiyat). For the viewer could move from one place to another, and the colors remained in their place.

Qazwini then presents another scholar's commentary on this incident.

The qadi 'Umar b. Sablan (May God have mercy on him), said: The reason for that is the falling of the sunlight on the colored glass of the bath, which is projected onto the walls of the bath. The walls become colored with the color of that shiny substance, which is a true color that does not change through a change of position of the viewer.

Overall, then, Qazwini begins his discussion of the rainbow by explaining the predictable conditions under which it can be seen. The fact that it appears under predictable conditions, however, turns out to be irrelevant to the question of whether it is a true or imaginary phenomenon. The rainbow made by the sun turns out to be only imaginary; it is an illusion, but this is not, as we might expect, because it is intangible. The bright rays of color projected onto the walls of a steamy bath are considered real even though they
are also intangible. But the rainbow in the sky is imaginary because its appearance arises from reflection.

Under the rainbow that appears in the 1322 manuscript (see fig. 31), the artist includes vaguely formed shapes, suggestions of a dragon, a fish, a face. Rendered slightly amorphous through the low contrast wash of swirling brush strokes, the clarity of these shapes fades in and out of the viewer’s perception like images seen in clouds, like illusions in mist.

For Qazwini, the key test of reality versus illusion turns out to be that reality should not be affected in any manner by the position of the viewer. For him, projections are real, but reflections are illusions. Indeed, Qazwini explicitly states that this is the case:

What one sees in a reflection has no reality (ma'ānī) to it. For if there were reality in a reflection, then if the observer (mar'ūn) were to move from one place to another, he would see that thing according to its first description, and this is not the case. What is real does not change its place because of a change in the position of the observer but is fixed.11

It is entirely in keeping with a philosophically informed concept of true Platonic Forms that for Qazwini, the more stable a sight is, and the less the perception of it depends on the manner in which the viewer approaches it, the more real it is. This suggests that, as compared to the images in the 1388 Tusi manuscript, the formally more fixed images found in the early Qazwini manuscripts are indeed more in keeping with Qazwini’s own understandings of what might make one painting more conducive to helping the viewer reach an abstracted understanding of the “real” than another. Qazwini continues:

Indeed, what we see in a reflection has no reality to it. Rather, it falls under the category of the imaginary (khabūn).12

According to Qazwini, Tusi’s entire book would be illusory, because it meets precisely the two criteria by which he defines what is imagined rather than real. Like the reflected rainbows that Qazwini deems illusions, everything in Tusi’s book has been reflected through the world-showing glass, and many of the
wondrous sights in it can only be seen when the observer takes a particular vantage point.

This is not, however, to say that the early Qazwini manuscripts do not include any images that are not theorized in terms of rays of vision or of mirrors; rather, as the example below will demonstrate, when images in the early Qazwini manuscripts are theorized in these terms, the terms operate differently.

THE ŠANNĀJA, THE EVIL EYE, AND OPPOSITIONAL SYMMETRY

When he looks at a polished mirror irradiated by sunlight, with his eyes at the point to which the light is reflected from the mirror, his eyes are distressed by the light reaching them from the mirror, and he is unable to open them to meet it.

Ibn al-Haytham

In the midst of the creepers and crawlers section of the chapter on animals of Qazwini’s wonders-of-creation manuscripts, readers suddenly encounter a beast called šannāja. Despite the fact that the artists who painted the early manuscripts of this text clearly lacked a shared concept of how a šannāja should look, they all made sure that the image of the šannāja should stand out. The images in Qazwini’s 1280 manuscript (fig. 52) and in the c.1300 manuscript (fig. 53) could not be more different, but both are startling. In both cases, large and peculiar beasts appear in an unusual frontal presentation, directly confronting the viewer as if they have been lying in wait to ambush him from the closed pages of the codex. At worst, these beasts seem to face their reader down, and at best, they seem to stare right back at him. In neither of these images is the peculiar beast in the image of the human reader, and yet in both cases, the beast’s confrontational pose establishes a symmetry between reader and beast.

The šannāja is included in a classification generally devoted to insects, rodents, and small pests, and this intensifies the visual impact of these images. This is the classification that includes the smallest creatures in the manuscript, such as the ant, and it accordingly has some of the smallest images. The section treating this classification falls near the end of the chapter on animals, preceded by birds and followed only by the section on odd species such as monsters and mixed breeds. The placement of the section is significant, because the various types of animals are presented in order of their status in creation, generally from larger to smaller. Therefore, the placement of the section near the end of the book leads the reader to expect images of small creatures.

Contrary to that expectation, however, Qazwini starts the entry concerning the šannāja with the following information:

This animal is not comparable to any other. It is the largest animal on earth and it is found in Tibet. The house it takes for itself is about one parasang large.

Since a parasang is the distance that a camel caravan can travel in a day, this is an extraordinarily large beast.

The artist of the šannāja in the 1280 Wasit manuscript brilliantly negotiates the tension between this brief description of the šannāja and its classification. The creature’s eyes, with their disproportionately large black pupils, appear against an otherwise featureless face in the shape of a wide, vertically oriented lozenge. The lack of other features leaves the eyes in a kind of visual dislocation from their expected context, augmenting their disconcerting impact. The creature’s body, shaped as a larger vertically oriented lozenge, is encased in the armor of a cream and blue shell, or perhaps in scales, from which emerge its oddly puffy feet. The 1280 Wasit šannāja is also segmented like an insect, has six feet, and the stiffly unruly tufts of thick black fuzz standing up from its head resemble those of a tarantula. It appears, then, as a startling and disconcerting beast that nonetheless shares traits that distinguish insects. It is the only image in the creepers and crawlers classification to take up the better part of a page, and this clearly sets it apart within that classification. It is not, however, the largest image in the 1280 manuscript, remaining appropriately smaller than the images of the four angels closest to God. The illustration simultaneously unsettles the

reader and upholds the overarching cosmographical classification scheme of the manuscript.

The painter of the c.1300 șannâja gives even more emphasis to the beast's great size, the feature that is most incongruous with his classification as a creeper or crawler (see fig. 53). Even though the creature is classified in this way, the image space, defined with red rulings, is the largest in the c.1300 manuscript, defying the general rule that larger images tend to come early in the manuscript and smaller ones tend to come later. Further, the artist emphasizes the șannâja's considerable bulk by endowing it with billowing rolls of flesh; in the bottom corners, these rolls of flesh overflow that already notably large ruled space. The appearance of this image among many of the smallest images in the manuscript visually expresses the textual tension between the descriptive entry and its place in the textual frame. As the furry creature shown settles back on his haunches, he might possibly be taken as a gargantuan rodent, but all in all, the beast pictured in the c.1300 manuscript is a less than obvious candidate for classification as a pest.

In addition to emphasizing its size, the artist of the c.1300 manuscript also gives the șannâja a distinctive set of facial features. The wide face is oblong like an almond, punctuated by a dark spot in the middle of the forehead loosely suggestive of a third eye. The curve extending across the upper eyelids and along the tops of the pointy ears emphasizes its width, as does its prominent and wide nose. Curving lines descend on either side of the nose, ending in swirls directly below it, and echoed by ringlet-like curls beneath the chin.

Through these features, the c.1300 șannâja recalls a distinctive type of face that circulated widely in the eastern and south-eastern regions of the Mongol Empire, including China, Tibet, and India. Examples of these faces, called tsī pa ta in Tibetan or kirtimukha in Sanskrit, may be found on two metal objects from this period: a late thirteenth-century Mongol passport (pațâ) now at the Metropolitan Museum (fig. 54) and a sword guard attributed to fourteenth- or fifteenth-century Tibet or China, now on loan to the Metropolitan Museum from the Kronos Collections.


55 Sword guard. Tibet or China, fourteenth or fifteenth century. 7.9 cm x 12.1 cm. The Kronos Collections.
In the face on the passport, the wavy horizontal suggested by the painted sandhaja's eyelids and ears is instead suggested by eyebrows that extend to upturned pointed ends beyond the sides of the face, and in the face on the sword guard, the bottom rim is edged with a row of teeth. But despite such differences of detail, the three faces clearly belong to a similar type.

Since this type was not widely used in the art of the central Islamic lands, in the context of the c.1350 manuscript it alludes to the sandhaja's foreign Tibetan origins. Size and foreignness are traits that often characterize wonders, and as physical or potentially physical traits, they are easily translated into visual form.

At the same time, it is significant that the tsi pa ta or kirtimukha faces were generally used in East Asia and South Asia to ward off evil. Both of the metal faces considered here appear on objects that, in different ways, were designed to defend the person bearing them. The protective function of the sword guard is clear. As for the passport, it was meant to ensure safe passage across the Mongol Empire to its bearer, who would have worn it in a place where it could have been seen by inspectors, such as around the neck. The Mongolian inscription on the Metropolitan Museum's paiza has been translated by Morris Rossabi:

By the strength of Eternal Heaven,
an edict of the Emperor [Khan].
He who has no respect shall be guilty.

Interestingly, the inscription makes clear that the paiza protects in part through a threat. This is not just a passport that neutrally identifies the bearer as a person legally entitled to safe passage. Rather, it protects him through an oppositional symmetry. The message is this: if you dare hinder or fight the bearer of this paiza, watch out; the power behind the paiza will fight back.

The formal similarities between the wide faces appearing on the paiza and the sword guard speak of deeper similarities in how they are conceived as protective objects. The oppositional contexts of both metal faces suggest that the facial type they share, which also appears in the c.1350 painting of the sandhaja, might be understood to have a confrontational power. It is not then just the power behind the paiza that will fight back, as suggested in the inscription, but the power of the paiza and of the face with its prominent eyes.

While the facial type in this paiza comes from the eastern and south-eastern regions of the Mongol Empire, the point of a paiza was that it could be used across the entire Mongol Empire. When a paiza such as this was deployed nearer to the Mediterranean, it may have been expected to work as a device to ward off the evil eye (that is, a glance or stare, believed to be harmful, from the eyes of a jealous or malevolent person). The almond shape that distinguishes this facial type and that also appears in a more rounded, vertically oriented form in the 1280 painting of the sandhaja, recalls the shape of an eye. The lower portion of the paiza, the round section below the face, recalls the metal mirrors known from this period. Around the Mediterranean, objects with mirror and eye motifs have a long history as devices to ward off the evil eye.

The use of eyes and mirrors to ward off the evil eye works within the double manner in which the belief in the evil eye can be theorized. First and foremost, the underlying danger of the evil eye is that in a hateful look, particularly a jealous one, harm is directed from the eyes of the person looking toward the envied vulnerable party who is the object of the gaze. The idea that harm can literally come out of the eyes of a jealous person follows the model of vision by extrasmision, most famously formulated by Euclid and defended by several medieval scholars, most prominently Kindi, but also by Qazwini's contemporary Nasir b. Tusi. In accordance with this model, eyes and mirrors counter that harm first by attracting the hateful look and then by reflecting it back.

But in another widespread but less consistent formulation of the danger of the evil eye, people are vulnerable to harm through their eyes, because it is through the eyes that danger can enter the body. This formulation follows the model of vision by intromission, of which Ibn Sina was a leading medieval proponent. In accordance with this formulation, eyes and mirrors protect as effective diversionary decoys. They attract the harm toward themselves rather than toward the envied human target, and so absorb and divert it.

Theoretically contradictory formulations of how the evil eye works easily coexist at a popular level; jealous glances are dangerous and harmful, and eyes and mirrors attract and absorb rather than reflect that danger.
The double roles assigned to the eye in this formulation parallel the double quality of reflection in a mirror’s surface, particularly when a mirror can be understood as something made out of a simultaneously reflective and translucent material. In their reflective surfaces, mirrors might be said to send light, color, and shape; insofar as they are translucent or even cloudy, they might be said to receive them. Ibn Sina used mirrors to describe the eye’s reception of an image. But mirrors could also be used to support the intromission theory because of what they send out. In his comments quoted at the start of this section, Ibn al-Haytham describes a mirror sending light into the eye. He calls his reader’s attention to the fact that this will cause pain. His point is that the eye is vulnerable to danger that comes into the body from what the eye sees and that this supports the argument that the form of what is seen physically enters the eye, as held by the proponents of intromission.

The evil eye is the classic example of a link between vision and lethal danger. The faces on the protective sword guard and the pa’iza counter the dangers that threaten their wearers in a manner that parallels how amulets with mirrors and eyes protect people and spaces from the evil eye. Do the similarities between the faces in the sword guard, the pa’iza, and the depiction of the ܓܲܠܲܠܲܐ  in the c.1300 manuscript point to a link between the ܓܲܠܲܠܲܐ and the evil eye?

As Qazwini’s description of the ܓܲܠܲܠܲܐ continues, it becomes clear that as in the case of the evil eye, the ܓܲܠܲܠܲܐ embodies the inextricability of vision from lethal danger. Yet it also becomes clear that in the case of the ܓܲܠܲܠܲܐ, the danger of vision is formulated in a manner that rejects an essential element of the danger of the evil eye. Following Qazwini’s initial expression of the beast’s enormous size, the entry continues as follows, in both the 1280 and the c.1300 manuscripts:

One of its characteristic properties is that the sight of it kills whichever animal looks at it. [But] if it looks at the other animal first, then it is the ܓܲܠܲܠܲܐ that dies. The [other] animals know this thing which happens in that country. Therefore, they approach the ܓܲܠܲܠܲܐ with their eyes closed, in order to make it look at them. [Then] the ܓܲܠܲܠܲܐ dies, and it becomes nourishment for those animals for quite a long time. In the case of the evil eye, harm is sent out from the eye of the envious party; this is the sine qua non of the scenario, regardless of whether or not the harm sent from the eye subsequently enters the endangered party through the eye. But in the case of the ܓܲܠܲܠܲܐ, the eye, whether that of the beast or of the animal who encounters him, sends out nothing. In this case the eye has no destructive force. It is exclusively a site of vulnerability. Animals who have approached the ܓܲܠܲܠܲܐ with their eyes closed, thus creating their site of vulnerability, subsequently eat his dead body. The mere sight of him, the entrance of the ܓܲܠܲܠܲܐ’s form into the body through the vulnerable eye, is lethal, but as long as that eye is protected, the ܓܲܠܲܠܲܐ is edible, digestible through the mouth, which unlike the eye, is not vulnerable to his lethal danger.

The importance of the sudden impact of the image in the c.1300 manuscript, as well as that of the image in the 1280 manuscript, becomes clear. Both images confront the reader as if with a visual ambush, echoing the symmetry of the oppositional visual encounter described in the text. In both cases, the frontal presentation of the enormous ܓܲܠܲܠܲܐ leads the reader to encounter the image visually with a sense of sudden totality. This is particularly striking in the context of a painting tradition in which animals almost never appeared frontally. More usual is the profile presentation of the ܓܲܠܲܠܲܐ in the 1322 manuscript (fig. 56). There, the artist has apparently tried to achieve a striking effect by depicting the ܓܲܠܲܠܲܐ as a composite animal, even though the text gives no indication of this. In the 1322 example, the ܓܲܠܲܠܲܐ has been given wings, a body with legs and tail like those of a horse, a short neck with a suggestion of a dark shaggy mane, and a slightly canine head with long ears. Yet because it runs sideways to the left in an image space that takes the place of only ten lines of text, this image of the beast, though odd, does not induce the jolting sense of sudden surprise induced by the frontal images in the 1280 Wasit manuscript or in the c.1300 manuscript. Further, in the c.1300 manuscript, the entry for the ܓܲܠܲܠܲܐ starts at the top of the “b” side of the folio, and the image comes a mere three lines later. Before the reader turns the page, he does not even know what the subject of the next entry will be. Then he turns the page and suddenly finds the disturbing beast staring back at him. If at first he finds the beast’s
gaze alarming, he will then be surprised to learn from the text that in this case, it is his sighting of the beast that is supposedly dangerous.

When the reader turns the page and encounters the šanājā image in the c.1300 manuscript, frontally and all at once, he is encouraged to imagine a scenario in which he himself might suddenly encounter the terrible sight of the šanājā—in the sense of the šanājā as a seen object rather than in the sense of it as a seeing subject. In both the 1280 and the c.1300 manuscripts, the emphasis on the beast’s huge size encourages the perception of it as overwhelming. Its overwhelming quality helps to convey its lethal potential. The power to kill by being seen, which the descriptive text presents as a characteristic property of the šanājā, is transformed with the help of the suddenly shocking image into an imagined encounter. The powerful visual impact of the image in the manuscript suggests a scenario of figurative death. The potential power of the form, in the moment of first visual surprise when the reader sees the painting, is that the image figuratively threatens to annihilate him. The wondrous power of the šanājā, as well as its surprising weakness, are literally matters of seeing and being seen. That both this power and this weakness are reflexive, and can apply to either the šanājā or the animal who encounters him, is a symmetry of opposition. In both manuscripts, this symmetry is emphasized by the fact that the eyes of the šanājā, like the eyes of the reader, are open. Who has seen whom first?

In the scenario Qazwini presents— involving the passive eye of the šanājā’s hapless viewer, completely vulnerable to the beast’s active form—he exaggerates the medieval theory of vision by intromission and follows it to its logical extreme. The attention the artists of the 1280 and c.1300 paintings both give to achieving a startling form is suitable, given that it is the very form of the šanājā, not the šanājā itself, that attacks and kills its viewer. Either of these two images could seem to jump off the page and hit the

readers in the eye, as according to the theory of intromission, the form of the šanājā, rather than the šanājā itself, would do to its victims. For their full impact, both images depend on the medieval premise that eyes that, like mirrors, receive forms.

The eye is prone to error in some matters.

Ibn Sina65

The ways that paintings in medieval wonders-of-creation manuscripts might be understood as “mirrored visions,” then, varies. The paintings of the šanājā in the 1280 and c.1300 Qazwini manuscripts are “mirrored visions” in that they are received in the eye of the viewer as in a mirror. The paintings of the 1388 Tusi manuscript, by contrast, are “mirrored visions” in that the viewer approaches and sees them as he would approach and see images in a mirror. In the triad of painting, vision, and mirrors, mirrors are in the first case comparable to vision, and in the second comparable to painting. If mirroring is understood to be located in the eye of the viewer, then the viewer’s approach to the painting does not affect what he sees; if, however, the mirroring is metaphorically located at the site of the seen image, the painting, then there may be an optimal way for the viewer to approach it.

Though they are closely related, the two scenarios point to an important shift in the theorization of relationships between painting, vision, and mirrors in wonders-of-creation manuscripts in particular and in Islamic manuscript painting in general. Understanding both the continuities and the changes of this shift helps clarify what is at stake in the potential capacity of images in different wonders-of-creation manuscripts to offer access to normally inaccessible sights.

In the early Qazwini manuscripts, paintings are received by vision as in a mirror. Like a mirror, vision is prone to trickery. This is why the information received by the sense of vision along with the other external senses must be abstracted in order to attain understanding. In accordance with Ibn Sina’s theory of how most people acquire knowledge, the painted images received by the external sense of vision would

56 (facing page) The šanājā (below). Shown on the same page as the tortoise and a plant that accompanies the textual entry on the cockroach, The Wonders of Creation and the

Oddities of Existence of Qazwini. Fars, Iran, 1322 AD. 26.4 × 17.6 cm (full folio). Istanbul, Suleymaniye Library, MSS Yeni Cami 813, fol. 172b.
then be processed by the five internal senses: common sense, imagination (khayāl), imagining (takhayyul), estimation (wahm), and finally retention. These five internal senses are ordered from that which had the most to do with external sense to that which had the least—as information and ideas were processed by these senses, they were increasingly abstracted. Fazlur Rahman explains each of Ibn Sina’s senses by describing its purpose along with a classic example of how it might fulfill that purpose. The “common sense” combined and sorted information gathered separately by the five external senses (associating the appearance and taste of a particular fruit, for example); the imagination, sometimes referred to as memory, stored an image after the object of intellection had been removed from the external senses; imagining combined and separated the images of the imagination memory (making the thought of a golden mountain or a two-headed person possible); estimation went beyond the external senses to ascertain the meanings of things (a sheep sees the shape of a wolf with external sense but knows that it is dangerous by estimation); and finally retention retains these meanings in a manner that parallels the imagination’s memory of sense images, but at a level that is removed from sense, and is therefore higher. Rahman’s insightful comment on the third faculty, takhāyul, makes clear that abstracted mental images are crucial for understanding despite the progressive movement away from the external senses: “While much of the activity of this faculty . . . is non-rational . . . it plays a fundamental role in rational activity because thinking never comes about without the interplay of images.”

Most of the paintings in the early Qazwini manuscripts, particularly in the 1280 manuscript, are formally composed in a manner that is conducive to being processed along this model. They generally present each wonder separately, yet visually place them within a larger classification. These formal properties invite both a perception of each wonder as an abstracted and distinct entity within the cosmic structure, and comparative judgments concerning similarity and difference of multiple wonders. In other words, they invite the processes of abstraction, sorting, and recombining that the internal senses were understood to do.

These paintings cannot actually make the Platonic Forms themselves visible, but they can visually open a path toward intellectual recognition of the Forms. The experience of wonder the paintings in the manuscripts induce takes place primarily at the intellectual level, with the role of the visual being to facilitate the intellectual process. According to the paradigm within which these manuscripts operate, the reason that the paintings cannot make the visually inaccessible sights of the Platonic Forms themselves visible, lies in the limits of vision as an external sense. It is not only the mirror’s potential to receive an image, or even the mirror’s vulnerability to an image, but also the mirror’s tendency toward error that makes it a useful term for the theorization of vision. In this paradigm, within which mirrors describe vision rather than painting, the limits of what roles the paintings may play do not stem from limitations of painting, but of vision.

Although this chapter has emphasized that in the case of the 1388 Tusi manuscript, by contrast, it is the paintings that are compared to mirrors, it is important not to overlook some basic continuities. Ibn Sina’s model of how understanding happened was pervasive in the medieval world, as was the conviction that sight was unreliable as a means to certain knowledge. Both the continued relevance of these points, and a shift in how the triad of vision, painting, and mirrors were conceived, emerge in the 1388 manuscript from stories of people who insisted on seeing what was not readily visible to them.

In the introductory story of the 1388 manuscript of Tusi’s text, the Prophet Abraham asks God to show him how He can revive the dead. In response, God asks him: “Don’t you know that I can revive the dead?” Abraham replies: “I do know; but I want to see it.” So God commands Abraham to gather four birds and kill them and scatter the pieces of them. Abraham gets a duck, a peacock, a crow, and a cock, and he does as God commanded. Yet at the end of the story, he holds all four of the birds alive and whole in his arms. Tusi concludes by commenting that the point of the story is that Abraham “wanted to see what he knew but had not seen.” In the 1388 manuscript, the image of this story illustrates the moment when Abraham stands with the four birds that God has made whole again and revived from the dead (fig. 57). This, of course, is the very moment when Abraham is able to see for himself “what he knew but had not seen.” Interestingly, he does not hold all four in his arms as
stated in the text. Rather, the duck and the crow perch on his arms, while the more visually striking cock and peacock perch on vibrant pink and blue rocks that flank him. Through this compositional arrangement, the painter emphasizes that Abraham confirmed that the birds were alive by his sense of sight and not just his sense of touch.

This is the first image of the manuscript, and its precise placement in the text has the effect of suggesting that the reader's encounter with the image parallels Abraham's encounter with the four revived birds. The image falls at the top of a page, but almost at the end of the story. It comes in the middle of the sentence in which Tusi explains the story's purpose, and just before he explains the purpose of the book:

The point of this is [top of next page, image] that Abraham wanted to see what he knew but had not seen. And we have put together this book because not everyone can travel the horizons to see what he has not seen. We have told of the wonders of the world that we have seen and heard, and when possible, we have made pictures of them.86

Although the painting is in damaged condition, the particular moment of the story it illustrates and its placement in the manuscript text remain clear. These two factors together suggest that the painting program of the manuscript follows from the premise that although vision is not a reliable means to knowledge, it is human to want to see things anyway. Indeed, according to Ibn Sina's theory of intellectual understanding, it is necessary to be able to mix up a variety of mental images which are originally formed from visual experience. Interestingly, this particular story is an elaboration of a story mentioned in the Qur'an (2:60), but the explicit emphasis on sight is new in Tusi's version. In the Qur'anic version, when God asks Abraham if he doubts God's ability to revive the dead, Abraham's reply makes no explicit reference to a desire to see with his eyes. Rather, he replies that he wants to reassure his heart. Further, the Qur'anic version does not conclude with the scene of Abraham reunited with the whole, revived birds, but rather with

درباره خداوند و جانبی آش از دیدنی دورنمایی می‌دانیم که هر چه بیشتری در این کتاب بیان و درک می‌کنیم از آنها بیشتری درک می‌کنیم.

با سلام، این آموزش خواهد بود که به شما بیان کنیم چگونه از این کتاب بیشتر شنیده و درک می‌کنیم.
God's promise that the scattered birds will come to him when he calls.

Tusi acknowledges the human desire for eyewitness experience even as he emphasizes that this desire is not only unnecessary – Abraham did actually know that God could revive the dead even before he saw it – but also potentially dangerous. In the chapter on the sun, Tusi relates that on one particularly hot day, Idris was concerned about the angel who carries the disc of the sun across the sky from sunrise to sunset and wished to God that the angel should find his burden easy (fig. 58). God granted his wish. The angel was grateful to Idris and offered to grant him a wish. Idris’s wish was to see the disc of the sun, and the angel granted him that. But there at the disc of the sun the Angel of Death seized Idris’s soul, explaining that this was according to God’s command. The angel responsible for carrying the sun regretfully asked God what he had done, when his intention had been to grant Idris a favor. God then brought Idris back to life but decreed that he should live like a bird and never go back to earth. Idris is still in the heavens and has been granted the book of the knowledge of the stars.

Neither of these anecdotes challenge basic medieval convictions concerning vision and epistemology, nor do they challenge the idea that knowledge requires a process of abstraction. But within the parameters of those convictions, these anecdotes are not actually so much about vision or about the acquisition of knowledge per se, as they are about the human desire to see. That vision is an uncertain or even a dangerous means to knowledge remains a given. But nonetheless, people yearn to see normally inaccessible sights. The difference does not come down to conflicting epistemological models, but to the allocation of attention to human desire within a larger epistemological theory.

The sheer quantity of paintings in the 1388 manuscript – there are 254 of them in the 249 folios that survive – identify the manuscript itself as a vehicle, if an imperfect one, for satisfying those desires. Most of them are narrative paintings, and so pull the readers’ attention away from the stability of the overarching framework of cosmic order and into a multiplicity of specific wonders. They therefore collectively induce a dizzying experience of wonder at the kaleidoscopic variety of the cosmos. This is the first level at which they engage with Tusi’s metaphor of his book as a world-showing glass.

But they also engage with it at a second, deeper level and this represents the major shift in Islamic manuscript painting that occurred under the patronage of Sultan Ahmad al-Jalayir. These paintings invite the viewer to move mentally around the painting, by identifying first with one figure and then another, or by psychologically entering a pictorial space in which depth is suggested, yet left somewhat undetermined. In the triad of mirror, vision, and painting, the paintings in the 1388 manuscript are akin to mirrors in both their possibilities and their limitations. Like the images seen through the world-showing glass, the paintings in the manuscript are there so that the wonders they depict may be made available to vision. At the same time, like mirrors and like vision itself, the paintings are recognized as imperfect tools of perception.
Talismanic Images

ASTROLOGICAL COMPOSITES AND EFFICACIOUS SYMBOISES

The talisman is a union of spirit with body (substance). As they [the philosophers] understand it, that means that the high celestial natures are tied together with the low (terrestrial) natures, the high natures being the spiritualities of the stars.¹

Ibn Khaldun, *The Muqaddimah*

In Sultan Ahmad's 1388 Tusi manuscript, the entry for marble includes an image of an angel with a crown holding a jug (fig. 59). The text explains that it can be used to make a marble talismanic ring. Several similar images also theoretically useful for the manufacture of talismanic rings appear in the chapter on stones. The very presence of these images calls attention to a striking difference between the early versions of Qazwini's *The Wonders of Creation and the Oddities of Existence* and Sultan Ahmad's Tusi manuscript. The former include only divinely created wonders and accordingly exclude human-crafted talismans. Tusi's book, by contrast, includes reference to several talismans, many of which are illustrated. In addition to those in the chapter on stones, which is more densely illustrated with them than is any other chapter, they also appear frequently in a chapter specifically entitled "Pictures and Talismans" and are scattered throughout several other chapters of the manuscript.² Interestingly, early modern translators and scribes subsequently inserted entire chapters on magic squares and talismans into cosmographic encyclopedias; they still identified as the work of the thirteenth-century author Qazwini, misleadingly launching his name into posterity as a major medieval source for these topics.³

The exclusion of such images from the earliest surviving medieval wonders-of-creation encyclopedias and their appearance in the late fourteenth century points to a broader phenomenon in Islamic manuscript illustration, which in turn signals an important historical shift within Islamic culture. In the encyclopedias of wonders, that shift is evident in the catalogue of things that evoked wonder and in how the experience of wonder mediated relationships between humans and the cosmos. Talismans and images of or

for them did not lead viewers to wonder at the cosmos per se so much as they facilitated wonder at the promise of human agency in the cosmic course of events. In astrological illustration more broadly, we see a parallel shift away from images depicting the various celestial powers as separate entities toward compositionally more complex images showing relationships between celestial powers and the earthly sphere that humans inhabit. In the early medieval Islamic world, these themes had been discussed mainly by specialists; in the late fourteenth century, they found a broader (though still generally educated) audience, as shown by their increasingly prominent position within illustrated books. The increased attention to these themes evident in the late fourteenth century would remain, in the fifteenth to eighteenth centuries, characteristic of early modern as opposed to early medieval cultural concerns in the Islamic world, in parallel with a similar shift that occurred in Europe at about the same time.

Medieval and early modern authors writing in both Arabic and Persian used essentially the same word for talisman: ṭilsīm or tilsam. A tilsam might be many things, including a monumental statue, an engraved ring, a written tablet or scroll, or an inscribed shirt. Objects as disparate as these all fell within the wide bounds of the word so long as they might have protective efficacy or effect relationships. The functions of objects called tilsam included protecting a community, a household, or an individual; providing general protection from unspecified dangers; or protection in a specific circumstance such as in a particular battle or against a particular disease; or affecting relationships at court or between lovers. Although my focus in this chapter is on wonders-of-creation images that were used in the production of talismans, my usage of the English words talisman and tilsamic should be understood with the same breadth of reference as the medieval Arabic and Persian term from which the English words are derived. Ibn Khaldun, writing in Arabic in the 1370s, made it clear that what was called a “talisman” was not a class of objects held together by their formal characteristics, nor even by their functions and desired effects, but rather by the theoretical frameworks in which their characteristics were expected to have efficacy. These frameworks were astrological. This explains why Ibn Taymiyya (1263–1328) specifically mentions talismans in a legal opinion against astrology.4

The fundamental importance of astrology to the theorization of talismans might at first seem to suggest that images such as that of the angel with the crown holding a jug from Sultan Ahmad’s Tusi manuscript (see fig. 59) should initially be approached through astrological iconography. Indeed, the image looks very much like many astrological images, and similar images have historically been studied in this way. However, for reasons to be explained below, such efforts have met with limited success. This does not mean, however, that we should dismiss the relevance of astrological texts to these images. Rather, it means that we need to reassess what it is that we seek from the texts. It turns out that the underlying logic of astrology helps explain the formal characteristics of many talismanic images. That logic is a logic of symbiosis.

CELESTIAL ICONOGRAPHY AND THE LOGIC OF VISUAL INVENTORY

The aspect of the image of the angel with a crown and a jug that calls astrological imagery to mind is its underlying compositional structure. Across stylistic boundaries and patronage levels, the same compositional structure also characterizes the personifications of the planets and many constellations as iconographic units. Except for Jupiter, who has no standard attributes in Islamic iconography but is rather represented vaguely as a judge, the images of the personified planets generally have a formally additive, or visually composite, quality. The images for talismans, such as that of the angel with the crown holding a jug, have the same visually composite quality. This quality prompts initial descriptions to be articulated as an inventory of parts. Descriptions of such images follow a characteristic verbal rhythm, in which nouns dominate, and verbs and prepositions serve merely to string the nouns together: a this bearing a that and a that.

In the case of images of the personified planets, their visually composite quality and the resultant inventory-like descriptions signal their iconography. That iconography, once learned, is easily recognized
and decoded. How, for example, might one identify a man, often with red hair or red clothes, holding a sword and a severed head with a beard (fig. 60)? As was established in the early twentieth century by Fritz Saxl and Erwin Panofsky, this iconography does have historical roots in an antique constellation of Perseus with Medusa's head, but in the Islamic world, it referred unequivocally to Mars. So what, a viewer with this knowledge may logically ask, is the iconographic code behind the image of the angel with a crown holding a jug?

Indeed, this was the framework within which the scholars of the Warburg school would have liked to analyze the talismanic images they encountered in such sources as the Picatrix, a Latin book of medieval magic based on the Arabic The Goal of the Wise (Ghayat al-Hakim). The only known manuscript illustrations of this particular work appear in a fragment of the Picatrix that is included in a magical anthology produced in Krakow in 1458–9 (fig. 61). Aby Warburg recognized such images as kin to the vast family of astrological images that claimed much of his attention in his scholarly prime. He and subsequent scholars who followed him in this research therefore sought the significance of the Picatrix images in their astrological iconography. However, this approach led to frustrating results.

In seeking the iconographic origins of the Picatrix images, Warburg and his students drew heavily on the work of Franz Boll. Boll had established that, although the planets equated with the gods of classical mythology were central to classical astrology, classical astrology also required more constellation images. In addition to the signs of the zodiac, which had particular influence over particular months, it was also necessary to inventory numerous other constellation images. Just as the zodiacal signs governed months, it was important to identify the constellations that governed every ten days within each sign of the zodiac as well as those that governed each day of the year. Many of these additional images were drawn from the knowledge of the stars developed in cultures that the Greeks identified as barbarian, and thus were called the “Sphaera Barbarica.” David Pingree's more recent work shows
that this tendency continued, as it outlines specifically how Indian astrological imagery affected medieval astrological imagery in the Islamic world and in the West. In addition to these images, which we might think of as imported ways of conceptualizing groupings of stars through constellation images, there were also various images that arose from amalgams of the others.

The scholars of the Warburg school identified the talismanic images they encountered in the *Picatrix* as examples of this amalgamated group (see fig. 61). As a whole, they viewed the amalgamated group as adulterated for two reasons. First, the images belonging to that group lacked any clear connection with the observable stars. Second, in the process of accumulating multiple traits and attributes from multiple cultural systems, they lost any easily decipherable connection to mythology. Therefore, while the scholars of the Warburg school may have correctly identified the sources from which the various components of the *Picatrix* images emerged, this search for origins did not ultimately lead to an interpretive framework that made sense of the images. Instead, they linked what they interpreted as the adulterated history of the images with their opinion that these images had been crudely rendered. Ernst Gombrich, for example, in explaining an opposition that Warburg drew between aesthetic and magic uses of images, refers to the *Picatrix* images with palpable annoyance as “fictitious constellations . . . utterly divorced not only from orientation but also from the aesthetic experience.”

Although the images from the stones chapter of Sultan Ahmad’s Tusi manuscript can hardly be accused of being divorced from aesthetics, it is nonetheless clear that they are closely related to the *Picatrix* images. Both share the additive compositional structure of many astrological images. Both were theoretically intended to be used in the manufacture of talismans. Both appeared in contexts in which talismanic theory was based heavily on astrology. The fact that the scholars of the Warburg school could not ultimately make sense of the *Picatrix* images by tracing their iconographic origins, therefore, suggests that the images from the stones chapter of the 1388 Tusi manuscript might benefit from a different approach.

In the pages that follow, I propose to locate the talismanic images from Tusi’s chapter on stones within

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61 Figures of the daemonic decans. A fragment from the Latin *Picatrix*, included in a magical anthology, Kraków, 1458–9. 31 × 21.5 cm (full folio). Kraków, Biblioteka Jagiellońska, MSS 793, fol. 190r.
a brief survey of the astronomical and astrological manuscript imagery that preceded them in Islamic art. This brief survey calls attention to the importance of the compositional structure of these images, because it is at the level of the compositional structure that we can most clearly see both the continuities and changes in Islamic astronomical and astrological manuscript imagery over time. The survey then leads to an exploration of how attention to the formal structure of the talismanic images can help make sense of how their talismanic efficacy was theorized.

The changes and continuities evident in the formal structure of images to be surveyed below may generally be characterized as follows. First, while the earliest Islamic manuscript images of celestial bodies are literally ordered around stars—examples of divinely created phenomena—there also survive, from the late fourteenth century, images conceptually ordered around humans. Second, despite this shift, all these images are compositionally similar to the angel with the crown and the jug discussed at the start of this chapter in that they elicit descriptions formulated as inventories. This second point turns out to be essential for understanding how talismanic images were theoretically expected to work.

The 1009–10 manuscript of the Book of the Fixed Stars (Kitāb Šuwār al-Kawākib al-Thābita) of Sufi offers our oldest surviving images of constellations as depicted in Islamic manuscripts. Sufi’s project constituted a visual, textual, and cultural translation of Ptolemaic astronomy into an Islamic sphere. Each constellation was depicted twice, once as seen from the earth, and once as would be seen looking down on the celestial sphere (fig. 62). This pattern was also follow-
ed in subsequent manuscripts (fig. 63). Historians of science have emphasized that the positions of some of the stars in the Ptolemaic constellations were adjusted according to astronomical observation. Historians of Islamic painting have emphasized that the images of the constellations offered new interpretations compatible with an Islamic milieu. For example, Virgo, rather than being equated with the pagan goddess Aestrea, became a thoroughly familiar courtly type: a dancing girl (see fig. 62). Sufi, along with any artists who may have been working with him, thereby successfully transformed Ptolemaic astronomy into a system of understanding and organizing the stars that did not carry with it into the medieval Islamic world the heretical baggage of pagan polytheism.12

The portrayal of Virgo as a dancing girl in the 1009–10 manuscript, then, was culturally accessible. In each of the facing images, a flurry of drapery at the ankles and one raised shoulder also make it dynamic. This dynamism, along with the arresting renderings of the dancing girl’s face, serve in part to entice viewers to engage with the images. But even as they entice, the images also have a remarkable schematic clarity. The outlines of the constellation Virgo are depicted clearly in black ink against the plain paper of the page and are punctuated by clearly indicated red stars. At its most basic level, the image is a mnemonic device for remembering the constellation, and the constellation is, in turn, a mnemonic device for organizing basic astronomical information about the relative positions of stars. The fact that each star in the constellation is not only noted but also labeled invites the viewer to use this accessible and enticing image as a visual frame for an inventory of stars.

Sufi’s book became the basic reference in Islamic astronomy and was disseminated in numerous manuscripts with similar images through which subsequent generations of astronomers learned the constellations (see fig. 63). The great astronomer Nasir al-Din Tusi, Qazwini’s contemporary, translated it into Persian. His autograph copy, which survives, has a fascinating provenance.13 It was in the library of the Jalayirid Sultan Ahmad in the late fourteenth century, and in the library of the Timurid Prince Ulugh Beg in the fif-
teenth century. Ulugh Beg’s astronomer, who later became an astronomer at the Aya Sofya mosque, probably brought it with him to Istanbul. It remains there today, with a shelf mark (or call number) that testifies to its historical provenance in the Aya Sofya Mosque Library.

Moya Carey has analyzed the earliest manuscripts in this tradition, which include not only manuscripts of Sufi’s own book but also manuscripts of a closely related book by Sufi’s son. Carey points out that these manuscripts sometimes explain how to find the Ptolemaic constellations through reference to Bedouin Arab conventions for visualizing the same stars. For example, some of the stars within the Ptolemaic constellation Ursa Major were seen within the Bedouin system as tracks of gazelles. References to the Bedouin system, then, show that although it was the Ptolemaic constellation system that would eventually become the established constellation system in Islamic culture, the early manuscripts had to do the work of supplanting the Bedouin system with the Ptolemaic one.14

This is intriguing, because it hints at the interdependence of paper image, mental image, and thought in this milieu. It makes clear how fundamentally important the images in the early manuscripts were, not just as mnemonic devices for learning the relative positions of stars but in establishing the units of analysis through which subsequent generations thought about stars. The images of constellations in these manuscripts established some combinations of stars rather than others—that is, the groups that were organized into the Ptolemaic constellations as opposed to other constellation systems—as meaningful units of analysis. These units of analysis, visualized in a manner that divorced them from pagan mythology, had names, yet, they were fundamentally understood as visual entities. Once the constellation of Virgo as a dancing girl was established in Islamic astronomy, this did not just mean that students could locate certain stars with respect to each other by remembering Virgo. Rather, it meant that among students of Islamic astronomy, the idea of Virgo, based on a mental image that each student formed from the study of manuscript images, became a shared reference point. As such, the image named Virgo became established as a cultural construct—but as a cultural construct that could be discussed and analyzed, it became a conceptual entity unto itself. The shared conceptual entity that any given constellation became was the theme around which revolved the numerous variations on paper. Those paper variations on the theme are easily discernible from one manuscript to the next as well as within a single manuscript’s depiction of a single constellation. Depictions of constellations clearly varied over different stylistic milieus over time, and the paired images of the constellations as seen from above and below varied more subtly—almost, but never quite, mirroring each other (see figs. 62, 63).

In other words, it was impossible to think about astronomy without the constellations, and impossible to explain what the constellations were without images. Given that Sufi’s Book of the Fixed Stars quickly became the established reference for the constellations, it was natural that Qazwini should have used Sufi as his main source for those topics when he compiled his cosmographic encyclopedia of divinely created wonders in the late thirteenth century. Qazwini’s entries for the constellations drew heavily on Sufi, with the images very much in the visual tradition established through the Sufi manuscripts (see figs. 63, 64)15 and with the texts of those entries including some of Sufi’s exact wording.

Qazwini’s encyclopedia is organized in a manner that allows inclusion of all aspects of creation; that is, it is roughly organized according to the hierarchy of creation, with the things of the celestial sphere considered closest to God appearing first and the things of the earthly sphere considered further from God following them. In his encyclopedia, then, the zodiacal images and other constellations appear alongside personifications of the planets, which were also understood to inhabit the celestial realm.

On the one hand, Qazwini depends heavily on Sufi in his chapters on constellations, but on the other hand, the new cosmographic context into which Qazwini inserts what he draws from Sufi radically reframes that information. This adds an important new set of references to which the celestial images relate. In Sufi’s book, the celestial images are visualized in reference to observable stars. This is true whether one considers the image of each constellation separately, as presented on a single page, or in its context in the bound codex, where it appears as one of many constellations. In some manuscripts of Qazwini’s ency-
 encyclopedia, constellation images include gold circles to indicate the stars, and in this way these celestial images are still related to them. But at the same time, by virtue of their careful location in the Neoplatonic framework of Qazwini’s encyclopedia, these celestial images are also presented in relation to the rest of the created cosmos. Just as the images of the constellations were necessary for the full conceptualization of the constellations, the images of other created wonders appear throughout the encyclopedia, facilitating the mental imaging of those wonders as well.

The reference points to which celestial images relate shift again in an anonymous and little known early fourteenth-century manuscript of an astrological book. A clearly written inscription on folio 1r of the manuscript offers the title *The Forms of the Zodiac and the Stars (Suwar al-Ba’ti‘ wa-l-Kawakib)*; the most important of the “stars” were the planets, so this is an apt title for a book of images of the zodiac and the planets. Unlike Qazwini’s book, this seems to have been more of a reference handbook than a general encyclopedia. The manuscript’s unusual format supports the hypothesis that it might have been intended as a handbook. The images are oriented perpendicularly to the text, making it possible to fit both images and text into the small and narrow pages without cramping the width of either (see figs. 60, 69, 72). The pages, only 23.9 × 15.5 cm, are protected by an unusually soft and supple binding. With its supple binding and small size, the manuscript invites the reader to cradle it, adopting a hunched posture that suggests a particularly intimate reading and viewing experience. In fact, a book in a similar binding now in the medical library of the University of California, Los Angeles (UCLA), contains an intriguing inscription indicating that it was meant to be carried in the loose space at the side of a riding boot—in other words, the UCLA manuscript was made to be read on the go. If this manuscript of *The Forms of the Zodiac and the Stars* was originally intended as a quick reference handbook, then perhaps, too, was designed to be read on the go. In this book, the reference points to which iconographic images of celestial forces are related are not only the stars visible in the sky but also materials, animals, plants, and qualities found throughout the cosmic system, in earthly as well as heavenly realms. The book is arranged as
a catalogue of images expressing astrological relationships presented against a floridated red ground.

Each of the images also invites the viewer to inventory its contents. The first thing one notices in the painting on folio 23a, for example, is the central figure iconographically recognizable as Mars (see fig. 60). Beyond the sword and the severed head that he holds, his red eyebrows, moustache, and beard mark him as the red planet, and his helmet marks him as war-like. The image, however, is not labeled “Mars,” but rather “The Form of Scorpio is this.” The two yellow scorpions flanking Mars allow the viewer to note, as if checking them off a list, that Scorpio is visually present. Mars’s central position in the image ostensibly representing Scorpio becomes less surprising once one takes into account that each sign of the zodiac was understood to have a Planetary Lord, a planet with particularly strong influence throughout the duration of the sign. As Stefano Carboni has explained, “Mars is the Planetary Lord of . . . Aries and Scorpio and, having a strong personality, he dominates the images when included.” In this book there is a shift in the understanding of what constitutes a complete image of the zodiacal constellation: the complete image now also includes astrological information about the relationship of the zodiacal constellations to the planets.

A visually striking chart on folio 9b lists the twelve zodiacal signs down the right side of the page, following each are a series of five smaller boxes in which are presented the names of the planets that exert influence in that sign as Planetary Terms (fig. 65). The layout organizes inventoried information in a hierarchical structure. The list at the right immediately attracts attention, with the names of the signs alternately written in red and green, and the ligatures of the letters extended dramatically along the horizontal. This visually prominent list of the signs also offers the inventory that subsumes the other lists: those appearing in small square boxes to the right with the names of the Planetary Terms written delicately in alternate diagonal directions.

As with manuscript painting in general, astrological imagery changed dramatically in the late fourteenth century under the Jalayirids. One of the most interesting types of astrological manuscript images from the Islamic world are nativity images, such as one for a person born under the third decan of Taurus (fig.

Although the texts they accompany are often older, the earliest manuscripts and manuscript fragments with nativity images of this type survive from the Jalayirid period. These images invite an inventorying response at another level. Here, viewing by inventory plays a key role in how the image as a whole functions to express relationships between multiple iconographic units, the units themselves each characterized by the same visually additive quality. The pieces of the inventory can be recombined to express those relationships.

The Jalayirid nativity image is busy, with brightly colored figures crowding the page (see fig. 66). The busyness comes from the combination of the iconographic images of one zodiacal sign and several planets in the same composition. In his impressively lucid explanation of nativity images of this type, Stefano Carboni explains how such compositions index the confluence of astrological forces relevant to particular circumstances of birth. For example, the Jalayirid nativity image is for one born under the sign of Taurus (the bull) whose Planetary Lord is identified as Venus (the woman with the lute riding the bull). More specifically, this nativity image refers to one who was born in the third decan, or ten-day period, of the thirty days of the sign of Taurus. During the third decan of Taurus, Saturn (the older man with dark skin holding an axe) was thought to wield a particularly strong influence. Below, the composition originally included five figures indicating the five Planetary Terms, which, according to this particular astrological text, had special influence on certain days within the sign of Taurus. The one to the far right has been lost, but the others from right to left are Mercury (the scribe), Jupiter (the turbaned man who, by convention, was understood to resemble a judge), Saturn (the dark man with an axe), and Mars (the warrior in red with the sword).

To have even minimal conceptual access to an image such as that for a person born under the third decan of Taurus, the viewer must see not only the parts of each iconographic unit but also the total list of iconographic units that together comprise the image. It is not enough to note that the figure in the upper left corner is an old man with dark skin and an axe, and thus represents Saturn. The viewer must then place Saturn within a larger inventory.

The appearance of Saturn as a decan, and of additional planets as Planetary Terms, marks an important difference between astrology in the Islamic lands and in Christian Europe, which also resulted in differences in the astrological images produced in these respective milieus. In both cases, it was understood that particular celestial powers held sway during the three periods of ten days into which each zodiacal sign could be divided. But who or what were those celestial powers? In Europe, they were daemonic decans, in other words, in addition to the personified planets and zodiacal signs, there was yet an additional cast of characters called decans associated with demonology and identifiable in images through their own iconography. In the Islamic lands, however, the “decans” did not exist as a separate cast of characters. Rather, the various astrological roles that the planets played might include the role of a decan, as in this image, where Saturn is the celestial power with particular force in the third decan of Taurus. There is a similar difference in the identification of the celestial powers who influence particular days. In Europe, these powers were again exerted by the daemonic decans. In the Islamic lands, they were again exerted by planets. Islamic astrological images do not have a separate group of decans. This is why, even though the scholars of the Warburg school suggested that the iconography of the decans as depicted in Europe must have been inherited from the Islamic lands, one cannot actually identify Islamic comparanda for them.

This section has reviewed the ways that within the Islamic sphere, we can also note important differences over time. To summarize, we can see those differences at a formal level in the schematic clarity of the eleventh-century Sufi image as opposed to the colorful busyness of the late fourteenth-century nativity image. These two images establish an axis of comparison between a schematically clear representation of a single constellation and a formally more complicated expression of astrological relationships. Between these two examples, not only in time but also on the axis of comparison just sketched, lie the late thirteenth-century

66 (facing page) A nativity image for one born under Taurus, in the third decan under Saturn. From a fragmentary astrological manuscript. Jalayirid Iran or Iraq, late fourteenth century. 16 × 18 cm (full folio). Ham, Richmond, England, Keir Collection, MSS III 46, fol. 8b.
Qazwini constellation images and the early fourteenth-century images from the small oblong astrological handbook. Like the Sufi images, the Qazwini constellation images portray single constellations, but unlike the Sufi images, they are painted in colors. This has the result that, compared to the Sufi manuscript, more attention is drawn to the constellation as a whole and less to the stars it contains. The images in the early fourteenth-century astrological handbook include more attributes, thus inserting each constellation or zodiacal sign into a relational system. The Jalayirid image is crowded because it shows the complicated combination of astrological influences relevant to one born in the third decan under Taurus.

In a fundamental sense, the focus has shifted from creation to humanity. Whereas the underlying organizing principle of the Sufi image is the observable stars, the underlying organizing principle of the nativity image is a hypothetical human, born under the astrological conditions expressed in the image. Yet, despite these differences that are discernible over time, all these images share an underlying logic that does not characterize narrative or lyrical paintings. They all prompt the viewer who knows some celestial iconography to begin his response to them by taking an inventory of visual information and then to try to match this inventory with an inventory of learned pieces of information. At one end of the spectrum, as a suggested paradigmatic form through which to visualize part of the night sky, the image of the constellation Virgo invites an inventory of the stars that it includes. At the other end, as a kind of mental map of the symbiotic relationships between planets and zodiacal signs at a given moment, the nativity image also invites a description that begins with an inventory of Taurus, Venus, and Saturn. In this way the astronomical and astrological images are similar to many of the images which, we read, were designed to be used in the production of talismans.

TALISMANIC IMAGES AND THE LOGIC OF SYMBIOSIS

How, then, does the logic of visual inventory relate to talismanic images and the conceptualization of how talismans were expected to work? Although they were definitely described in earlier texts, the oldest surviving manuscript paintings we have of images that can theoretically be used to craft talismans appear in the late fourteenth century under the Jalayirids. Several such images appear in the chapter on stones in the 1388 Tusi manuscript produced for the Jalayirid Sultan Ahmad. Like Qazwini’s cosmography, Tusi’s was roughly organized according to the hierarchy of creation.

In the chapter on stones, Tusi describes talismanic rings that can be made of particular stones. While some of these rings are perceived to have protective powers, others are perceived as effecting other kinds of auspicious outcomes. Accompanying the descriptions of the rings, there are images that should be inscribed on these stones in order to make efficacious talismanic rings.

A page in a scientific anthology made for the fifteenth-century Timurid prince, Iskandar Sultan, presents closely related images accompanied by texts that overlap with Tusi’s (fig. 67). For example, in the top row of the images on the page from Iskandar Sultan’s anthology, the second image from the right shows an angel holding a stick in his proper right hand and a jug in his left hand (fig. 68). A plume or wrapped lock rises gracefully from the middle of his simple skull cap. The sweep of gold plating defining the curving upper border of his blue and red wings echoes the gold plating of the handsome jug. The unbroken smooth shine of both these golden surfaces sets them apart from the shading of his mauve tunic, from the patterns that fall against the gathered folds of his skirt, and from the texture suggested by the rippling blue feathers in his wings. The accompanying text reads as follows:

Stone: Marble. It is a white stone. Apollonius [of Tyana] says that if one makes a ring of marble on a Wednesday, upon which one puts an image of a man, a stick in one hand, and in the other hand a jug with no handle, and then this picture should have two wings, and on his head a cock’s spur, and on the right side of this image these four letters:

67 (facing page) Talismanic figures for various stones. Anthology for Iskandar Sultan. Isfahan, Iran, c.1413. 48.1 × 36.5 cm (full folio); 36.1 × 26.7 cm (ruled area of the page). Istanbul, Topkapı Palace Museum, MSS B. 411, fol. 139b.
winged figure in the Tusi manuscript holds the jug in his proper left hand. Despite having used a relatively cheaper paint, the artist makes it clear that this, like the jug in the Iskandar Sultan anthology, is a golden jug by rendering the figure's princely crown with the same paint and by setting the jug against the background of the figure's mauve-pink tunic. The figure holds up his proper right hand in a gesture similar to that indicated in the Iskandar Sultan anthology, clenching it as if to hold a stick that the artist never supplied.

The other talismanic rings described in Tusi's chapter on stones, and on the Iskandar Sultan anthology page, are presented similarly. It is useful to think of these verbal—visual presentations as analogous to recipes. The ostensible topic of each one is its main ingredient—a particular stone. The recipe—the paired passage and image—explains how to prepare it into a finished dish—a talismanic ring—and details what results may be expected.

Each includes a single image. Unlike images that appear in several other chapters of Sultan Ahmad's Tusi manuscript, the images in the stones chapter are never narrative. In style, they are in keeping with the rest of the manuscript, but in idiom, they resemble instead the images from the page from Iskandar Sultan's anthology. In both cases, the single image that appears as part of the recipe for a talismanic ring is never a depiction of the stone that is the ostensible subject of discussion nor of the talismanic ring that one can theoretically make from it. Instead, the image depicts one of the essential additional ingredients needed for the recipe. That ingredient is always a picture or form described in the text that needs to be placed on the stone. The form is in turn a composite of an inventory of traits. In the example of the image for marble, one looks at it, and notices the wings, the stick, the jug; the image is constructed in a manner that invites from the viewer a sort of checklist appraisal of its components.

Each image that appears in conjunction with these texts is the visual part of the recipe in two simultaneous senses. First, it is the visual part of the word—image presentation of the recipe on the page. Second, it is the visual ingredient in the recipe. That the image is conceptually the visual part within a larger system emerges from an analysis of the standard template

... and embeds this in a lead ring, then whoever has this ring will be protected from forgetfulness.

Either this passage is extracted directly from Tusi's text, or the two share a common source. In Sultan Ahmad's manuscript of Tusi's *World-Showing Glass*, the entry for marble in the chapter on stones is almost the same. After the initial description of marble as a white stone, and before the mention of Apollonius, Tusi's text also includes the phrase: "They make pillars and buildings from it." The passage then proceeds as in Iskandar Sultan's anthology. At the end it continues: "And as long as he has this ring, he should not eat radishes, and should not send wind through a pipe."22

The figure in the Tusi manuscript (see fig. 59) wears a crown rather than the skull cap shown in Iskandar Sultan's anthology (see fig. 68). Despite such differences, the two images share obvious iconographic similarities and even seem to share conventions not specified in the text. As does the anthology figure, the
that the textual portion of each recipe follows. Each text has three main sections.

In the first, very short introductory section, the stone is described in terms of such properties as color and appearance or the region in which it can be found. In basic terms, it identifies the stone that is the main ingredient of the recipe.

The second, main section, tells how to make the talismanic ring. As the cooking recipes with which we are familiar establish the conditions under which a dish must be made by specifying how to preheat an oven or adjust yeast and baking times at high altitudes, this section also establishes the conditions under which the process should take place. And like the cooking recipes we know, it describes how to add what additional ingredients. It is most often introduced by reference to Apollonius of Tyana, for example, “Apollonius says that whoever –” or “Apollonius says that it –.” In a few exceptional instances it is introduced simply by “if.” The timing appropriate for making the ring stone is given first. The day of the week is routinely given, sometimes augmented by more specific astrological conditions. Then the visual ingredient—the image to be engraved on the stone—is described. If there is also an ingredient of writing—letters that must be engraved on the stone—they are also mentioned at this point. Then the metal ingredient—the type of metal appropriate for the ring into which the stone is to be set—is named.

The third, concluding section, describes the ideal results. It indicates the effects that are to be realized by the ring if the conditions of the second section are fulfilled. This is sometimes followed by a sort of postscript or a warning indicating what must be avoided in order not to counteract the talisman; for example, the bearer of the marble ring should not eat radishes.

For all the information on the conditions of efficacy, therefore, Tusi’s template allocates no space for direct explanation as to why these rings should be efficacious. And yet, as a whole, this template hints at the logic according to which such arguments might proceed. While the discrete pieces of information presented may seem deceptively simple, the actual wording routinely puns in ways that complicates matters. The verb used for setting the stone into the metal ring is the same as to impress, so that the setting of the stone also suggests the stamping of a signet ring. This blurs distinctions between the production and implied function of the object. The same word also refers to the setting of the ring and what is set into it. The ways in which words within the instructions collapse distinctions are actually quite suitable to the ways the talismans were expected to work. They could only function through a conceptually and materially melded symbiosis that effected contact between one realm of the cosmos and the next.

The inclusion in the template of information on critical timing hints that the efficacy of the talisman can be understood partly by reference to astrology. The central importance of astrology in medieval Persian courts is well known. Despite wide acknowledgement that some so-called astrologers were quacks, there was also great respect for what was seen as the true art of astrology. The cycles of the days and of the seasons did indeed mean that there were auspicious and inauspicious times to plant, to harvest, to construct monuments, and to go to battle. According to The Four Discourses (Chahar Maqala) of the twelfth-century author Nizami Arudi, for example, the four ministers required by any prince are the scribe, the poet, the physician, and the astrologer. This book was an essential element in any medieval Persian court library. Among the surviving manuscripts of it is an illustrated one owned by the Timurid prince Baybars and completed in Herat in 1431. The prominent place of astrology in court culture is important to note: the field of learning and inquiry that lay behind the production of talismans was not a hidden, occult, or popular magical practice. As the scholar of Islamic thought Yahya Michot has noted, even Ibn Taymiyya, who argued cogently against the licitness of astrology, seems to have accepted some of its basic precepts. As Michot asks, “How else can one explain why, in the polemical controversy on the identity of the tutelary planet of Islam, he prefers Jupiter to Venus, instead of denouncing the whole debate as nonsense?”

Astrology was theorized in terms of the same essentially Neoplatonic model of creation by emanation that ordered the earliest wonders-of-creation encyclopedias. Because the universe had emanated from God, its single source, different aspects of creation were linked by sympathies. One of the reasons that the courses of the planets were understood to effect the
earthly realm was that the planets shared sympathies with specific earthly substances and qualities that resembled them. Such sympathies made those substances particularly receptive to the influences of those planets. In the classic The Book of Instruction in the Elements of the Art of Astrology (Tafṣīr li-Awāl Ṣināʿat al-Tanjīm), Biruni articulates that relationship as follows: “The planets always influence whatever is receptive under them.”

Because of these sympathies, particular planets had a pull on particular metals and stones, as well as on other earthly matters with which they shared other traits. Through a combination of different sympathetic resemblances to and antithetical differences from the characteristics of various planets, what was on earth attracted and repelled the influences of different combinations of planets. The following comment by Biruni gives an indication of the multi-layered complexity of how astrological influences were understood.

The masters of astrology first agreed to arrange things according to their colours, smell, taste, special peculiarities, actions and habits and attached them to planets in accordance with the nature, beneficence or maleficence of these, but other associations were suggested by resemblance in time of appearance or of coming into action. It is rare that only one planet furnishes the indications for one subject or object, generally two or more are associated, as for example when two elementary qualities are present obviously related to two different planets. Thus the onion is related by its warmth to Mars and by its moisture to Venus, and opium by its coldness to Saturn, and its dryness to Mercury. So when any one speaks of Saturn as the signifier of opium, it is merely its coldness that is referred to, and if Mercury is cited in the same capacity, that is due to its dryness.26

The need to make the talisman out of particular materials at a specific time suggests that the talisman can work partly by plugging into this system of cosmic sympathies that determine fates. The references to materials and timing therefore hint that the talismans might work through connection to astrological means of achieving favorable outcomes that were familiar in varying degrees to Tusi’s audience. Indeed, the anthology made for Iskandar Sultan, in which the page with the descriptions and images for talismanic rings appears, is mainly an anthology of astrology. The context of this page, within the anthology, confirms the association between the rings and astrology.

The marble talisman against forgetfulness, for example, seems to be designed in part to attract the influences of Mercury and the Sun and to repel those of Mars. According to Biruni’s classic astrology text, Mercury governs the faculty of reflection and is associated with sharp intelligence and understanding. It governs Wednesday,27 the day the talisman is to be made. Further, it is a planet whose influence can be either beneficent or maleficent, so one would want to augment its beneficent qualities and avoid its maleficent ones. Marble, the main material of the talisman, is governed by the Sun, which is beneficent and is associated with intelligent and knowledgeable character.28 Radishes, which should not be eaten while one has the talisman, share sympathy with Mars, a maleficent planet, associated with confused opinions and ignorant character.29 In early modern Persian manuscripts of Qazwini’s text which included talismans, the image of a man with a stick and a jug was presented specifically as a talisman for Mercury (see fig. 8o).30

Putting together an effective talisman required a careful symbiotic combination of materials and conditions that would pull or repel the desired combination of planets in the appropriate proportions. This theoretical framework has two important implications for the images that are part of talismanic recipes. First, it points to the importance of the image’s material context. Second, it points to why the images have the visually additive quality that characterizes them and how this visually additive quality fits into the larger symbiotic system.

The pattern according to which talismanic recipes are constructed clearly shows that the images are not efficacious in isolation.31 This does not mean that the image is not powerful but rather that its power depends on understanding how it, as a part, relates to a whole. Like any other part of the talisman, the power and efficacy of its image, depends on the symbiotic relationship between all parts of that talisman, because it is that symbiotic relationship in turn that allows the talisman to plug into a larger cosmic system of interrelated causes that would have been familiar in a medieval Persian courtly milieu.
The structure of the talismanic recipes also offers some tantalizing possibilities for coming closer to understanding how the images are supposed to fit into the larger symbiotic system and why they look the way they do. In a broad sense, such images are typologically similar to the kinds of figures that iconographically represent the signs of the zodiac, or the planets. Several such images appear in the early fourteenth-century oblong manuscript of the anonymous astrological handbook entitled The Forms of the Zodiac and the Stars discussed earlier in this chapter. Its images can be described in similar terms to those from the stones chapter of Sultan Ahmad’s Tusi manuscript, or to those from the page of talismanic forms in Iskandar Sultan’s anthology. A given image features a man or a woman. This figure might be riding something, such as a bird, a serpent, a large feline, or a riding animal. Typically it holds something, such as a staff, a spear, a fish, or a severed head. Sometimes one element of the composition is doubled—a woman with two heads, or a figure flanked by two fish. Yet none of the talismanic images actually corresponds precisely to any of the zodiacal or planetary ones.

Why is this the case? One hypothesis is that like the talismans themselves, they are necessarily symbiotic composites. In support of this hypothesis, it seems that the planetary images, likewise, were sometimes composites of additive elements. For example, at first glance, several of the images in the anonymous early fourteenth-century The Forms of the Zodiac and the Stars seem initially to correspond to descriptions of planetary images that Biruni offers in The Book of Instruction in the Elements of the Art of Astrology. For example, Biruni describes two possible iconographic representations of Venus.

Venus: ... Woman on a camel holding a lute which she is playing; another picture: woman seated her hair unloosened the locks in her left hand, in the right a mirror in which she keeps looking, dressed in yellowish green, with a necklace, bells, bracelets and anklets. The Forms of the Zodiac and the Stars includes an image of Venus that initially seems to correspond to the first of these (fig. 69). In this image, a woman holding and playing a lute rides a camel. Oddly, though, the camel is light green. Given the important relationship between planets and colors, it seems possible that the camel is green in the early fourteenth-century image for the same reason that in his mention of the second possible picture for Venus, Biruni states that she wears green.

As the talismans as complete objects depended on a symbiosis of qualities that attract and avoid different planets, it may be that the talismanic images were also designed as composites, the different parts of which resembled parts of images of different planets. Interestingly, the Florentine Neoplatonist Marsilio Ficino (1433-1499), who frequently alludes to Arabic sources, devotes an extended discussion to the desirability and art of attracting the combined forces of the moon, the sun, Venus, and Jupiter. If this hypothesis is correct, it suggests that the amalgamated quality of such images is not a symptom of adulterated confusion, as it was first interpreted by the scholars of the Warburg school, but purposeful.

The composite nature of the talismanic image, then, expresses a sympathy between the talismanic image and the talisman as a whole. The talismanic image in that case might serve as the vehicle through which the various parts of the talisman were linked in a sympathy of resemblance. The framework of sympathy would, in theory, allow the different parts of the talisman to act upon and receive influence from one another, paralleling the process of the production of the object in which the image is impressed into the stone, and the stone in turn is embedded into the ring. The specific form of these talismans as rings, rather than as pendants, for example, suggests that the images on them are to be reproduced. Stamps and seals, which are clear examples of material forms that enable the reproduction of images or of words in the visual form of writing, were often worn as signet rings. The strong suggestion that the rings might be signet rings, which can stamp the image multiple times, evokes (if in an inverted manner) the authority of the closely copied image. Signet rings were important princely accoutrements. They included not only the ones that have traditionally attracted the attention of historians and art historians, that is, the ones of direct documentary value that bear names, titles, and dates and were used as marks of ownership.

It has been noted that no single surviving ring actually matches any surviving talismanic ring recipe. 3
This observation is important for the relationship between theory and practice, which is a central concern in the history of science. But the same observation need not be taken as an indication that the theoretical recipes and the surviving rings have nothing to do with each other. Rather, the recipes and the rings are different interpretations worked out within the same theoretical framework. Among actual surviving rings and signets, several include some combination of precious stones, images, and writing. A thirteenth- or fourteenth-century example from eastern Iran consists of a carnelian set into a gold ring (fig. 70). Caryatid figures, suggestive of the antique, appear on the sides of the ring to support the bezel and the stone. Pairs of snakes, which were popular apotropaic forms, appear on the bezel and below the caryatids. The names "Muhammad" and "Ali" are carved in reverse onto the carnelian, so that a stamp from this ring would transfer the names of the prophet and his revered son-in-law onto another surface. Impressions made by signets also attest to ones bearing inscriptions expressing hopes for blessings. One such stamp reads, "Oh Lord, by the Seal of the Messengers [that is, the Prophet Muhammad] Seal my [life? or work?] with good works" (Ya rabb bi-khatim al-rusul / Ikhtam bi-l-saliḥāt [amri? or amaṭli?]). Like Tusi’s talismanic rings, such objects were invested with wishes for favorable future outcomes.

In the medieval Islamic lands, as in medieval Europe, the impressed image evoked an Aristotelian model of visual perception and memory. This model explains a critical moment in Nizami’s Khamsa, when Shirin receives Khusraw’s portrait. One illustration of this scene is found in another anthology from the library of Iskandar Sultan, made in 1410–11, within three years of his anthology that included information on Tusi’s talismanic rings (see fig. 48). When Khusraw sends Shirin his portrait, he expresses his hope that “she be like wax, image (naqsh) accepting.” What Khusraw’s phrase actually expresses is the Aristotelian model of the brain as an organ of soft moist matter analogous to a wax tablet. According to this model, at the moment of perception, information is materially impressed into the brain, as information is im-
pressed onto a wax tablet. The retention of the perception in memory depends on whether the material in the brain where the perception is initially stamped is sufficiently hard, dry, and stable to retain the impression. What Khusrav is saying is that he hopes that his form, materially conveyed by his portrait, will have a material impact on Shirin’s brain. Quite literally, he hopes to make an impression on her.

Khusrav’s wish to literally make an impression on Shirin speaks of a world in which the means and effects of impact, influence, and receptivity were understood as simultaneously material, intellectual, and emotional. In this world, the hypothesis of the composite talismanic image that shares sympathy of resemblance with the talisman into which it is impressed makes sense. If the different, inventoried parts of the image reinforced the different parts of the talisman through sympathy, and if the composite nature of the whole image resonated sympathetically with the composite nature of the whole talisman, the image would be the khātim (seal, stamp, impression) of and on the symbiotic balance within the complete talismanic khātim (ring) – itself a craft of symbiotic balance designed to attract influences from the appropriately nuanced combination of the celestial bodies with their beneficent and maleficent souls.

MATERIALS AND LETTERS IN TALISMANIC SYMBIOSIS

The most important materials for talismans were stones and metals that could be mined from the earth. These had particularly strong sympathies with the planets because they were among the first created terrestrial things to have emanated. Among metals, surviving objects indicate that iron and bronze were used with particular frequency. At the great mosque of Cizre in Anatolia, built in the early thirteenth century, apotropaic or protective bronze door knockers were used at each entrance of the city’s most important gathering place. These bronze door knockers were crafted in the shape of confronted dragons around a lion’s head. The Mongol paiza, discussed in chapter three, is iron. Interestingly, in the entry for bronze (nūbās) in his classic eleventh-century Arabic lapidary, Biruni insists that bronze has been established as the substitute for iron. This molten nūbās, Biruni says, is what Alexander used for welding the iron in the wall he built against the Gog and Magog. The conceptual melding of bronze and iron, described as a material melding in Biruni’s description of Alexander’s wall, parallels the way talismans were supposed to function. A man-made talisman manipulates the natural order by melding itself into naturally occurring substances and tapping into their properties; in Biruni’s account, the man-made alloy of bronze melds with and taps into the properties of naturally occurring iron. Flexibility in medieval usage also suggests that there was a conceptual melding of bronze and brass.

Biruni’s entry on bronze (nūbās) suggests some of the cultural associations that would have been thought to

70 Gold ring, engraved, decorated with niello and gold appliqués, and set with an inscribed carnelian. Eastern Iran, thirteenth or fourteenth century. 2.4 x 2.4 cm, bezel width 1.7 cm. Iran, early fourteenth century. London, The Nasser D. Khalili Collection of Islamic Art, JLY 1600.
enhance the alloy’s strong physical properties. First, he defines it as a molten metal, pointing out that it only comes into being in the heat of the bellows. In its molten form, it can be used in battle like hot oil. This, he explains, must be what is meant in the Qur’an (55:35): “Against you shall be loosed a flame of fire, and molten brass [nūḥās]; and you shall not be helped.” He then offers a fascinating and punning comment on this in which he links nūḥās, earth’s reception of heavenly fate, war, and amulets. According to him, the fact that nūḥās substitutes for iron shows that earthly affairs are the falling of fate’s arrows hitting the mark (in his Arabic, as in my English paraphrase, his phrasing has the double sense of war and of signification). Thus, Biruni says, are amulets tied to the necks of children. The idea is that amulets are needed to protect them from fate’s falling arrows.

A twelfth-century bronze talismanic amulet in a private collection may well represent the type of object to which Biruni refers (fig. 71). At 6.3 × 5.7 cm, the size is appropriate for wearing around the neck. The top edge of the otherwise roughly square object has a central tab in the shape of an upside down triangle in the middle of which is a hole from which it can be hung. Both sides are engraved. On one side a central image shows a man holding a sword and riding a large animal, probably a lion given his paws. A serpent rises up the right side of the image near the lion’s tail. Surrounding this image is an inscription in Kufic script. The figure has the additive quality of the images specified in Tusi’s talismanic recipes and recalls the image of Jupiter that appears in The Forms of the Zodiac and the Stars. There, Jupiter is depicted as a man on a donkey holding a sword and a snake (fig. 72). On the other side of the amulet, a smaller image of a man holding a large spear is flanked by two magic squares. This is augmented by inscriptions in a slanted script known as naskh above, and in an angular script known as Kufic below. Although it is clear that the naskh inscription repeats itself, both inscriptions are difficult to decipher.

The inscriptions on the bronze talismanic amulet and the frequent mention of unintelligible combinations of letters on Tusi’s talismans both speak to the power of written letters and words. This power has both material and temporal aspects. It is used to augment the efficacy of talismans and is sometimes theorized within the framework of celestial sympathies that explain talismans. According to Ibn Khaldun, “some practitioners working with letters based their work on the idea that different letters had different temperaments, and corresponded to the elements of
fire, air, water, or earth. This made them receptive or repellent of the influences of planets sharing the same qualities. 41 However, writing also can function independently of talismans, and its power can also be theorized differently. This sometimes makes it difficult to tell when writing is part of a talisman, when it is functioning in a talismanic manner, and when it is to be distinguished from talismans.

Both of the material and temporal connotations of ancient writing emerge in a story Tusi includes not under talismans, but in his chapter on oceans, rivers, springs, and wells. The story appears in the entry for the Mediterranean Sea, which he calls the Sea of Constantinople:

The Mediterranean Sea (Balār-i QustanfANTIyya) . . . It extends to the Islands of Felicity and the Valley of the Monkeys which is the place of the apes. 'Abd al-Malik b. Marwan was a revenue collector there. He ordered divers to go down for gems. One diver came back bringing an ewer with some copper pieces coated with tin. He ordered him to open the top. From each one, he demanded an account, and each one said, “Oh, Son of David, for how long will you keep us confined here?”

There was a tremendous clamor, and several thousand ape monkeys emerged. One of them was big as a camel, standing in front, with a long beard, and an iron tablet was hanging from his neck. Written on it, in Syriac, was: “In the Name of God the Most Magnificent. This is the writing of demons in this sea: Be ye safe from jinn and man!” And that ape presented the tablet, and complained that they should scatter the pitchers back into the sea, and leave them in peace. 44

At this point in the text, the reader turns the page and encounters a painting that visually stages the confrontation (fig. 73). At the left of the composition, 'Abd al-Malik kneels on a large orange cube. The folds of drapery in the golden curtain hanging across the front of the structure help define the different
planes of its dimensionality. The structure, literally a block, emphasizes the revenue collector’s obstinacy in confining the divers to the area of water shown at the lower right.

In the upper right corner, facing ‘Abd al-Malik, is a large ape holding a tablet. Another large ape appears immediately behind him, backing him up. The ape with the tablet has one foot behind the other, the back heel raised, as if walking toward ‘Abd al-Malik along the green shore. The green shore suggesting the ape’s path lends his approach particular momentum because it follows the direction of the reading of the text, from right to left, and from top to bottom.

Between the oppositional stances of the collector on the block and the ape with the tablet, the artist has indicated how the larger confrontation plays out on a smaller scale. One of ‘Abd al-Malik’s divers emerges from the water attempting to present him with two vessels of a yellow metal. But one of those vessels is blocked by an annoyed little creature who raises his hand against the diver in a scolding gesture. Though this creature’s skin is the same dark grey as the apes, he has horns, bright red eyes, and a prominent nose. Another creature of the same kind bares the teeth of his wide grin directly at ‘Abd al-Malik. These facial features are the opposite of the medieval Persian poetic ideal of beauty as defined by the pale, smoothly round “moon face” with slight arched brows and a tiny mouth. As such, they commonly appear in depictions of demons and ghouls. These are the demons of Solomon who live in this sea.

In depicting two such flasks, one presumably filled with the copper pieces described in the story and the other holding a small demon, the painter is probably alluding to a widespread tradition concerning Solomon’s famous ability to control demons. This tradition specifically concerned talismanic flasks in which Solomon contained the demons. In an anonymous commentary on the writings of Zosimos concerning Solomon’s talismans, the author describes the alchemical process by which Solomon called the demons and made the flasks that contained them:

The angel ordered Solomon to make these flasks... Solomon made them according to the number of the seven planets, following the divine prescriptions about the work of the stone... The sage
Solomon also knew how to conjure up demons. He gives a formula of conjuration, and he shows the electrum, that is to say, the flasks of electrum on whose surfaces he inscribed this formula.  

Medieval Islamic tradition held that in addition to his deep talismanic knowledge and his ability to control the demons, Solomon also had an understanding of the stars and an ability to control the winds. Through such abilities, he figured prominently in a tradition of learning that included such figures as the leading Hellenistic alchemist, Maria the Jew.  

The modern reader might be surprised by Tusi's specification that Solomon's writing was in Syriac, a kind of Aramaic, rather than in Hebrew. However, Syriac was associated with the Christian and Jewish "people of the book" to which general classification Solomon belonged. Though particularly associated with Eastern Christian communities, both the language and the script were sometimes used by Jews and Christians in the medieval period. The remarkable assemblage of eleventh- to nineteenth-century documents pertaining to Jewish life that were found in the Cairo Genizah include some written in Syriac Rabbinic script. One such is an eight folio segment written by several scribes now in the Schøyen Collection.  

Moreover, much information about Solomon circulated in Syriac texts. The commentary on Zosimos cited above, for example, was written in Syriac. More importantly, the Odes of Solomon circulated in the medieval world in Syriac. The main manuscript sources for a recent translated edition of this are a Syriac manuscript produced in the fifteenth century and another Syriac manuscript produced in the tenth century.  

Syriac was known to be an old language. In Tusi's entry on the Sea of Constantinople, the specification that the writing on the tablet was in Syriac therefore reinforced the idea that the tablet stretched back in time to the age of Solomon, or in other words, that it stretched back to an age nearer to origins of the cosmos, when contact occurred between realms of creation in an easier and more obvious manner. And like Tusi's tendency to cite Apollonius, the use of Syriac on the tablet suggests that the knowledge of talismans is inherited from past civilizations. Talismanic traditions and the cosmic frameworks in which they were theorized were actually rooted in the practices and learning of the Hellenistic world. The claim that the lineage of talismanic authority stretched deep into the pre-Islamic past lent it authority in a manner that paralleled the importance of a well-established scholarly lineage for other branches of learning.  

In Tusi's story, it is the iron tablet that makes Solomon's writing from the past present at the critical moment, thereby both defining and settling the central dispute of the story that is staged in the image. The writing of this great and ancient king and prophet, in a language that indicates both antique origins and traditions of talismanic learning, has only emerged in the exceptional moment at which the Solomon's apes appear from the sea, a moment marked, according to Tusi, by tremendous clamor.  

The text does not explicitly label this tablet as a talisman. Yet, for the apes, it functions very much in the framework of talismans. The inscribed tablet (laubb) recalls the celestial tablet of destiny (laubb-1 mabqis) on which fate has been divinely inscribed. As an inscribed tablet rather than a painted one, it purports to function within the same (Islamic) system as the laubb-1 mabqis. In both the text and the image, the engraved tablet that serves to protect the apes appears in the context of flasks and demons— allusions to Solomon's divinely given ability to interfere in the order of events through his understanding of the cosmos. Solomon's words, powerful in themselves, emerge from the depths of water and the depths of time to affect events unfolding in the terrestrial present. It is their materiality in the iron tablet into which they are impressed that makes this possible. In the painting of the scene in Sultan Ahmad's manuscript, the tablet has been left blank. Its overall rectangular shape, however, is clearly indicated. The tab at the top recalls the tab at the top of the surviving bronze talismanic amulet.  

In sum, Solomon's writing has its own authority and its own power, but reportedly inscribed into the iron tablet and surrounded in the narrative image by Solomon's demons and flasks, that power is embedded in a frame that evokes talismans.  

By contrast, we can consider how Qazwini treats the efficacy of writing in a story that appears in his chapter on the Nile. Like Tusi's story, this involves water and the efficacy of writing. But whereas we might say that the efficacious writing in Tusi's story is
materially, visually, and textually embedded in a talismanic frame, the same cannot be said of the writing in Qazwini’s story.

In the chapter on the Nile, Qazwini relates an incident that he reports took place during the governorship of the first Muslim governor of Egypt, 'Amr b. al-‘As, who had conquered it in 641. When the Nile did not flow as usual, some of the local people reportedly sacrificed a girl to it. According to Qazwini, this was in accordance with their custom. It still did not flow, and people were starting to leave the country. 'Amr b. al-‘As wrote to the caliph 'Umar and asked him for advice. 'Umar responded that the practice of sacrificing girls to the river was abolished by Islam and sent a card to be thrown into the river instead. The card was inscribed as follows:

From 'Umar the commander of the faithful to the Nile of Egypt. As far as you are concerned, you used to flow before and now you do not. God the One and Almighty was the one who made you flow, therefore we ask Him to make you flow.  

'Amr b. al-‘As threw the card into the Nile the day before Good Friday. On Good Friday the Nile had risen sixteen cubits.

This story should be read as a kind of parable, meant to suggest that prior to the coming of Islam, Egypt’s mainly Coptic Christian population heinously misjudged how they should relate to higher powers. With the coming of Islam, the correct human relationship with God was established.

In Qazwini’s 1280 Wasit manuscript, the illustration avoids the entire incident. Instead, the image accompanies the text that appears slightly earlier in the entry, which describes the Nilometer. The incident is, however, included in the manuscript likely made in Mosul around 1300 (fig. 74). Like Qazwini’s 1280 Wasit manuscript, and unlike the 1388 Tusi manuscript, this c.1300 Qazwini manuscript does not treat talismans. Unlike the 1280 manuscript, and like the 1388 Tusi manuscript, it does treat jinn. A comparison of the c.1300 image of the story of the Nile with the 1388 image of Solomon’s apes in the Mediterranean Sea points to an important difference in how the power of words, whether spoken or written, was understood.

In Sultan Ahmad’s manuscript of Tusi’s text, the image accompanying the entry for the Sea of Constant-

inople shows the outline of the material iron tablet in which Solomon’s writing is conveyed. By contrast, the image in the Mosul manuscript of Qazwini’s text avoids the inscription from the caliph altogether. The image shows a prior moment of the same incident in which the Coptic girl is put into the water. Seven men flank a pair of well-worn wooden doors at the water’s edge. The girl, adorned with a large necklace set against a red tunic that she wears over generous gold sleeves, sinks into the water below. An exposed brick column beside the girl presumably indicates the low level of the Nile.

Rather than calling attention to the power of writing, the painting calls attention to incorrect pre-Islamic practice as it is understood in the story. The incorrect example in turn ultimately serves as a foil for defining the correctness of Islam. The central pendant of the girl’s necklace is a bulky T-shape, perhaps suggesting a cross. The most visible of the men and the girl present their hands, palms open, in a beseeching gesture. Whereas the bowed head and closed hands has long been the most commonly recognized gesture of prayer in western Europe, the beseeching gesture shown in this image has long been the gesture of prayer for both Christians and Muslims in much of eastern Europe and the Middle East. In emphasizing this gesture, the painter suggests that the men are guilty of treating the Nile as they should treat God. They are offering their sacrifice to the Nile, beseeching the Nile, and are thus distracted from the only power to which they should pray, God.

The text conveys a similar message. Unlike the iron tablet Solomon gave to the tribe of apes, the card on which the caliph reportedly wrote his prayer to God is not made of a durable medium. Whereas the written words in the tablet produced by the apes have additional power grounded in their material, the caliph’s words matter at the verbal level of prayer. The prayer is answered on Good Friday, the day the Christians mourn Jesus, whom, from the Muslim point of view, they falsely identified as a partner of God. When the caliphs’ prayer is answered on that day, the Christians encounter proof that the Muslim method of appeal-
ing to God alone, rather than to any other competing power, is correct. The comparison is in keeping with an Islamic cultural identity in which the true monotheism of Islam stands in contrast to the false idols of the Christians. As compared to the painting of the apes of the Mediterranean in the Tusi manuscript, it is also in keeping with a stricter interpretation of what is meant in Islam by the idea that it is wrong to appeal to powers other than God.

This is not to say that Qazwini had no interest in the materiality of inscriptions. In his entry on the peach tree, Qazwini writes:

The author of The Book of Agriculture said: if you want the peaches to reden to the most intense red, then take the peach stones that have broken by themselves... and put some cinnabar into their hollows, leaving the pits inside. Do not separate the flesh off, but rather leave some of the flesh by all its openings. He also said that if someone engraves [naqsha naqshan] either a picture [ṣīra] or writing [kutaba] on the inner peach stone with a knife, that engraving will appear on every single one of the fruits it produces.\(^{53}\)

This is an interesting passage in several respects. Qazwini affirms that once a color, figure, or writing is inscribed within the material of the peach stone, it can transfer into multiple copies. In so doing, he paradoxically implies that humans might be able to influence the appearance of forms that appear in nature and are not made by human hands.\(^{54}\) This does resonate with the kinds of engraving of letters and images into particular stones in talismanic signet rings described by Tusi, but on a fundamentally different scale, to more modest ends, and with a very different paradigm of where divine power resides and how humans can relate to it. Tusi’s talismanic rings were designed to tap into the entire cosmic system in order to attract the right combination of celestial forces needed for the desired outcome in the course of terrestrial events. Those who delved into such practices insisted that as the celestial forces derived their power from God, talismans also ultimately constituted appeals to God’s power; but their detractors thought they were appealing to the stars instead of to God. Qazwini’s suggestion is that it might be possible to take advantage of the natural generative properties of a single terrestrial species is both much more modest and much less vulnerable to the charge of heresy. Here, the reproduction of letters and images does not depend on cosmic sympathies but on the natural reproduction of the peach, which was universally accepted as being under God’s direct power. Though he implies that humans can participate in this process to a limited degree, the participation he describes takes place at a remove from the moment at which the picture or writing appears on the new peaches, so that the appearance of the forms on the peaches is ultimately attributable to the natural order established by God.

Letters and writing therefore have various sources of power and relate to talismans in various ways. The letters on Tusi’s talismanic rings have power in terrestrial outcomes as material forms and they function within the same framework as the larger talismans to which they belong. The writing on the tablet Solomon bequeathed to the apes has power over ‘Abd al-Malik because it comes from the past and from the authority of Solomon himself. That power augments the talismanic bronze tablet on which it appears. The writing on the card that the caliph ‘Umar sends to be thrown into the Nile has power not only over the Nile but over the Copts who witness its efficacy, we are given to understand, because it invokes divine will. It testifies to the prayer of the commander of the faithful, and it helps to mark the difference between Islam and Christianity. The writing on the peach tree has no particular power to effect anything other than more peaches, but it helps the beholder to see the wondrous generative cycle of nature.

**TALISMANS AND LETTERS, LICIT AND ILLICIT**

The various manners in which efficacious letters are theorized in wonders-of-creation manuscripts from the late thirteenth to the late fourteenth centuries, and the variety of degrees to which they function as parts of talismans or separately from them, echo the general shift in the late fourteenth century toward an interest in human agency that would remain strong in the early modern period. That shift resonates behind the debates among Muslim intellectuals in this transitional period on the licitness of talismans and effica-
cious writing. As has been noted, there was no such thing as “black magic” in the Islamic world. But rather than implying that there was no debate concerning talismans, this instead should be taken to signal that the debate about talismans proceeded along different lines.

Ibn Khaldun, the famous historian, wrote essays on talismans and the science of the letters as well as reflections of astrology and philosophy. He thereby draws attention to some of the flash points that might help us better identify and contextualize the positions of other authors, including Qazwini and Tusi, whose frameworks for judging the licitness of talismans and writings, along with their efficacy, remain implicit. It would be easy to set up a neat dichotomy between those who deemed talismans and efficacious letters or writing licit and those who deemed them illicit. But this would obscure the assumptions they held in common. For this reason, it is helpful to consider questions of efficacy and legality along a continuum. The model of a continuum of legal permissibility is deep rooted in Islamic culture, as Islamic law does not simply classify actions as legal or illegal but as required, praiseworthy, neutral, blameworthy, or forbidden. Further, most legal questions did not have a single official answer decreed by the state. Rather, individuals could take their legal questions to multiple judges and collect from them multiple and potentially conflicting legal opinions, known as fatwas.

In Ibn Khaldun’s opinion, talismans are not licit, and the science of the letters is often just as dangerous, if not more so. But to stop there severely oversimplifies his view, the nuances of which are quite revealing of the paradigms and parameters of late fourteenth-century thought. The most important thing to note is that Ibn Khaldun does not refute the claim that talismans or letters can be powerful and efficacious. On the contrary, he even calls attention to several instances in which he has witnessed their efficacy. His concern instead is with the soul of the practitioner who achieves effects by appealing to external power.

Ibn Khaldun’s essay on the science of the letters assumes that letters and writing have their own power deriving from their links with the celestial realm. He lays out several different theoretical explanations for this, quoting at length various anonymous authorities on the science of the letters, and summarizing the arguments of others. He explains that some practitioners of this science hold that different letters have different temperaments, making them receptive to different planets. For other practitioners, the starting point for determining the power of the letters is the numerical value associated with each letter; in their practice, the science of letters is mathematical. One of the anonymous authorities whom Ibn Khaldun quotes offers another explanation for their power: “the form of every letter has a (corresponding) form in the world on high, the (divine) throne.” This last explanation articulates the idea that letters relate to the celestial realm with exceptional directness, and that the part of that realm to which they relate is not astral but divine.

The idea that metals and plants related to God—the universal source of creation—through the intermediaries of planets depended on the widespread but controversial doctrine of emanation. By contrast, the power of writing rested on the doctrine that the Qur’an was God’s direct speech, and on such truths of Qur’anic revelation as the maxim that God taught by the pen (96:4) neither of which was disputed. As explained in the first chapter of this book, there was much disagreement about whether or not the theory of emanation by creation conflicted with the Qur’anic account.

It seems that opinions on how the power of letters worked in relation to talismans were split along lines similar to those in the debate about creation, but that the lines of these debates were not entirely congruent. This can be seen in the different ways that Ibn Khaldun, Qazwini, and Tusi treat talismans and writing.

Ibn Khaldun notes that some consider the science of the letters and the science of talismans as “one and the same thing.” But, he strongly refutes this idea:

This is not so. The people who work with talismans have made it clear that the influence of a talisman actually comes from spiritual powers derived from the substance of force... Talismans, they think, are like a ferment composed of and including earthy, airy, watery, and fiery (elements). Such ferment is instrumental in transforming and changing anything into which it might get, in its own essence and in turning it into its own form.
Ibn Khaldun goes on to contrast this with the science of working with words, including working with letters:

The real difference between the activity of people who work with talismans and people who work with words is as follows. The activity of people who work with talismans consists in bringing down the spirituality of the spheres and tying it down with the help of pictures or numerical proportions. The result is a kind of composition that, through its nature, effects a transformation and change comparable to those effected by a ferment in the thing into which it gets.

The activity of people who work with words, on the other hand, is the effect of the divine light and the support of the Lord which they obtain through exertion and the removal (of the veil). Thus, nature is forced to work (for them) and does so unwillingly with no attempt at disobedience. Their activity needs no support from the spherical powers or anything else, because the support it has is of a higher order than (all that).

Even though Ibn Khaldun expatiates several theories on the power of letters, it seems that he himself holds that their power proper comes directly from God. This, for him, is what distinguishes efficacious letters from talismans, which by definition derive their power in the first instance from sympathies with planets. Ibn Khaldun makes a related distinction between talismans and the evil eye. The evil eye, he explains, is licit, and has nothing to do with talismans, because it depends on something that comes from within the person who has it, not on spherical powers.

The problem of what power a practitioner appeals to for an effective result lies at the base of Ibn Khaldun’s explanation of prohibitions against all sciences concerned with intervention in earthly events. He says these are forbidden because “they are harmful and require (their practitioners) to direct themselves to (beings) other than God, such as stars and other things.” The importance he attaches to the question of which power a practitioner appeals to, in turn, is in keeping with his decidedly unenthusiastic attitude toward the doctrine of creation by emanation. He distances himself from that doctrine when he comments that “the extremist Sufis . . . believed in the gradual descent of existence from the One.” It is therefore not surprising that Ibn Khaldun followed his discussions of talismans and letters with essays in which he specifically refuted philosophy, astrology, and alchemy.

It does, however, then come as something of a surprise that Ibn Khaldun not only fully ascribes to the idea that talismans have real effects, but even explains the advantages of working with talismans as opposed to letters. He describes several kinds of talismans whose efficacy he has witnessed, including the use of “loving numbers” to bring lovers together, the “lion seal,” which effects relations between rulers and ruled, and magic squares. According to him, such talismans are in many cases a better means for practitioners to achieve desired effects than letters, because whereas the powers of letters and words depend on divine favor, which is only attainable as an act of divine grace to the exceptionally pious, the power of talismans derives from the more easily accessible order of nature:

In fact, a person who works with talismans is more reliable . . . because he has recourse to scientific natural principles and orderly norms. A person who works with the secrets of words but is not sincere in his devotion and (in addition) has no technical norms of evidence on which he may rely . . . is in a weaker position.

It emerges from Ibn Khaldun’s writings, then, that views on the licitness of talismans and efficacious letters may be related to views on emanation, human agency, and invocation of the celestial spheres. This framework is helpful in analyzing Qazwini’s views on these matters, which are largely implicit in the earliest manuscripts of his text.

Qazwini clearly ascribes to the doctrine of emanation, not only using it to order his encyclopedia of creation, but even explicitly referring to God as al-nufud, the source of emanation. Yet, Qazwini’s careful exclusion from his encyclopedia of created wonders of all humanly crafted wonders, including talismans, suggests that he shared Ibn Khaldun’s suspicion of their licitness. Did he then also share Ibn Khaldun’s reasons for suspicion?

Though the early versions of Qazwini’s manuscripts have no chapter on talismans, they do include mentions of wonders with properties that resonate with
talismans. Of all the created wonders Qazwini does include, the one that seems most closely related to a talisman is the īsmā'īja. As discussed in the last chapter, while not itself a talisman, the īsmā'īja is obviously related closely to the paīza. The paīza has protective qualities that work in part through the theory that the evil eye can harm through the vulnerability of the beholder who sees through intromission. By contrast, Ibn Khaldun's explanation of the evil eye, as something that comes from the person who possesses it, suggests that he understood it through a model of vision by extramation. But in both cases, no appeal is made to the power of the spheres. If Qazwini agrees with Ibn Khaldun that talisms are illicit because they require a practitioner to appeal to the power of the spheres, thus distracting him from God, this may explain why the īsmā'īja can be included in the original framework of Qazwini's encyclopedia, in which it otherwise seems something of an anomaly.

Similarly, Qazwini's entries on the Nile and the peach tree both include references to writing that resonates with the way writing is used on talisms. The written card thrown into the Nile causes the river to flow again, and the inscriptions on a single peach stone reappear on the numerous peaches of the next generation. But crucially, in both of these instances, no appeal is made to any force that could be described as a distracting intermediary between the practitioner and the divine. The inscription that the caliph Umar addresses to the Nile testifies to a prayer, and explicitly says that it is God who will make the Nile flow again. The inscription on the peach stone is simply inserted into the divinely determined nature of the generation and regeneration of the peach tree.

It therefore does seem likely that Qazwini shares Ibn Khaldun's concern that talismans distract their practitioners from God. This adds another layer to the seeming irony that Qazwini, as a madrasa professor, would have authored and taught from an illustrated book. The same concern of distraction from God, or idolatry, has long been one of the main arguments against figural imagery. It is interesting that although Qazwini does seem to share that concern in the case of talisms, he does not seem to share it in the case of figural images. Similarly, the other traditional argument against figural imagery is that the artist competes with God. Qazwini's exclusion of man-made wonders from his wonders-of-creation encyclopedia demonstrates that he was acutely aware of the distinction between the man-made and the divinely created, and he maintained that distinction by authoring two separate books. Yet apparently he did not see any link between that distinction and painterly representation.

As for Tusi, he refers to talismans explicitly and often, and as analyzed earlier, his talismans can indeed be theorized precisely along the lines that concern Ibn Khaldun. They work by appealing to the powers of the planets. Further, when Ibn Khaldun complains that some people wrongly think that there is no distinction between the science of talismans and the science of words, Tusi's descriptions of talismanic rings in which letters function as an integral part come to mind. But in some cases, Tusi's talismans do seem to work not only according to the very theories Ibn Khaldun finds objectionable, but also and simultaneously according to theories that he accepts.

For example, the apes' talismanic tablet for protecting their waters, effectively brought to bear on a crisis in which those waters are under threat from 'Abd al-Malik's tax collecting efforts, is efficacious partly because the writing on it is Solomon's. Ibn Khaldun would not dispute that as a prophet, Solomon had exceptional perception of matters normally hidden from other people. Indeed, Ibn Khaldun says:

The souls of prophets have a particular quality through which they are prepared to have divine knowledge, to be addressed by the angels in the name of God . . . and to exercise influence upon created beings that goes with all that.97

As in the case of the controversies over emanation considered in Chapter One, the controversies over talismans were not divided into evenly polarized camps of neatly opposing views. Rather, even though Ibn Khaldun explicitly states that talismans are harmful, his opinions were hardly unequivocal. It is quite telling that, although he distances himself from the doctrine of emanation, and even though he considers the practices that depend on it dangerous, he nonetheless has no doubt that those practices actually work. This speaks of how deeply the suppositions that derived from the model of creation by emanation had permeated medieval Islamic culture. Likewise, even though Tusi discusses talismans that function along exactly
the theoretical lines that Ibn Khaldun opposes, he augments them with appeals to divine power, against which practice Ibn Khaldun makes no argument. To some degree, both Ibn Khaldun and Tusi therefore include the other’s position in their own.

The late fourteenth century was a critical period for Islamic culture. The Divān (collected poems) of Khwaju Kirmani, a canonical manuscript in Persian painting, has long marked the Jalayirid court as a milieu in which Persian painting was revolutionized (see fig. 50). Neither Sultan Ahmad’s Tusi manuscript, nor the numerous astrological manuscripts of the Jalayirid period, have generally been viewed in connection with this painterly revolution. The latter were heavily illustrated, whereas the Divān contains only a few carefully chosen images. The attention lavished on any single painting in the latter simply cannot compare with the attention devoted to each of the few paintings in the Divān of Khwaju Kirmani. However, the changes in astrological and talismanic imagery in general, and in wonders-of-creation manuscripts in particular, show that this was also the moment of a significant shift in the range and emphases of imagery related to the power of letters and talismans that circulated among the cultural elite. A fundamental revolution in painting coincided with a historical moment of rethinking the human place in the cosmic order.

The change we see in the late fourteenth century is notable even if we take into account the fact that our archaeological record of surviving illustrated Islamic manuscripts is incomplete. Some readers may well raise the point that there might have been images in earlier manuscripts of Biruni’s lapidary, or of texts by Abu’l Ma’shar (on the authority of whose learning the nativity images are ascribed), or of The Goal of the Wise (the Arabic version of the Picatrix), but that these may have been lost. Let us for the sake of argument imagine that earlier illustrations from all these sources once existed. If that were the case, the first point is that all of these were books for specialists rather than generalists. These are not books presenting what the cultured elite should know, as are wonders-of-creation books, but books for students of stones, stars, and the powers inherent in them. The second is that the audience for manuscripts concerned with the study of nature before the Mongol Conquest seems to have been more scholarly than courtly. For both these reasons, any images from lost manuscripts of these sources would more likely have been sketches for reference rather than paintings designed for the refined life of cultivation at court. Also, as the brief survey of medieval Islamic astronomical and astrological manuscript imagery indicated, early medieval images concerning nature, regardless of their patronage level, tend to focus on single entities rather than on scenes that stage relationships.

The difference between such images and those that emerged in late fourteenth-century Jalayirid painting would still point to a significant cultural shift. Such images would indicate what we already know—that throughout Islamic history there were specialist scholars who were interested in how humans might manipulate their position in the cosmos. But the point is that the quantity and quality of images for and about talismans, as well as the quantity, quality, and complexity of astrological imagery from the late fourteenth century, shows a change. The change shows that this interest was no longer just held by specialists, but was more widespread—it had become firmly established in the life of a non-specialist cultural elite.

Once topics such as talismans had become part of the life of the non-specialist cultural elite, scribes and translators began inserting them into Qazwini’s encyclopedia of the wonders of creation. With historical hindsight, this appears as a radical reinterpretation of his book. But the question arises, did the early modern producers of the later Qazwini manuscripts also understand this as a dramatic shift, or did they understand Qazwini’s book as a fitting context for the consideration of talismans?

To address this question, it is useful first to review some of the striking points concerning talismanic images, astrological images, and the manner in which talismans were both theorized and judged in the Islamic world over the course of the thirteenth and fourteenth centuries that have emerged from this chapter. These images were and are obviously iconographic. But although iconography can help us decode them individually, it is actually the broader framework in which that iconographic code functions that
tells us more about this class of images as a whole. The talismanic image was potentially effective insofar as the combination of iconographic pieces in its visual code attracted the sympathies from the right combination of planets. For this reason, images to be used in the making of talismans were formally composite. This was in keeping with the logic of symbiosis through which they, as important visual components of talismans, like the complete talismans as whole objects, were theoretically expected to work.

But, even as it facilitated their theoretical efficacy, the formally composite quality of talismanic images was also very much in keeping with a broader tradition of astronomical and astrological images that invited viewers to respond to them by inventorying their salient characteristics. Celestial images inviting viewers to inventory their references are a much broader category than talismanic images. Constellations order lists of stars. The iconographic personifications of the planets had attributes. Therefore, the composite formal quality of talismanic images (that work partly through the suitability of their composite form to the logic of symbiosis) places those images within a pedigree of many other images (that can be viewed through a logic of inventory but do not depend on a logic of symbiosis). In other words, the composite formal quality of talismanic images gives them a pedigree that actually extends much further than the specifically talismanic tradition. This visual connection between images for the manufacture of talismans, on the one hand, and astronomical and astrological images more broadly, on the other, belongs to a larger phenomenon. That larger phenomenon is the way in which those who found talismanic practices unobjectionable asserted that they were not so different as those who did not share their views. Those like Ibn Khaldun, who saw talismans as illicit, made a clear distinction between the power of the astral bodies and the power of the divine. But for those who found talismans acceptable, the point was precisely that this distinction was unimportant because the power of the astral bodies was of divine origin anyway, a result of the process of creation by emanation.

It may well be, then, that as this latter view became more socially widespread from the late fourteenth century through the early modern period, the scribes and translators who inserted chapters on talismans and magic squares into Qazwini’s wonders-of-creation book did not think they were radically reinterpreting his book. Qazwini may have excluded talismans because he held that the theoretical distinctions between talismans and letters, and astral and divine powers, were important. But for those who did not theorize these distinctions as important, the addition of chapters on talismans may have seemed a natural way to complete or round out a book already organized according to a Neoplatonic model, already inclusive of personified planets with particular effects within the earthly realm, and already including indications of the special powers of letters and words.
Epilogue

In both form and purpose, the composite images which constituted visual ingredients for talismans in Sultan Ahmad’s 1388 Tusi manuscript differed significantly from those suggestive of Platonic Forms in Qazwini’s 1280 manuscript. That difference points to a striking shift in the history of illustrated Islamic wonders-of-creation manuscripts, which is also apparent in the nuances of how narrative images and mirrored visions function within different manuscripts from the late thirteenth through late fourteenth centuries. The shift indexes the complicated relationship between medieval and late medieval or early modern perceptions of wonder, image, and cosmos. Illustrated Islamic wonders-of-creation manuscripts were, from the beginning, about ordering and encompassing continuums of possibility, from familiar to unfamiliar; from the part to the whole; from movement within the cosmic order to the structured framework of cosmic order itself. In any one of these continuums, it is impossible to conceptualize one term of the pair in word or in image without the other. This is what gave the genre its strength and its tremendous flexibility. And it is what explains how it was possible, with a shift of emphasis from one end of the continuum toward the other, that the same genre that in the thirteenth century was primarily about cosmic order, became, from the end of the late fourteenth century onward, a genre concerned with the limits of human experience and power.

What, then, are the broader implications of this shift of emphasis? The question can be addressed in several ways. What was its legacy in later manuscripts of the genre? Insofar as it is embedded in the historical contexts of the Mongol Conquest, the Mongol Empire, and their legacies, and insofar as these affected not only the Islamic lands, but all of medieval Eurasia, how does

75 (facing page) The orange tree, the coconut palm, and the Syrian Christ-thorn. The Wonders of Creation and the Oddities of Existence of Qazwini. Mamluk Syria or Egypt, early fourteenth century. 32 × 23 cm (full folio). Doha, Museum of Islamic Art, MSS 647, fol. 15b.
it fit into a broader history of wonder, image, and cosmos across medieval Eurasia? And finally, how does it inform our broader perception of the history of illustrated books in the Islamic world, and of the frameworks within which their images were theorized?

ILLUSTRATED WONDERS-OF-CREATION MANUSCRIPTS FROM THE THIRTEENTH TO THE NINETEENTH CENTURIES

An initial survey of some known surviving illustrated wonders-of-creation manuscripts produced from the thirteenth to the nineteenth centuries in Arabic, Persian, and Turkish, suggests more specific trends in the kinds of themes that attracted attention at different times and places and in the kinds of images associated with those themes. As discussed in the Introduction, pioneering attempts by Julius Rusa, C. A. Storey, and M. Streck to identify groups of manuscripts based on textual recensions or translations were somewhat problematic. In recent decades, art historians such as Badiee, Carboni, Robinson, and Ruhrdanz have each called attention to particular groups of manuscripts within the genre that are closely related by their images. The survey that follows builds on their work, organizing some of the illustrated manuscripts they discussed along with some additional ones by apparent contexts of production, broadly defined. The placement of groups of related manuscripts within that frame draws attention to historical changes and continuities in how the genre was understood. While the details of this survey will no doubt require revision as known manuscripts within the existing corpus are studied more closely, and as additional manuscripts surface, its broad outlines do cumulatively suggest a general narrative of what happened to this genre over time.

Despite the differences among them, early illustrated Arabic manuscripts of Qazwini’s *The Wonders of Creation and the Oddities of Existence* that were produced and disseminated from the late thirteenth to the mid-fourteenth century, collectively established a conceptual template for a distinctive verbal-visual genre of illustrated wonders-of-creation manuscripts in Islamic book culture. These manuscripts were distinctive in that their organization and scope was cosmographic, and even though some chapters were more densely illustrated than others, the images distributed throughout them collectively drew attention to their cosmographic frame.

The poor survival rate for illustrated manuscripts produced in the eastern Islamic lands before the Mongol Conquest makes it impossible to say whether or not these were the earliest examples of illustrated Islamic cosmographies. Tusi’s text, which we know was written in the twelfth century, may have been illustrated before Qazwini’s. Nonetheless, the clarity with which Qazwini distinguished between created wonders (in the wonders-of-creation book) and geographical wonders (separately relegated to the *Monuments of the Lands* or *Atbâr al-Bilâd*), made early illustrated manuscripts of his cosmographic text conceptually distinct from other related kinds of illustrated Islamic manuscripts. The comprehensive cosmographic frames of the early Qazwini wonders-of-creation manuscripts, and the clarity of their focus on divinely created wonders, distinguished them from illustrated books that focused on any particular classification within the created cosmos, such as herbals, zoology books, and books on the stars, whether astronomical or astrological. Cumulatively, the images in these early manuscripts offered a visual inventory of creation, making it clear at a glance that these works were not of the same ilk as manuscripts of geographies, including those focused on geographical oddities, which were illustrated mainly with maps.

Although this study has focused on the formation of the genre in the eastern Islamic lands, illustrated wonders-of-creation manuscripts were also apparently made and disseminated in the western Islamic lands under the Mamluks (1250–1517) – almost certainly in the fourteenth century, and possibly later as well. From their capital in Cairo, the Mamluks ruled Egypt, Syria, and parts of the Arabian peninsula including the holy cities of Mecca and Medina. Although they are best remembered in European history for defeating the last waves of crusaders, their more impressive military achievement in the context of Islamic history was that they stopped the Mongol advance. In 1265, two years after the Mongol armies conquered Baghdad in 1258, the Mamluk armies won a decisive battle against the Mongols at the site of ‘Ayn Jalut,
about 100 km north of Jerusalem. In keeping not only with these military accomplishments but also with their role as protectors of the holy cities of Mecca and Medina, the Mamluks stylized themselves as the defenders of Islam. In their artistic patronage they tended to cultivate this image through projects clearly distinguishable from those patronized in the Islamic east under the Mongol Ilkhanids and their immediate successors. Yet within a general frame of political, cultural, and artistic rivalry between the Islamic east under the Mongols and the Islamic west under the Mamluks, there are several specific cases in which artistic production in the two regions is nonetheless closely related.

An illustrated manuscript of Qazwini’s The Wonders of Creation and the Oddities of Existence now in the Islamic Art Museum in Doha, presents itself as an interesting example (fig. 75). On stylistic grounds, it has convincingly been attributed to the Mamluk lands in the early fourteenth century; its initial audience is not known more specifically. In view of Mamluk–Mongol rivalries and the degree to which Qazwini’s text flourished in the Islamic east, the production of an illustrated manuscript of Qazwini’s text in the Mamluk lands might initially seem surprising. However, it is less surprising when considered in light of the argument advanced in the Introduction and in Chapter One, that the earliest illustrated manuscripts of Qazwini’s The Wonders of Creation and the Oddities of Existence asserted the world view of an Arabophone milieu of the “men of the pen,” male intellectuals whose professional expertise was grounded in the study of Islamic law. That is, although Qazwini lived under Mongol rule, his cosmography initially had little if anything to do with the cultural agenda of the Ilkhanid court, and everything to do with systems of knowledge disseminated among the intellectual elite of the men of the pen. Their professional legal training was associated specifically with the very model of classical Islamic culture that the Mamluks promised to uphold in the West. At the same time, the Mongol Conquest did not disrupt the basic continuity in the way men of this class were trained in the East. Therefore, in the late thirteenth and early fourteenth centuries, the men of the pen were easily inscribed within the ideology of the Mamluk state, even as de facto they remained a trans-regional class.

This in itself offers an interesting frame through which to consider the production of the manuscript now in Doha. In demonstrating a close cultural tie between eastern and western parts of the Islamic world even during a period of Mongol–Mamluk rivalry, it also attests to the trans-regional status of the men of the pen in the context of that rivalry, and therefore to the imperative to nuance the prevailing dynastic model of categorizing Islamic art by considering the positions of different classes with respect to their rulers and each other. It is further worth noting that the trans-regional status of the men of the pen was strengthened by personal ties forged among scholars through travel. For example, Qazwini himself had travelled to Damascus and had met other scholars there, including the Sufi Ibn ‘Arabi. Although Qazwini seems to have written his cosmography after his travels to Damascus, his personal connections with other scholars there may have served to pave the way for the reception of his book in Mamluk lands. Unresolved questions of provenance within the surviving corpus of illustrated wonders-of-creation manuscripts make their history in the Islamic west in the late fourteenth and fifteenth centuries far less clear.

In the Islamic east, the scope of the illustrated wonders-of-creation manuscripts genre expanded dramatically in the late fourteenth and early fifteenth centuries. The Tusi manuscript made in 1388 for the Jalayirid Sultan Ahmad, and the emergence of the theme of human agency within the illustrated wonders-of-creation genre detailed in this study, were part of this many faceted expansion. There was an expansion of the corpus of titles belonging to the genre, an expansion of languages in which the genre flourished, and an expansion of topics subsumed into the cosmographic frame that remained one of the genre’s defining characteristics even as it proved to lend the genre tremendous flexibility. Among surviving manuscripts, Sultan Ahmad’s 1388 Tusi stands as the example which first demonstrates that the conceptual template disseminated through illustrated Arabic Qazwini wonders-of-creation manuscripts in the thirteenth and fourteenth centuries would come to define a broader type, not necessarily in Arabic, and not necessarily by or even attributable to Qazwini. Although Tusi’s text was written in the twelfth century, it is only from the production of the 1388 manuscript onward that Tusi’s
text clearly takes a place within the illustrated wonders-of-creation genre. The distribution of the images throughout the manuscript emphasizes its overarching cosmographic frame. At the same time, however, it subsumes wonders of geography and human craft into that cosmographic frame, and therefore shows how the flexible cosmographic frame which defined the genre could be expanded from within.

Concomitantly with the establishment of a clear place for themes of human agency within the cosmographically ordered illustrated wonders-of-creation genre, authors and compilers working outside the genre also apparently perceived a close association between this genre and the question of how humans could position themselves favorably within the cosmically ordered course of events. This is particularly evident from a late fourteenth-century Arabic manuscript now in Oxford which treats the arts of astrology and divination. Compiled by 'Abd al-Hasan al-Isfahani during the reign of Sultan Ahmad al-Jalayir, it was sold to one Haydar b. 'Abd al-Karim in Aleppo in the 1450s. A large portion of it is based on the work of the ninth-century Abu Ma'shar, a frequently cited authority on astrology and divination, not only the Islamic lands, but also in the Latin West. While specific images of personified planets, constellations, and zodiac signs in the manuscript share the same widespread astrological iconography also used in the cosmographically ordered wonders-of-creation manuscripts, the overall visual program of the Oxford manuscript is quite different. Rather than laying out the order of the cosmos, it confronts the reader with jarring visual cacophonies (fig. 76). Nonetheless, the title indicates that Isfahani considered the wonders-of-creation genre as an important point of reference for his work. One could plausibly suggest “The Book of Dumbfoundment” as an awkward yet semantically close translation of the manuscript’s highly unusual Arabic title, Kitāb al-Bulhān. Like ‘ajāb, bulhān suggests astonishment, but whereas ‘ajāb conveys a sense of awe at the divine, bulhān suggests a dumbfounded state of stupor.

The available evidence also suggests that it was in the same timeframe that illustrated manuscripts of Qazwini’s text began to be disseminated in Persian translation. This may have occurred in the late fourteenth century, and had certainly occurred by the early fifteenth. In 1999, a manuscript appeared on the art market which, in the auction catalogue, was identified as a Persian manuscript of Qazwini’s The Wonders of Creation attributable to western Iran under the Jalayirids’ rivals the Muzzaffarids. Because the present location of the manuscript is unknown, it has not been possible to verify this identification. However, it is very much hoped that the manuscript will soon become available for scholarly study.

From among the various successor dynasties who competed for power in the Islamic east in the second half of the fourteenth century following the disintegration of the Ilkhani dynasty, it was neither the Jalayirids nor the Muzzaffarids who ultimately emerged as the most powerful, but rather the Timurids (1370–1506). Throughout the fifteenth century, the descendants of Timur would rule much of Iran and Central Asia, exchanging military skirmishes, embassies, and norms of court culture with their rivals, the Turkmen dynasties. The production of illustrated manuscripts flourished under the Timurids and Turkmens, and not only through the direct patronage of princes. It is widely accepted that particularly in the southern Iranian province of Fars, illustrated manuscripts were produced for sale and as private commissions from the late fifteenth century onward; it also seems that Qazwini manuscripts had been made for audiences beyond the courts as early as the 1320s. Karin Rühdanz has drawn attention to a group of closely related surviving illustrated Persian manuscripts of Qazwini’s cosmography which she suggests may have been produced in Shiraz in the 1420s. It is quite plausible that these may have been made for the open market. To Rühdanz’s list of manuscripts in this group, we may add one more in the same style, now in the Süleymaniye Library in Istanbul, whose colophon documents that it was completed in 1424 (fig. 77).

The Persian translation used in these manuscripts has the abbreviated title The Wonders of Creation (Afā’īb al-Makhlaqāt) and includes a chapter on jinn; the inclusion of jinn would remain standard in subse-
sequent Persian translations.\textsuperscript{16} The position of jinn with respect to the shift from cosmic frame to human agency is interestingly ambiguous. Because jinn appear in the Qur’an as a divinely created class of beings, their appearance in the c.1300 Arabic manuscript discussed in previous chapters of this study is not incongruent with the focus on divinely created wonders that prevailed in early manuscripts of the text. However, because invocation of the jinn was a common method for seeking special powers, the fact that chapters on jinn became standard in Persian translations of Qazwini’s text from the fifteenth century onward is also in keeping with the increased emphasis on human agency. Ibn Khaldun (d. 1406), for example, specifically discusses entering into pacts with jinn as an aspect of sorcery comparable to astrologically theorized talisman making.\textsuperscript{17}

Interest in the human is also expressed visually in these early fifteenth-century Timurid Persian Qazwini manuscripts. Depictions of humans are woven into the image program in unexpected places in the text, and some of the images in these manuscripts include unusual personifications. Although humans rarely appear in the trees chapters of Qazwini manuscripts in general, the illustration of the sandarac tree in a manuscript now in Berlin, includes a turbaned figure with a shallow dish, a wine cup, and a flask seated beneath its boughs on a cushion.\textsuperscript{18} The 1424 manuscript now in the Suleymaniye includes personified paintings of each of the four winds (fig. 77).\textsuperscript{19} While personifications of wind are well known in western art of the same period, they are quite rare in Islamic art. In the lower part of each wind image, diaphanous streamer-like forms whirl together, coalescing into densities of line and wash. Emerging from these densities, golden clouds frame faces of beauties. The natural and divinely created force of each wind is thereby given a human face. Human power, then, serves as the assumed reference point through which the natural powers of the divinely created world are conceptualized. The idea is repeated with less visual subtlety in a manuscript produced about 1440 and now in Manchester; there, each wind is shown as a dense gold cloud with a human face against a saturated blue ground.\textsuperscript{20} In another visual shift that echoes the differences between Sultan Ahmad’s 1388 Tusi manuscript and the early medieval Qazwini manuscripts, the c.1440 Manchester manu-

\textsuperscript{77} The wind. The Wonders of Creation of Qazwini, Persian translation. Southern Iran, 1424. 6.8 x 4.3 cm (ruled image space); 25.6 x 17.5 cm (full folio). Istanbul, Suleymaniye Library, MSS Laleli 1991, fol. 71a.
script also draws comparatively more attention to the geography through which humans may travel. In the early medieval manuscripts, the world map is typically rendered as a pen and ink diagram occupying about half of a page. Here, it is instead painted in color, and fully occupies two facing pages.²¹

Humans and human agency receive even more attention in Persian Qazwini manuscripts produced in the Islamic east in the last quarter of the fifteenth century. The details of how this emerges in the text may be seen in a manuscript whose text block was completed in 1460.²² As is standard, the textual structure retains the macro-organization of an introduction, followed by Part I on celestial phenomena, and Part II on terrestrial phenomena. The subchapter on people in this manuscript begins with a discussion of people whose souls have special effects, including prophets, saints, and different kinds of physiognomists, who can offer judgments and prognostications through the arts of reading people’s external appearances, and fortune tellers.²³ It then moves on to discuss human reproduction and anatomy, external and internal human capabilities, and the abilities of movement and intellect. The next section in the subchapter on people treats different races. These are not races at the geographical margins, but centered in the orbit and experience of the Islamic world – the Arabs, the Persians, the people of Rum (Anatolia), the Turks, the Indians, the Nubians, and the Berbers. There are no sections on the Europeans or the Chinese. The next section treats crafts, including articles on agriculture, pastoral herding, hunting, weaving, blacksmithing, carpentry, trade, math, writing, poetry and prosody, music, medicine, astronomy, the arts of the astrolabe, and magic squares. Following this is the extended chapter on jinn. This stands in sharp contrast to the chapters on humans in the earlier medieval Arabic Qazwini manuscripts, which are mostly devoted to human anatomy, and have no subsections devoted to human crafts.

Several surviving manuscripts with similarly expanded chapters on humans were penned in the last quarter of the fifteenth century. Many of them are illustrated in what has traditionally been called the “Commercial Turkmen” style, but the interconnectedness of Timurid and Turkmen artistic production has become increasingly clear to art historians, and at least one of the manuscripts was completed in Timurid Herat.²⁴

One of them includes an image of a skeleton presented as an illustration to a textual discussion of human anatomy (fig. 78).²⁵ Although the chapter on humans in Qazwini’s 1280 Wasi manuscript was devoted largely to anatomy, and although this topic remains standard in subsequent Qazwini manuscripts, this is the only example I know in which the discussion is illustrated at all. These manuscripts also include additional chapters on human races and human crafts including talismans and magic squares, as well as the chapter on jinn.

Qazwini’s text was also translated into Ottoman Turkish in the fifteenth century.²⁶ Ahmet Bican Yazıcıoğlu, generally referred to as Ahmet Bican, com-
pleted a loose Turkish translation of it, entitled *The Wonders of Creation* (*Ačâbiîl-mablîkit*) in 1451. This was also the year in which the Ottoman Sultan Mehmet II “The Conqueror” (r.1444–61; 1451–81) conquered Byzantine Constantinople, the New Rome. In establishing himself as the successor of generations of emperors who had ruled from that monumental city, Mehmet also established the Ottoman house as an imperial power on the world stage. As Ahmet Bican’s broader literary corpus is known, his interest in Qazwini’s cosmography sheds an interesting light on how fifteenth-century Ottoman readers understood the wonders-of-creation genre. Ahmet Bican is best remembered as the author of his own cosmographic work entitled *The Hidden Pearl* (*Dîrî-i Meknîn*). The cosmographic framework of this classic of Ottoman literature not only incorporates geographic themes but also prophetic ones, and instead of ending with insects, vermin, and inferior cross breeds, it concludes with a discussion of the Last Days and of the Islamic equivalent of the Antichrist, known throughout the Islamic world as *Dajjal*. Ahmet Bican’s organizational scheme fuses the cosmographic hierarchy of creation with a vision of historical time that descends toward ultimate chaos.

Ahmet Bican’s was only the first of several Ottoman Turkish translations of Qazwini’s work, including a synoptic one by Sururi (d. 1561), of which numerous illustrated examples survive. Whereas the early medieval Arabic manuscripts inventory the order of the cosmos, so that their images show this order collectively rather than individually, the Sururi manuscripts also include images that illustrate relations between different parts of the cosmos within a single image. They often conclude with an image of cosmic order that shows the earth held up by an angel who stands on a bull who stands on a fish which rests on water (fig. 79). This disconcerting image of the world’s precarious foundational substructure had deep roots in Islamic thought.

Parallel to the history of the Ottoman Turkish manuscripts, wonders-of-creation manuscripts in Persian and Arabic were also produced in the Ottoman Empire. Illustrated Persian manuscripts of both Qazwini’s work and Tusi’s work dating from the late sixteenth century have been attributed to Istanbul on stylistic grounds. Among the paintings deserving of further study in both are numerous talismanic ones. One such painting gives an overtly sexual interpretation to the formula mentioned in Chapter Four that associates Mercury with an image of a man with a stick and a jug (fig. 80). Although the underlying theoretical frame for talismanic symbiosis remains astrological, the sexual interpretation of the formula also brings that symbiotic premise into a human frame.

There is also an interesting history of illustrated Arabic Qazwini manuscripts in the Ottoman Empire. One was produced specifically for the Ottoman Sultan Suleyman I (r.1520–66), known in the West as “The Magnificent,” and in the Ottoman lands as “The Law Giver.” The version of the text of the manuscript contains is quite close to that found in the 1280 Wasit manuscript. Nonetheless, the illustrations often call attention to the human role in interacting with other wonders in a manner that did not occur in the medieval manuscripts. The image for the zodiacal sign Pisces is a case in point (fig. 81). The text describes the position of the constellation in the sky. Golden circles suggestive of stars gesture toward the astrological theme of the scene below, rather than defining the outlines of Pisces as an observable astral constellation. In that scene, a scholarly man sits at a bank, with a substantial book in a red binding and a golden pen and ink well. He inclines his head toward two fish swimming in a river. According to established astrological iconography, the fish represent Pisces and the learned man represents Jupiter, Pisces’ Planetary Lord. The manuscript’s audience in Sultan Suleyman’s court would certainly have identified them as such. But it is not just the iconographic identification of the various parts of the image that matter here, but the way they are arranged within the composition. The dark blue sky with white Chinese clouds and golden stars above is clearly juxtaposed to the hilly landscape below, with a stream, verdant banks, and flowers. The juxtaposition locates the landscape on earth. Thus, both Pisces and Jupiter are not visually located in the celestial sphere, but on the terrestrial one, hinting at the relevance of astrology to earthly events. One can therefore also see in this image a man who pursues

knowledge and wisdom according to the model of Jupiter (who is astrologically associated with those virtues). This wise man directs both his eyes and his proper right index finger toward the fish. Thus, by directing both his own attention and the viewers’ toward knowledge of Pisces, he models the way toward better understanding of the events that unfold in the earthly landscape of the image and the earthly realm of experience.

The imperial library of the Ottoman sultans held significant collections of works in Ottoman, Persian, and Arabic, as well as other languages. However, this Arabic Qazwini manuscript was made for Sultan Süleyman under historical circumstances that would have made it of particular interest. First, recent work in Ottoman history makes it clear that concerns about cosmographic order and a possible apocalypse were taken very seriously at Suleyman’s court, particularly
in anticipation of the millennial year 1000 AH of the Islamic calendar (1591–2 CE). Under these conditions, as in the wake of the Mongol Conquest of the thirteenth century, the clarity with which the early Arabic version of Qazwini’s cosmography text laid out the normative order of the divinely created world would have had particular appeal. Further, with the fall of the Mamluks in 1517, the Arab lands formerly under Mamluk control had been subsumed into the Ottoman Empire. This meant that the cultural heritage of the medieval Arab lands occupied a more central position in the sixteenth-century Ottoman court than in the fifteenth. The Arabic Qazwini manuscript made for Sultan Suleyman is one of many objects that inscribed that heritage into the contemporary cultural narrative of the sixteenth-century Ottoman court.

Interestingly, this manuscript seems to have had a visual legacy involving the dissemination of visual traditions from the Ottoman court back to the Arab lands. Studies of manuscripts containing Ottoman portraits have shown that books with portraits painted at the court served as models for generally less expensive copies produced elsewhere. A manuscript now in Gotha connects the wonders-of-creation genre and Sultan Suleyman’s Arabic Qazwini manuscript with this phenomenon. The manuscript begins with portraits of the Ottoman sultans through Mustafa I (r.1617–18; 1622–3); but the rest of the manuscript is an illustrated Arabic Qazwini cosmography. On the basis of the painting style, Mustafa I’s reign dates, and a historical accession number linking it to Aleppo, it has been attributed to seventeenth-century Syria. Several of its images recall clearly identifiable counterparts in Sultan Suleyman’s manuscript (figs. 82, 83).51

Whereas in the Ottoman Empire the wonders-of-creation genre was a multilingual genre, it seems that in Iran under the Safavids (1501–1736) and then later the Qajars (1796–1925), it flourished in Persian. Karin Rührdanz has reviewed several known Safavid examples. She notes that as in the Persian manuscripts produced in a late fifteenth-century Timurid/Turkmen milieu, they contain chapters on jinn, and extended chapters on human races and crafts. She also notes that as measured either by the density of illustration or by the number of textual entries included, the chapters on trees and plants receive less attention than in the medieval examples. Nonetheless, she emphasizes what she sees as a basic continuity in the function of these manuscripts as encyclopedias for an educated readership. The differences, however, are important, and reflect a critical shift in whether readers considered the cosmographic order primarily as an object of awe and contemplation or as a knowledge system which could be used to their advantage.

A manuscript now in the Suleymaniye Mosque in Istanbul but probably made in late sixteenth-century Iran includes striking images of demons (fig. 84), and images of humans in unexpected parts of the text. The chapter on time, for example, includes a discussion of various days and the acts such as prayer that are appropriate to them. This is accompanied by an illustration of a prophet in the act of prayer (fig. 85). The longevity of the wonders-of-creation tradition is attested by a nineteenth-century Qajar manuscript now in Cairo (fig. 86), and by the production of lithographed editions of the text in the twentieth century.57

In India, a new Persian translation of Qazwini’s text was also completed for Ibrahim ‘Adil Shah (r.1534–58) in 1547.58 The ‘Adil Shabs were the rulers of the Bijapur sultanate (1489–1686), one of five Deccani sultanates with dominions in parts of the southern Indian Deccan region that had previously belonged to the larger Bahmanid realm. In 1686, it was conquered by the Mughal Emperor Aurangzeb and absorbed into the Mughal Empire. As in the Ottoman Empire, the illustrated wonders-of-creation genre in the Bijapur sultanate was multilingual. Two Arabic manuscripts of Qazwini’s cosmography contain identical colophons indicating that they were completed in 1572 for a commander of the ‘Adil Shah army, Kamal al-Din Husayn. The faces in these manuscripts are stylistically compatible with this date, but compared to other paintings executed in Adil Shah Bijapur, the images in these manuscripts seem stylistically archaic. Use of a medieval source does not explain why the painters did not follow the more usual path of retaining a few recognizable aspects of the composition, but updating the style more obviously. It is possible that the use of what now strikes us as an archaic style was meant as a reference to the Islamic lands vaguely conceptualized as further west. If so, this would be in keeping with the ‘Adil Shah claim that the founder of
their dynasty had been an Ottoman prince. However, it is also possible that the readers of the Persian translation felt that access to an older version of Qazwini’s book would help them better understand its underlying premises.

Even after the Bijapur sultanate fell and its lands were subsumed into the Mughal Empire, some later audien ces in India continued to associate Qazwini’s cosmography with Ibrahim ‘Adil Shah. A stamp purporting to be his princely seal, but likely a forgery, appears in a portion of a Persian Qazwini manuscript attributable to Mughal India in the seventeenth or eighteenth century and now in Princeton. The Princeton manuscript is incomplete, but it seems likely that it once belonged together with a manuscript now in the National Library of Medicine near Washington, D.C., which includes similar stamps. The overall size of the folios

is the same (35.7 × 21.1 cm), as are the dimensions of the outer and inner rulings surrounding the main text, the colors of these rulings, and the number of lines per text. The portion in Princeton consists of the chapter on trees; the portion in the National Library of Medicine includes sections on magic squares and talismanic designs, astronomy, numerology, the science of letters, and wonders among world rulers. Throughout all these chapters, the Persian translation of Qazwini’s text is written horizontally within the central ruled space of the page, but is supplemented by additional texts written diagonally into the margins (fig. 87). These additional texts treat topics such as medicine, metals, precious stones, and alchemy. Qazwini’s cosmographical text is here placed, both spatially and conceptually, within the frame of the arts of manipulating nature.

In Mughal India the primary language of the wonders-of-creation genre was Persian. It is no accident that this parallels the situation in Iran, and it is very much in keeping with how the Mughals understood their cul-
tural heritage. The first Mughal ruler to rule in India, Babur (r.1526–56), was himself a minor Timurid prince. In a rough analogy to the Byzantines’ perception of themselves as relocated Romans, the Mughals saw themselves as relocated Timurids. The very term “Mughal,” meaning “Mongol,” announces their emphasis on the Mongol line of Timurid heritage.

A second Persian Qazwini manuscript also in Princeton serves as an example of how Mughal manuscripts in the wonders-of-creation genre claimed the Timurid cultural heritage yet reworked the genre according to early modern concerns. The text block of this manuscript, in fact, was very likely produced in Timurid Iran. The scribe, ʿAbd Allah b. ʿAli al-Damavandi, noted in the colophon that he finished penning the text in 1460. Its textual structure has already been discussed above as an example of the kind of Persian Qazwini texts that circulated in Timurid Iran in the second half of the fifteenth century. However, as often happens in the history of manuscript production, the project was not finished all at once. When Damavandi finished penning the text block, he had left 184 ruled spaces for paintings and diagrams scattered throughout. The 165 paintings and 19 diagrams now in the manuscript were evidently added later, clearly in India, and probably in the eighteenth century.

Some of the paintings reference fifteenth-century visual compositions, but with changes that reinterpret them according to contemporary concerns. For example, on folio 193a there appears an illustration of Solomon visiting a city in the western lands of Islam inhabited by ʾifrit which is clearly related to a fifteenth-century version of the same scene (figs. 88, 89). In both images, Solomon stands nobly on his throne. In the later painting this is surrounded by angels, courtiers, a camel, and elegant birds. In both images, the

88 (p. 166) The Prophet Solomon visits a city of ʾifrit. The Wonders of Creation and the Oddities of Existence of Qazwini. Text block, Iran, 1460; paintings done in India, late seventeenth or early eighteenth century. 34.5 × 23.5 cm (full folio). Princeton University Library, Princeton Rare Books and Special Collections, Manuscript Division, Robert Garrett Collection of Islamic Manuscripts, MSS Garrett 82, fol. 193a.

boundary of the city is defined by brick walls which, like walls of a prison, serve more to contain than to protect the wild and unruly *ifrit*. The *ifrit* are naked to the waist, with long unruly hair flowing from their uncovered heads, and are rendered in grey paint, a convention indicating that they are dark skinned. The large circles of their eyes are faintly gilded, which makes their large black pupils all the more prominent. Contained within the walls of their city, the chaos of the unruly *ifrit* appears in sharp contrast to the orderly majesty of Solomon’s court. But the painter working in early modern India has pushed the *ifrit* city into the left margin of the page, calling attention to the liminal position of these beings at the borders of human experience.

Even though the fifteenth-century Persian text retains the basic cosmographic structure of the early medieval Arabic wonders-of-creation manuscripts, the images added in Mughal India de-emphasize that structure. For example, in the medieval manuscripts, scale calls attention to the hierarchy of creation, with large images of angels appearing near the front of the book, smaller images of animals and trees in the middle, and very small images of pests near the end. By contrast, the Mughal images painted into the fifteenth-century Persian text block minimize differences in scale among created beings. Indeed, most of the largest images in the manuscript are in the chapters on humans and various kinds of jinn (see fig. 88). But even though some images may be larger than others, they are all comprehensible within the same scale—the scale of humans and jinn. In the small spaces the fifteenth-century scribe left for depictions of pests, the painter’s inclusion of human figures alongside the pests has the effect of displaying the pests in human scale. Compare the image of the Angel of Death in this Princeton manuscript (fig. 90) with the image of the same scene in the manuscript probably made in Mosul c. 1300 (see fig. 33). Both images illustrate a gathering at Solomon’s court in which the Angel of Death keeps staring at one of Solomon’s courtiers, disconcerting him. In the medieval manuscript, the giant figure of the Angel looms over the rest of the scene. In the painting of the same scene from Mughal India, the Angel is proportionately the same size as Solomon’s attendants and adopts the same kneeling posture. Instead of inspiring fear with his great bulk, the manner...
In the case of Europe, moments of significant contact with outside populations have been posited as explanations for both increased interest in wonders and the rise of early modern sensibilities. Specifically, it has been suggested that the Crusades were a significant factor in the marked increase in discourse on wonders in medieval Europe and that the encounter with the New World revitalized that interest in early modern Europe. The immediate relevance of the Mongol Conquest on Qazwini as a thirteenth-century author has already been considered in Chapter One. The question here is whether the increased emphasis on human agency within the wonders-of-creation genre in the late fourteenth century can be seen as part of the conquest’s long-term cultural legacy. That is, is it an example of the process by which, in the fourteenth and fifteenth centuries, Islamic culture digested and reinvented the new ideas and visual forms that arrived with new populations, and in so doing was itself transformed? To address this question it is necessary to think about the place of the Islamic wonders-of-creation manuscripts in a broader Eurasian history of wonder and wonders.

In Europe, the early Qazwini manuscripts find their closest parallels in a European tradition also concerned specifically with wonders of creation. As in the medieval Islamic world, these wonders were understood as signs pointing to their creator and were mentioned in texts by religious scholars including some of the very figures who shared Qazwini’s definition of wonder. This is why the closest visual comparanda for the iconic images in early medieval Islamic wonders-of-creation manuscripts in the European context are images in manuscripts specifically concerned with divinely created nature, such as a moralizing bestiary, which was confiscated from the Marchiennes Abbey during the French Revolution (fig. 91). As for the narrative images in Islamic wonders-of-creation manuscripts, which became more frequent in the early modern period, the comparanda for these are often found within the European trajectory of wonders specifically concerned with travel. Visually, this is evident in the closer relationship between the images in Tusi’s manuscript and European images illustrating texts such as Marco Polo’s (figs. 92, 93).

As has long been recognized, the legacy of the classical world included a repertoire of wonders that were
the shared inheritance of the medieval Islamic lands and Europe. These inherited wonders included the so-called “Plinean races” such as the dog-headed men (see figs. 6, 7). But these “Plinean races” actually attest to a cross-cultural story that is far more complicated than a shared classical inheritance. Pliny had reported that these odd creatures came from the East, most often India. Rudolf Wittkower thus termed them “The Marvels of the East.” The label stuck, and they have long been interpreted as classic examples of Otherness.47 However, Sanjay Subrahmanyan has recently made a very interesting observation proving that the paradigm of geographically remote locations for wonders was far from universal. Not only literature from the early modern Iberian peninsula (present day Spain and Portugal), but also early modern Persian literature from the Indian subcontinent, located a disproportionate number of wonders in India.48 Early modern Indo-Persian literature on wonders, of course, includes wonders-of-creation texts. But before considering how this pertains to the Islamic wonders-of-creation manuscripts beyond the early modern Indian sub-continent, it is worth considering the extent to which Subrahmanyan’s observation might also apply to Chinese literature. China had its own tradition of wonders, marvels, and strange things grounded in types of writing known as zhiguai or chuangu. In her study of “Chinese chronicles of the strange” from a text entitled Nuogao ji that was compiled under the Tang dynasty in the ninth century by Duan Chengshi, Carrie Reed notes a particular emphasis on wonders from India and Central Asia.49

This suggests that, for that important subset of wonders that Wittkower termed the “marvels of the East,” it could be useful to reframe the discussion around the term “marvels of India.” “Marvels of the East” works from the point of view of Europe; but re-framing the term for this group as “marvels of India”
opens the discussion to multiple points of view across medieval and early modern Eurasia. In this discussion, “India” becomes geographically concrete, whereas “marvels,” of course, has to function loosely. Just by reformulating the way we discuss this particular group of wonders, we could get a very different view of the Eurasian history of wonder and wonders.

One of the earliest Arabic texts on wonders was Buzurg b. Shahriyar’s tenth-century classic The Wonders of India (Ajā'ib al-Hind). This text was neither cosmographically organized nor illustrated, and therefore not part of the illustrated wonders-of-creation genre as it has been defined in this study. However, its very existence suffices to demonstrate that Indian wonders also received particular emphasis in Islamic literary tradition. The following question then arises. To what degrees were India and Central Asia perceived as foreign or as local from an Islamic point of view? These regions did not include the holy cities of Mecca, Medina, or Jerusalem; nor did they include Cairo or Baghdad, so closely associated with the central institutions of classical Islamic civilization. There were significant Buddhist populations in Central Asia and Hindu populations in the Indian subcontinent. These were not the “heartlands” of Islamic civilization. Yet, neither were they entirely foreign. By the thirteenth century, both regions had significant Muslim populations and well-established histories of Muslim rule; this is particularly true if one considers Western Central Asia and the northern Indian subcontinent. The order of the chapters on human races in the fifteenth-century Persian version of Qazwini’s text described above is telling, and seems to move from groups considered most central to Islamic history and culture to those who were included but less centrally so: first Arabs, then Persians, then people of Rum (Anatolia), then Turks, then Indians, then Nubians, and finally Berbers. The Central Asian Turks and the Indians fall right in the middle of this continuum.

The traditions concerning Indian and Central Asian wonders that circulated throughout Eurasia, then, would not have been perceived as quintessentially foreign in an Islamic context and could so logically be complemented by wonders local to other parts of the Islamic world. In the thirteenth century, the Mongol Conquest—a sudden encounter with the new that redefined Baghdad itself as periphery rather than center


invigorated interest in wonders in the Islamic world. It sparked an intensive reckoning with what was already known, and in so doing, reinforced traditions of noting what was wondrous in the familiar and the local. In the Islamic lands, the consideration of the wondrous in the familiar and the local had multiple roots. Wonders related to ancient, classical or prophetic traditions were geographically located around the Mediterranean, which in the medieval period were largely Islamic. The geographic relationship with the Holy Land was therefore quite different than it was in Europe, where wonders associated with Biblical stories of several of the same figures such as Abraham, Noah, or Jesus, were, like the Plinian races, also located in “the East.” Further, in the Islamic context, religious traditions rooted in the Qur’an maintained that the most familiar parts of creation ethically demand a response of wonder.

This of course is not to deny that new and surprising things had a place within a framework that first and foremost focused on familiar wonders. With the Mongol Conquest came new visual forms and ideas from East Asia. In the cosmographic structure of the wonders-of-creation manuscripts, there was already a framework in place that could absorb new forms and information and contain them within a recognizably Islamic frame. Most famously for the history of Islamic art, the Chinese phoenix and dragon were incorporated into the Islamic visual vocabulary at this time. These both appear in Qazwini’s 1280 Wasit manuscript and are subsumed into it in interesting ways.

One of the wonders Qazwini describes is identified as “something resembling a bird,” a blindingly bright light seen by sailors. This is probably the meteorological phenomenon we know as St. Elmo’s Fire, whereby an electrical charge causes masts of ships at sea to glow. It must have been quite challenging for the artist to figure out what an appropriate visual component of this entry should look like, and he seems to have turned to the Chinese phoenix for inspiration (figs. 94, 95). However, he has rendered the image in such a way that it would not necessarily look specifically Chinese if seen out of the context of this comparison. Although the Chinese phoenix became extremely popular in Islamic art and had a clear impact on the large flying birds which carried humans in Islamic wonders-of-creation manuscripts, it did not...
become the canonical form for the wonder identified as “something resembling a bird” in subsequent wonders-of-creation manuscripts.

By contrast, the use of a Chinese-type dragon in the image of the wonder that Qazwini calls tannin did have a visual legacy in subsequent manuscripts (figs. 38, 39, 96). As discussed in Chapter Two, it seems likely that, in his use of the Chinese dragon form, the artist of the 1280 manuscript was suggesting that the Mongols were the tannins of the age. Although one can see traces of the Chinese dragon type in the later iconography of the tannin as it developed in the subsequent history of the illustrated wonders-of-creation genre, the specific identification of this beast with the Mongols probably faded with the passage of time.

It was one thing for the artists of the 1280 manuscript to experiment with newly available visual forms, and even to use them in subversive ways; it would have been quite another for Qazwini to adjust the overarching cosmological structure of his text as part of an experiment with Mongol or Chinese cosmological paradigms. He ordered his wonders according to the hierarchy established in the Neoplatonic model of creation by emanation. While this model had its detractors, it also had serious and formidable proponents according to whom it was fully compatible with Qur’anic revelation and monotheism. There was no comparable case for the full compatibility of Shamanist, Buddhist, or Taoist cosmologies with Islam—a point which puts the classical Islamic debate over the status of the “foreign” (Greek) sciences in context.

At the same time, Qazwini’s work was no exercise in purist intellectual isolationism, but very much in keeping with intellectual trends across Eurasia in the Mongol Period. Throughout Eurasia, the thirteenth and fourteenth centuries were not only marked by intensified cross-cultural contacts, but also by a proclivity toward collecting knowledge from multiple sources, which resulted in the production of numerous encyclopedias and compilations. These encyclopedias and compilations, of which Qazwini’s is one example, speak of a confidence that knowledge from multiple sources may be additively combined. Not long after Qazwini, Chinese compilers also undertook to bring wonders and accounts of strange anomalies together into encyclopedias. In his study of the short accounts of anomalies inherited from early medieval China,

Robert Ford Campany notes that “the work of compilation, begun late in the [Mongol] Yuan period, saw its heyday in the middle and late Ming.”

Qazwini’s use of a cosmographic framework resonates with comparable Chinese material. Before they were compiled into encyclopedias, the Chinese anomaly accounts were dispersed, discrete texts. It is therefore quite striking that despite this, the framework in which Campany finds it most meaningful to analyze them is cosmographic. But whereas Qazwini’s cosmographic system emanates from a single divine source, the cosmographic system in which Campany analyzes the Chinese anomaly accounts does not. Rather, it is a system in which spirits, ancestor ghosts, and humans move back and forth between realms understood according to Confucian, Taoist, and Buddhist models.

The importance of movement within a cosmic frame that characterizes so many Chinese accounts of strange anomalies parallels the importance of movement within a cosmic frame that characterizes Sultan Ahmad’s 1388 Tusi manuscript. Visual attention to jinn with hybrid forms served to call attention to the boundaries that defined what was human. Images
depict humans who had traveled to penumbral wonders. Images and text overtly explore arts through which humans could manipulate their place in the cosmic structure. The very aspects of Tusi's text that best fit the Chinese model of what an account of a wonder should be were the ones emphasized. It seems noteworthy that this shift of emphasis occurred at the court of the Jalayirids, a dynasty of Mongol descent.

To my knowledge, possible relations between Islamic and Chinese traditions of wonders have not previously been explored. It is hoped that these initial comments might encourage future research into what could be a very fruitful area of investigation. At the micro-level of individual wonders, there are some resonances between the two traditions that seem worth pursuing. One of the wonders Qazwini describes is a rabbit-headed snake-tailed fish. This recalls a wonder found in Chinese tradition that is characterized as a rabbit-headed snake. 27 The medieval Islamic lands and China did have a shared ancient cultural heritage from the Indian subcontinent—the Islamic lands largely through translation of Sanskrit texts, and China through Buddhism. Whether there were particular sources concerning wonders from this tradition whose legacy affected both China and the Islamic world for centuries to come, as Pliny affected both Europe and the Islamic world, is not yet known.

WONDER, COSMOS, AND THE ROLES OF IMAGES IN ISLAMIC ARTS OF THE BOOK

The increased attention paid to themes of human agency within the wonders-of-creation genre, which coincided with the incorporation of Turkic-Mongol families into the eastern Islamic world as active producers of Persian court culture, went hand in hand with a shift in the basic role of the images in the wonders-of-creation books. The possible range of ways in which the images in these manuscripts could work changed over time. That change, once recognized within the wonders-of-creation genre, draws attention to contemporaneous and parallel examples in other illustrated Islamic books—particularly those that deal with themes of nature, place, or the vagaries of earthly experience within cosmic space and time.

It is very likely that Qazwini used his 1280 manuscript in teaching his students. One might therefore say simply that the role of its images was didactic. But how so? In general, separate images present the isolated forms of discrete created wonders. With only a few exceptions, the painted forms on the page are uncluttered by extraneous figures suggestive of visual narrative; visually independent of narrative, the forms appear as timeless. Each painted form is thus visually abstracted, helping the viewer to find that wonder's abstract Platonic Form in his imagination. Relations between the various wonders do not appear within single images but across the visual inventory of the cosmos they cumulatively suggest. That inventory is visually clear as one turns through the pages of the text, but the moment in which the reader sees it is the moment in which he engages in an act of visually facilitated abstraction. The intellectual move from the part to the whole within the cosmic system follows Ibn Sina's description of how it is that most people (apart from the few exceptional souls capable of grasping truth directly) must attain truth. In their discrete presentation of created wonders and in their abstracted quality, the images further the fundamental point of Qazwini's book, as he explains it in his preface: "All of that indicates the oneness of its Creator, His power, His greatness, and His might...In everything He has a sign/Indicating that He is One." 38 From his visual perception of the paintings, to his intellectual perception of the various created wonders as signs of the Divine, to his religious recognition of the relations between the part and the whole in the divinely ordered structure of the cosmos, the attentive viewer would be led to wonder (ajab) at divine creation.

None of this is to deny that a casual viewer paying less attention to the book might find the images enjoyable at a simpler and more instinctive level. But given that Qazwini was trained specifically in the Avicennian tradition of philosophy, it would be ahistorical to

96 (facing page) The tannin. The Wonders of Creation and the Oddities of Existence of Qazwini. Text block, Iran, 1460; paintings done in India, late seventeenth or early eighteenth century. 34.5 × 23.5 cm (full folio). Princeton University Library, Princeton Rare Books and Special Collections, Manuscript Division, Robert Garrett Collection of Islamic Manuscripts, MSS Garrett 82, fol. 71a.
insist that when it came to the images in his book, he somehow excised his philosophical training from his mind.

If the images in Qazwini’s 1280 manuscript are didactic, then, they serve their didactic function by goading and facilitating processes of abstraction on which understanding was thought to be based. There are several other kinds of medieval Islamic illustrated manuscripts in which images likely worked in a similar manner. Herbals and bestiaries, for example, offer visual inventories of particular classifications of creation that not only look very much like the local layouts within chapters of early wonders-of-creation manuscripts but invite the same kind of abstraction concerning each species and a similar process of reflecting on the relation of each species to its classification. A less obvious parallel may be drawn with the paired images in multiple manuscripts of Sufi’s Book of the Fixed Stars that, as in the case of Qazwini, are each identified as a ǧīra (picture, form). As has been mentioned, each constellation in these manuscripts appears twice, once as it would appear to a viewer on the earth looking up at the sky, and once as it would appear to a viewer looking down on a celestial globe (see figs. 62, 63). Why does each pair include conspicuous details in which the two images do not actually match? It seems likely that the two slightly different depictions of the same constellation are meant to goad the viewer into a process of comparison that leads him to abstract from them. In this process, he notes various visible details of the depicted images before him that do not mirror each other, but he also notes various aspects the facing images have in common. Having been invited to note these common features, he simultaneously abstracts a mental image of the constellation that is not literally depicted in the book but that can accommodate both of the paired images that are. This mental image must somehow transcend either depicted orientation. Much of the truth that the student is supposed to learn about constellations from Sufi is thus located in the abstracted mental image; the images on the page play an important role in helping him find it. Further, in constantly referring the viewer to how the images appear as one looks up at the sky and to how they would appear if one were to look down on them from above the celestial globe, the manuscript repeatedly invites him to consider the relationship of the part—the specific constellation—to the whole, that is, the heavens.

The cosmographic framework of later wonders-of-creation manuscripts ensured that at least some parts of those manuscripts could continue to lead the attentive viewer toward similar acts of abstraction. However, as a place for themes of human agency became firmly established within the genre around the end of the fourteenth century, some of the specific images that appeared within these manuscripts pushed against the earlier clarity of that framework. In these images, different created wonders were related to each other within a single image. What had been a notable but small proportion of narrative images in the c.1300 manuscript expanded in the late fourteenth century to a more significant proportion. In these narrative images, created wonders were simultaneously linked to human volition to travel in the world, to the quirky peculiarities of different moments in a specific story, and thus to different moments in the general passage of time. In general, then, these paintings therefore no longer offered timeless abstractions suggestive of the essential, perfect, and constant Platonic Forms but depictions of beings and things located spatially and temporally in the visible and tangible realm. The more such specificity individual paintings suggested, the less they served to help the viewer reach an abstract understanding of the Platonic Form of the wonder removed from time, but the more they made the wonder accessible to human experience. Also, from the late fourteenth century onward, talismanic images and increasingly complex astrological images appeared in the wonders-of-creation manuscripts more frequently. These images offered humans some hope of positioning themselves favorably in the nexus of symbiotic connections between the turning of the celestial wheels of fortune and the precarious uncertainties of earthly existence.

Whether narrative, astrological, or talismanic, the less abstracted images that appeared in greater numbers in wonders-of-creation manuscripts produced from the late fourteenth century onward emphasized themes of human agency, but they did so in different ways that related to the different roles they played within the manuscripts. The narrative images modeled extremes to which humans might dream of pushing
the boundaries of their experience. More interestingly, the astrological and talismanic images, though not efficacious in isolation as has been discussed, offered a promise that under the right circumstances they could be used to efficacious ends.

Several other kinds of illustrated Islamic manuscripts made from the late fourteenth century into the early modern period contain images serving roles similar to those of the images in the later wonders-of-creation manuscripts. The images of the late fourteenth-century Book of Dumfoundment (Kitāb al-Bulhn) have already been mentioned (see fig. 76). Along with its astrological and talismanic images, this book also includes several images used for fortune telling, called fāl. Fāl images flourished in the early modern Ottoman and Safavid empires. Some of them were bound into books such as the Fālnama (The Book of Omens). Individuals could pose a question concerning their future, open the book at random, and then find their answer in whatever image appeared before them. Textual sources attest that similar images, not bound into books, were also available for consultation in the streets of Istanbul and Isfahan. Similarly, images integrally related to the arts of physiognomy became increasingly important in Ottoman painting.

This study has focused on a change within the genre, and has therefore emphasized precisely those images in later illustrated wonders-of-creation manuscripts that pushed against the genre's cosmic frame. But within the genre as it has been defined in this study, this shift was not a change that replaced the cosmic frame, but rather a shift within it. In most manuscripts of the genre from the late fourteenth century onward, images suggestive of the various different roles discussed above coexist. Further, in the case of the Deccani Bijapur Sultanate under the 'Adil Shahs, it seems that Arabic copies of manuscripts ceasing close to earlier medieval models were produced alongside manuscripts in Persian translation more likely to have contained images that pushed against that model. The coexistence of the abstracted images of discrete wonders along with single images calling attention to combinations of wonders—whether within single manuscripts or across multiple manuscripts available in the same milieu—speaks to the degree to which the early medieval manuscripts laid out the system upon which the early modern images holding a promise of efficacy depended.

We know that although Qazwini himself was not a philosopher, he had deep knowledge of the philosophical traditions upon which these roles for images ultimately depend, because he had studied it intensively under Abhari, a strong proponent of the Avicennian philosophical tradition. These manuscripts were not works of philosophy for philosophers but were constructed in accordance with philosophical models of how most people think, learn, and recognize truth. Still, the question arises: how likely is it that subsequent generations of readers and viewers were exposed to similar ideas? As madrasas remained the leading educational institutions for Muslim men under all three great Islamic empires of the early modern period, the official curricula for madrasa learning under the Ottoman, Safavid, and Mughal dynasties are certainly pertinent to this question. It is therefore quite interesting to note that in all three of the early modern empires, not only was philosophy in general incorporated into these official curricula, but more specifically, the works of Qazwini's professor Abhari. While it is true that philosophy was sometimes mocked as a form of self-satisfied pedantry, the humor of such mockery depended precisely on the fact that philosophers and philosophy were part of the intellectual establishment. Philosophy and astrology also continued to flourish at the early modern Islamic courts. Further, Neoplatonic ideas informed classics of medieval Persian poetry that were even more widely read and memorized by medieval and early modern audiences than they are by educated Iranians today. There is, then, much evidence that the basic assumptions of Avicennian philosophy and Neoplatonism would have infused the intellectual formation of many educated non-specialists—the audience among whom later wonders-of-creation manuscripts circulated.

In the modern world, and for a modern audience, the roles that I have suggested here for images in many medieval and early modern Islamic manuscripts simply would not make sense. But while visual art may sometimes have universal appeal across time and space, it is not actually a universal language seen, appreciated, or understood by all audiences in the same way. From a post-Enlightenment point of view,
we moderns are confident empiricists, that is, we literally see the visible and tangible as the actual and real. But medieval and early modern viewers did not share our unquestioned conviction that sensory experience was the ultimate litmus test of reality. Within the philosophical tradition that formed the intellectual backdrop of the wonders-of-creation genre, things that were tangible and visible were understood to belong in an earthly realm of inconstancy. Things in such an inconstant and unreliable state were less real than abstractions because they were subject to change, corruption, and decay. Abstracted painted images could therefore open the way for viewers to reach abstracted mental truths. The theoretical foundations of astrology and of astrological talismans were based on the related idea that because of systems of sympathetic correspondences established by emanation, the powerful stars in the celestial realm influenced the precarious course of earthly events. Through knowledge of the stars, one could attempt to use celestial powers to enable favorable outcomes in uncertain situations. Images could tap into these systems of sympathetic correspondence. For medieval and early modern readers and viewers exposed to Avicennian philosophy and Neoplatonic ideas, it would not have seemed strange to suggest that images could help viewers form their own abstracted mental images of truths and that in revealing connections between different parts of the cosmic order, they could help humans exercise agency within that order.

That the underlying assumptions of our own educations are so very different from those of the medieval and early modern audiences of wonders-of-creation manuscripts should not be seen as something that distinguishes “Western” from “Islamic” thinking or seeing, but rather as something that distinguishes post-Enlightenment empiricist thinking from medieval and early modern thinking. Sir Thomas Herbert, who traveled extensively in Iran in the seventeenth century, wrote with admiration about the learned scholars of Shiraz, who studied “philosophy, astrology, physic, chemistry, and the mathematics.” He was predisposed to admire scholars immersed in these subjects because the same subjects had a well-respected pedigree in his native England. Although of course Avicennian and Neoplatonic philosophical traditions followed somewhat different trajectories in European and Islamic languages, in both regions they were of considerable significance to questions of how images were expected to function and of how art and architecture more broadly were made, used, and understood. Considering the images in the wonders-of-creation manuscripts through the intellectual and social contexts in which they were produced and received offers us a richer view of these manuscripts, their images, and medieval Islamic art and culture more broadly.
Appendix

A PRELIMINARY INVENTORY OF SOME KNOWN ILLUSTRATED WONDERS-OF-CREATION MANUSCRIPTS

1280, Wasit, Iraq
*The Wonders of Creation and the Oddities of Existence of Qazwini*
Arabic
Munich, Staatsbibliothek, MSS cod. arab. 464

c.1300, likely Mosul, Iraq
*The Wonders of Creation and the Oddities of Existence of Qazwini*
Arabic
London, British Library, MSS Or. 14140

c.1320, Fars, Iran
*The Wonders of Creation and the Oddities of Existence of Qazwini*
Arabic fragment
Gotha, Forschungs- und Landesbibliothek, MSS A. 1506
1322, Fars
The Wonders of Creation and the Oddities of Existence of Qazwini
Arabic
Istanbul, Suleymaniye Library, MSS Yeni Cami 813

First half of the fourteenth century, Mamluk Syria
The Wonders of Creation and the Oddities of Existence of Qazwini
Arabic
Doha, Islamic Art Museum, MSS 647

1388, probably Baghdad, Iraq
The Wonders of Creation or The World Showing Glass of Tusi
Persian
Paris, Bibliothèque nationale de France, MSS supp. pers. 312

Late fourteenth century, western Iran
The Wonders of Creation of Qazwini
Persian
Present location unknown.

1415 Shiraz
The Wonders of Creation of Qazwini
Persian fragment (frontispiece)
New York, The Metropolitan Museum of Art, Inv. 34.109

1421, likely Shiraz
The Wonders of Creation of Qazwini
Persian
Istanbul, Topkapı Palace Museum, MSS Revan 1660

1420s, likely Shiraz
The Wonders of Creation of Qazwini
Persian

Berlin, Museum für Islamische Kunst, MSS I. 6943

1424, likely Shiraz
The Wonders of Creation of Qazwini
Persian
Istanbul, Suleymaniye Library, MSS Laleli 1991

1440, Iran
The Wonders of Creation of Qazwini
Persian

1441 (844), Iran
The Wonders of Creation of Qazwini
Persian

1475, Iran
The Wonders of Creation of Qazwini
Persian
London, Royal Asiatic Society, MSS 178

1480, Iran
The Wonders of Creation of Qazwini
Persian
Oxford, The Bodleian Library, MSS Laud Or. 132

1479, Turkman
The Wonders of Creation of Qazwini
Persian
Istanbul, Topkapı Palace Museum, MSS H. 410

1488, Herat
The Wonders of Creation of Qazwini
Persian
Paris, Bibliothèque nationale de France, MSS supp. pers. 1781

1492, Turkman
The Wonders of Creation of Qazwini
Persian

180
Vienna, Österreichische Nationalbibliothek, MSS N.F. 135

1494/5, Turkman
*The Wonders of Creation* of Qazwini
Persian
Istanbul, MSS Topkapi Palace Museum, R. 1659

1503–4, Herat?
*The Wonders of Creation* of Qazwini
Persian
London, The British Library, MSS Or. 12220

1514–15, Shiraz?
*The Wonders of Creation* of Qazwini
Persian
St Petersburg, Russian National Library, MSS PNS 265

1537, western India?
*The Wonders of Creation* of Qazwini
Persian
Washington, D.C., The National Library of Medicine, MSS Pt

1540, Shiraz?
*The Wonders of Creation* of Qazwini
Persian
New York, New York Public Library, MSS Spencer Pers. MS 49

1544, Shiraz?
*The Wonders of Creation* of Qazwini
Persian
Dublin, The Chester Beatty Library, MSS Pers. 212

1552, Ottoman
*The Wonders of Creation of an as yet unidentified author*
Turkish
The Collection of Lawrence J. Schoenberg, MSS LJS 30

Mid-sixteenth century, Istanbul, dedication to Suleyman I
*The Wonders of Creation and the Oddities of Existence of Qazwini*
Arabic
Istanbul, Topkapi Palace Library, MSS H. 408

1560, Shiraz?
*The Wonders of Creation* of Qazwini
Persian
Istanbul, Topkapi Palace Library, MSS H. 406

c. 1560, Qazvin?
*The Wonders of Creation of Qazwini*
Persian
Istanbul, Topkapi Palace Library, MSS H. 407

1568–9, Qazvin?
*The Wonders of Creation* of Qazwini
Persian
Istanbul, Topkapi Palace Library, MSS H. 403

1566, Ottoman Istanbul?
*The Wonders of Creation and the Oddities of Existence of Qazwini*
Persian
Cambridge University Library, MSS Nn 3.74

1567
*The Wonders of Creation and the Oddities of Existence of Qazwini*
Persian
Cairo, Dār al-kutub, MSS Ta‘rikh fi‘rṣi 21

1571, Sultanate of Bijapur, Deccan India
*The Wonders of Creation and the Oddities of Existence of Qazwini*
Arabic
Rampur, Raza Library, MSS no. 603

1572, Sultanate of Bijapur, Deccan India
*The Wonders of Creation and the Oddities of Existence of Qazwini*
Arabic
London, British Library India Office, MSS Loth 723

1172, Sultanate of Bijapur, Deccan India
The Wonders of Creation and the Oddities of Existence of Qazwini
Arabic
London, British Library India Office, MSS Loth 724

1570s? Deccan, India?
The Wonders of Creation and the Oddities of Existence of Qazwini
Arabic
London, British Library, MSS Or. 4701

Sixteenth century, Iran
The Wonders of Creation of Qazwini
Arabic
Paris, Bibliothèque nationale de France, MSS Or. Smith-Lesouëf 211

Late sixteenth century, Istanbul?
The Wonders of Creation of Tusi
Persian
Istanbul, Topkapı Palace Museum, MSS H. 401

1577, Istanbul?
The Wonders of Creation of Tusi.
Persian
Istanbul, Topkapı Palace Museum, MSS H. 404

1576–7, Qazwin?
The Choicest of Oddities
Persian
Vienna, Österreichische Nationalbibliothek, MSS Mixt. 324


1580, Iraq
The Wonders of Creation and the Oddities of Existence of Qazwini
Arabic
St Petersburg, The Russian Academy of Science, MSS D-D 370

c.1580
The Wonders of Creation of Qazwini
Persian
Dublin, The Chester Beatty Library, MSS Pers. 241

Late sixteenth century, Shiraz?
The Wonders of Creation and the Oddities of Existence of Qazwini
Persian
Istanbul, Süleymaniye Library, MSS Reşit Efendi 670

Sixteenth century, Ottoman Empire
The Book of Wonders and Oddities
Turkish, Sururi’s synoptic translation of Qazwini

The Wonders of Creation
Persian translation of Qazwini
London, The British Library, MSS Or. 13935
The Book of Wonders and Oddities
Turkish, Süruri's synoptic translation of Qazwini
Istanbul, Topkapi Palace Museum, MSS A. 1632
Metin And, Minyatürlerle Osmanlı-İslâm Mitolojisi

1601, Egypt
The Order of the World and its Wonders of Shaykh
Ahmad al-Misri
Arabic
Istanbul, Topkapi Palace Museum, MSS Revan 1638

Seventeenth century?, India
The Wonders of Creation
St Petersburg, The Russian Academy of Science, MSS C 597
Francesca Leoni, “The Revenge of Ahriman: Images of divs
in the ‘Shahnama,’ ca. 1300-1600” (Ph.D. diss., Princeton
University, 2008).

Seventeenth century?, India
The Wonders of Creation of Qazwini
Persian
Paris, Bibliothèque nationale de France, MSS Or. suppl.
perg. 310
Collinet, Annabelle, “al-Qazwini et le genre littéraire des
Merveilles,” in Laurence Possele, ed., L’étrange et le merveilleux
en terres d’Islam (Paris: Ed. de la Réunion des

1619
The Wonders of Creation of Qazwini
Persian
Manchester, John Rylands Library, Pers MSS 2
B.W. Robinson, Persian Paintings in the John Rylands
Library: A Descriptive Catalogue (London: Sotheby Parke

1620, Ottoman Syria?
The Wonders of Creation and the Oddities of Existence
of Qazwini
Arabic
Gottha, MSS A. 1507
Karin Rührdanz, “Islamische Miniaturhandschriften aus
Beständen der DDR: Qazwini-Illustrationen des 17.
Jahrhunderts,” Wissenschaftliche Zeitung der Universität Halle

First half of the seventeenth century?, Ottoman
The Wonders of Creation and the Oddities of Existence
of Qazwini
Arabic
Krakow, National Museum MSS I 54030, Dz. P. 134/38

Maria Kowalska, “Eine unbekannte Handschrift al-Ḳazwini’s
Kitāb ‘Aṣāb al-Makhluqat,” Forschungen (1959), 326-
32.

1632
The Wonders of Creation of Qazwini
Persian
Manchester, John Rylands Library, MSS Pers Ms 3
B.W. Robinson, Persian Paintings in the John Rylands
Library: A Descriptive Catalogue (London: Sotheby Parke
Bernet, 1980), cat. no. 1439, and “Appendix: The ‘Aṣāb

Mid-seventeenth century, Mughal India
The Collection of Oddities of Muhammad al-Mutri
Persian
Dublin, Chester Beatty Library, MSS 9
Collinet, Annabelle, “al-Qazwini et le genre littéraire des
Merveilles,” in Laurence Possele, ed., L’étrange et le merveilleux
en terres d’Islam (Paris: Ed. de la Réunion des

1685, Istanbul, for Sultan Mehmet IV by Mehmet
Rudusizābe
The Wonders of Creation of Qazwini
Turkish
Paris, Bibliothèque nationale de France, MSS Or. Suppl.
Turc 1063
Collinet, Annabelle, “al-Qazwini et le genre littéraire des
Merveilles,” in Laurence Possele, ed., L’étrange et le merveilleux
en terres d’Islam (Paris: Ed. de la Réunion des

1699, Baghdad
The Mirror of the Wonders of Creation (Mi’rāţ-i ‘Aṣāb
al-Makhluqat) Turkish translation of Qazwini
Istanbul, Topkapi Palace Museum, MSS H. 400
Fehmi E. Karatay: Topkapi Palace Müzesi Kütüphanesi
Türkiye Yazmalar Katalogu, I (Istanbul 1961), no. 1132.

Paintings done in India, late seventeenth or early
eighteenth century (style); text block, Iran, 1460
The Wonders of Creation and the Oddities of Existence
of Qazwini
Persian
Princeton Rare Books and Special Collections, MSS
Garrett 826
Robert Garrett et al., A Descriptive Catalogue of the Garrett
Collection of Persian, Turkish, and Indic Manuscripts
Including Some Miniatures, in the Princeton University
This manuscript portion may originally have belonged with
MSS P. 29 at the National Library of Medicine in Beth-
esda, MD. See discussion of fig. 87 in the Epilogue.
Late seventeenth century?, India
_The Wonders of Creation and the Oddities of Existence of Qazwini_
Persian
New Haven, Beinecke Rare Book and Manuscript Library,
Yale University, Persian MSS + 28

Iran, 1704
_The Wonders of Creation of Tusi_
Persian
Present location unknown.
Islamic Manuscripts, Catalogue 22. London: Sam Fogg Rare
Books and Manuscripts, 1999. Cat. no. 46, pp. 134–5

Eighteenth century?, India
_The Wonders of Creation and the Oddities of Existence of Qazwini_
Persian
Princeton Rare Books and Special Collections, MSS
Garrett 686
Robert Garrett et al., _Descriptive Catalog of the Garrett
Collection of Persian, Turkish, and Indic Manuscripts
Including Some Miniatures, in the Princeton University

Eighteenth century?, Arab provinces of Ottoman Empire?
_The Wonders of Creation and the Oddities of Existence of Qazwini_
Arabic
Munich, Staatsbibliothek, MSS cod. arab. 465
Helga Rebhan, ed., _Die Wunder der Schöpfung: Handschriften der Bayerischen Staatsbibliothek aus dem
islamischen Kulturkreis = The Wonders of Creation: Manuscripts of the Bavarian State Library from the Islamic
World_ (Wiesbaden: Harrassowitz Verlag, 2010).

Nineteenth century, Qajar Iran
_The Wonders of Creation of Qazwini_
Persian
Cairo, Dār al-Kutub, MSS Ta‘rikh fārsī ūtafat 26,
Nāy Allāh Muḥbashir al-Ṭirāzī, al-Īfrīsī al-Wāṣfi li-l-
Makārijat al-Farisiyya al-Muzayyana bi-l-Suwar wa-l-
Maḥṣa bi-Dār al-Kutub (Cairo: Maṭba‘at Dār al-Kutub,
1968).

1806, Iran or India
_The Wonders of Creation of Qazwini_
Persian
New Haven, Beinecke Rare Book and Manuscript Library,
Yale University, Persian MSS + 65

1822, Iran
A paraphrase of the second part of _The Wonders of Creation of Qazwini_ rendered in verse by Jalal al-Din
Hamza al-Duri, and owned by Zayn al-Abidin b. Dhu‘l Qādīr,
Persian
Paris, Bibliothèque nationale de France, MSS Or. suppl.
pers. 1148
Collinet, Annabelle, “al-Qazwini et le genre littéraire des
Merveilles,” in Laurence Posselle, ed., _L’Étrange et le mer-
veilleux en terres d’Islam_ (Paris: Ed. de la Réunion des

HIGHLY CONTROVERSIAL
PROVENANCE:

_The Wonders of Creation and the Oddities of Existence of Qazwini_
The “Sarre Qazwini”
Arabic
Washington, D.C., Freer Gallery of Art and
New York Public Library, MSS Spencer Collection Pers.
MS 45
Julie Badice, “The Sarre Qazwini: An Early Aq Qoyunlu
—. “An Islamic Cosmography: The Illustrations of the
Sarre Qazwini” (Ph.D. diss., The University of Michigan,
1978).
Stefano Carboni, “Constellations, Giants and Angels from
al-Qazwini Manuscripts,” in James Allan, ed., _Islamic
Art in the Ashmolean Museum_ (Oxford: Oxford
Barbara Schmitz, _Islamic Manuscripts in the New York
Public Library_ (New York: The New York Public Library,

_The Wonders of Creation and the Oddities of Existence of Qazwini_
Arabic
St Petersbourg, Institute of Oriental Studies, MSS E-7
In addition to the bibliography for the Sarre Qazwini, see
also:
Stefano Carboni, “The Arabic Manuscripts,” in Yuri A. Pet-
rosyan, ed., _Pages of Perfection: Islamic Paintings and
Calligraphy from the Russian Academy of Sciences, St.

_The Wonders of Creation and the Oddities of Existence of Qazwini_
Arabic
Dublin, Chester Beatty Library, MSS P. 128
In addition to the bibliography for the Sarre Qazwini, see
also:
Stefano Carboni, “The Arabic Manuscripts,” in Yuri A. Pet-
rosyan, ed., _Pages of Perfection: Islamic Paintings and
Calligraphy from the Russian Academy of Sciences, St.
Notes

ABBREVIATIONS

E1 The Encyclopaedia of Islam: a Dictionary of the Geography, Ethnography and Biography of the Muhammadan Peoples (Leiden: Brill, 1913–38)
E13 The Encyclopaedia of Islam Three (Leiden: Brill, 2007–)

Introduction


2 Istanbul, Suleymaniye Library, MSS Fatih 4173. This is a 1340 manuscript of Ajā'ib al-Makhluqāt (The Wonders of Creation) by the author known variously as Muhammad b. Mahmūd al-Tūsī, Ahmad al-Tūsī, Tūs Salmāni, and Muhammad b. Mahmūd al-Hamadānī.


4 Historians of western art generally agree that the characterization of Renaissance painting as essentially iconographic is linked to the profound impact that the scholar Erwin Panofsky had on the discipline of art history. Therefore they also generally agree that issues concerning the use of intellectual history for art history are intimately related to the need to grapple with his historiographic legacy. Erwin Panofsky, Studies in Iconology: Humanist Themes in the Art of the Renaissance (New York: Oxford University Press, 1939); Keith Moxey, “Motivating History” The Art Bulletin 77, 3 (1995): 392–401. By contrast, historians of Islamic art are divided about what is at stake in the characterization of Islamic art as essentially decorative. Skeptics of intellectual history would like to preserve the model of Islamic art as essentially decorative because they see this as a means to expand the audience for Islamic art. In so doing, however, they tend to overlook the degree to which this model is historiographically grounded in an Orientalist paradigm. The characterization of Islamic as an internally cohesive tradition, recognizable by its delight in ornament and pattern, and devoid of iconic significance—except in instances that can easily be explained as “secular”—is ultimately an Orientalist construction. It positions Islamic art within the simplified precepts of an orthodox Islam whose variations over time are minimized. Gülru Necipoğlu, “L'idée de décor dans les régimes de visualité islamiques” pp. 10–23 in Rémi Labrusse, ed., Pours décor? Arts de l'islam, regards du XIXe siècle: collection

Notes to pages 1–5 185
7 des arts décoratifs (Paris: Arts décoratifs, Musée du Louvre, 2007).


9 El, s.v. “al-Qazwīnī” (M. Streck).

10 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464. The full manuscript is available online. As the link to the manuscript is subject to change, readers are advised to begin at http://www.bsbmuench.de. From there, find “Münchener DigitalisierungsZentrum”, search “Qazwīnī” in digital collections, then open the link containing “464” in the link name.


17 For Qazwīnī’s biography, see von Hees, Enzyklopädie, pp. 19–90.


20 El, s.v. “Ḵalām” (Cl. Huart); El, s.v. “Ḏuhbābī” (L. Kopf).


22 Von Hees, Enzyklopädie, p. 78.


26 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 1a. Published in von Hees, Enzyklopädie, p. 84.

27 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 212b.

the texts of the 1322 manuscript and the 1280 Wast manuscript show that at least for the latter, al-Hamadînî had access to a version of the text approved by Qazwîni and followed it closely. There is therefore good reason to suspect that the same would be true in the case of the former.

62 The particular combination and order of the monstrous races within Qazwîni’s text suggest a more direct derivation from Ktesias as a source than was typical in the medieval West, where the textual source for the same subject was often Pliny (1st century CE). On Pliny as a source for writers of wonders in the medieval West, see Daston and Park, Wonders, p. 34.


64 Ibid.


66 Daston and Park, Wonders.


70 Istanbul, Süleymaniye MSS Fâthi 4173. The maps in this manuscript are indeed the source of those in Manâîchîr Surûtâ’s 1966 printed edition, as tentatively suggested in Rûhrdanz, “Illustrated Persian Ḩâṣbî-of-Makhlûqât Manuscripts.”


73 Massé, Le Livre des merveilles du monde, pl. vii.


79 For the status of illustrated Qazwîni cosmography manuscripts in the Mamlûk lands, see the Epilogue.


82 The eleventh chapter of Vernon E. J. Egger’s textbook, A History of the Muslim World to 1453: The Making of a Civilization (Upper Saddle River, N.J.: Pearson Prentice Hall, 2004), offers a convenient discussion of intellectual life in this period including brief discussions of these three figures among others. See particularly pp. 293–9, 301–2.

83 Ibid.

84 For Qazwîni’s biography, see von Hees, Enzyklopädie, pp. 19–20.


86 Azîz al-Anãmî, Arabic Thought and Islamic Societies, p. 259.


95 El, s.v. “Muzaffarids” (P. Jackson).

96 Lambton, “Mongol Fiscal Administration in Persia,” p. 121.

97 Lambton, Continuity and Change, p. 275.

98 See, for example, Eleanor Simms, B. L. Marshak, and Ernst J. Grube, Peerless Images: Persian Painting and its Sources (New Haven Conn.: Yale University Press, 2002), pp. 48–9.

99 Berlekamp, “From Iraq to Fars.”

100 El, s.v. “Muzaffarids” (P. Jackson).

101 El, s.v. “Ḍalâyîr, Ḍalâyîrd” (J. M. Smith).
1 Iconic Images


6 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 7b.

7 Ibid., fol. 2a.

8 Ibid.


10 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 2a.

11 Ibid., fol. 20a.


14 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 2a.


48 Carboni, “The Wonders of Creation.”


50 The Grove Dictionary of Art offers a “provisional” definition of “style” as “a coherence of qualities in periods or people.” Within the study of western painting, some of the most enduring concepts of style have been individual style, period style, and school style. In the study of Islamic manuscript painting, the most important has been something like school style, which is then generally named either by the name of an associated dynasty, a particular patron, or an urban center. An increasing number of specialists agree, however, that several factors complicate or even undermine assumed correspondences between styles, painters, patrons, and even places of production. Production was often collaborative, involving painters, patrons, image outlines, manuscripts, and even different sections of the same manuscript that could easily be in transit while a single manuscript was being made. Further, at least in some periods, the mark of a master painter was not that he painted in a characteristic, trademark style, but that he had the versatility to paint convincingly in numerous divergent styles. Nonetheless some recognizable styles can still be associated with particular courts and other centers (including mobile centers) of production. David J. Roxburgh, “The Study of Painting and the Arts of the Book,” *Muqarnas* 17 (2000): 1-16. David J. Roxburgh, “Kamal al-Din Bihzad and Authorship in Persianate Painting,” *Muqarnas* 17 (2000): 119-46.

51 Oxford, Bodleian Library, MSS Or. 133; Stefano Carboni, *Il Kitāb al-bulhān* di Oxford, *Quaderni del Dipartimento di Studi Eustatii*, Università degli Studi Venezia, no. 6 (Turin: Edizioni Terrenese, 1988). The entire manuscript is digitized and may be consulted online at <www2.odd. ox.ac.uk/gsl/cgi-bin/library?d=000-000-orient02-00-00-oprompt:10-4-0-11-1-1-1-rs5-8857z-1-0&add&cl=CL1.88&ds=orient002-aab> (accessed 30 April 2010).


54 Rogers, ed., *The Topkapi Saray Museum*, pp. 31-2, pl. 18.


57 Ibid., p. 62.

58 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 2a.


2 Narrative Images

1 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 2b.

2 The Arabic word that Qazwini uses to refer to a story, dikâya, is derived from the root of the verb dikâ, to tell, to narrate. The derivation of the word, therefore, solidifies the link between story and narrative—a link that, even though it sometimes has been problematized at a theoretical level, is intuitively understood in English. For more on narratology, see Mieke Bal, *Narratology: Introduction to the Theory of Narrative*, trans. Christine van Boeijen (Toronto: University of Toronto Press, 1985). For more on pre-modern visual narrative see Herbert L. Kessler and Marianna Shreve Simpson, eds., *Pictorial Narrative in Antiquity and the Middle Ages* (Washington, D.C.: National Gallery of Art, 1985). For stories as wonders in Arabic literature, see Mottahedeh, *Aṣā’īb* in The Thousand and One Nights.

3 The c.1300 Qazwini manuscript probably made in Mosul includes not only more narrative images, but also more textual stories, than the 1280 Wasit manuscript. Carboni, “The London Qazwini,” Carboni, “The Wonders of Creation,” pp. 412-13. As for the two Qazwini manuscripts
made in southern Iran in the early 1320s, the place of narrative images in them is best judged by the 1322 manuscript, which is the more complete. Even though this manuscript includes the same version of the text as the 1280 Wasi manuscript, its visual program is comparatively more open to narrative interpretations. Berlekamp, "From Iraq to Fars," pp. 73-91.


Exactly how this manuscript fits into the history of Qazwini’s text is not clear. Some scholars believe that it represents the earliest recension of Qazwini’s text, which would, according to that theory, have been originally written in an even earlier, now lost manuscript. This idea is a recent elaboration and extension of a theoretical schemata of recensions of Qazwini’s text proposed by the nineteenth-century German scholar Ruska. Unfortunately, that theoretical schemata in turn is seriously flawed. Ruska based it on comparisons of only limited portions of the text in different manuscripts, and as von Hees has shown, the texts of some manuscripts that he identifies as the same in fact differ in portions he did not compare. Ruska, "Qazwini’s Text," pp. 146, 536-62; von Hees, Enzyklopädie, pp. 93-4.


El2, s.v., "Djuyawny, Shams al-Din"; El2, s.v., "Djuyawny, ‘Ala’ al-Din."

Juvaynī, Genghis Khan, trans. and ed. J.A. Boyle.


Carbone, "Wonders of Creation," pp. 52-38.

The image has been published in Carbone, "The London Qazwini," p. 31. For another analysis of these two images in comparison with the more common compositional type, see ibid., pp. 492-4.


Berlekamp, "From Iraq to Fars," Fig. 4: for the c.1300 painting, see Carbone, "The London Qazwini," Pl. VII B.


Carbone, "The London Qazwini," Plate VII C.


Ibid., p. 37.

In her analysis of The Thousand and One Nights, which of course has a narrative frame, Sandra Naddâf emphasizes that while repetition provides coherence to the narrative, it also subverts it. Specifically, she suggests that repetition can subvert the linear movement of time on which the narrative frame depends. By its very nature repetition is an attempt to destroy its own essence, to kill the natural movement of linear time, to turn time back upon itself, to make time repeat itself, reflect itself, do anything but continue its unimpeded advance.” Sandra Naddâf, Arabesque: Narrative Structure and the Aesthetics of Repetition in the "Thousand and One Nights" (Evansville: Northwestern University Press, 1991), pp. 94-5.


See Carbone, "The London Qazwini," Plate IV and Plate VI C and D.

Encyclopaedia of the Qur’an, s.v. "Bilqis" (Jacob Lassner) (Leiden: Brill, 2001-6).

Berlekamp, "al-Qazwini, Zakariyya b. Muhammad b. Mahmud (d. 1283)", pp. 69-70: the word hakayat is missing from the c.1300 manuscript due to paper loss but appears in published versions of the text on the authority of later manuscripts that include the chapter (for example, Tunis, p. 327).


Notes to pages 60-71
36 Ibid.
38 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 73b.
39 Ibid.
40 Ibid.
41 Ibid.
43 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 62.
44 Ibid., fol. 2a.
50 Ibid.
54 Ibid.
56 Weismann, “Mongol Rule in Baghdad,” p. 244.

3 Mirrored Visions
3.2 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 55b–56a.
3.7 Sutuda, introduction to Tūsī, *A’āžib al-Makhlūqāt*, p. 17.
3.9 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 7b.
3.13 *El2, s.v.*, “Mīrāt” (Ch. Pellat).


32 Lindberg, Theories of Vision, p. 34.

33 Ibid., p. 71.

34 Ibid., pp. 76–8.

35 Istanbul, Suleymaniye Library, MSS Fatih 4173.

36 Von Hees, who follows Sadiq in preferring to refer to Tusi by the alternate name Hamaduni, has drawn up a comparative chart indicating some similarities and differences between the contents of the two books. Enzyklopädie, p. 103.

Though the full object is 18.1 cm tall, the lower portion is made up of an iron circle about 12 cm in diameter. Surviving Islamic mirrors from the thirteenth century are often circular and of a comparable size. For example, a round bronze mirror in the Cleveland Museum of Art has a diameter of 10.6 cm. Cleveland Museum of Art Accession No. 1995:4023. <www.clevelandart.org/collections/collection?zoomline.aspx?type=refresh&search=department:Islamic%20Art> (accessed 10 May 2008).

Lindberg, Theories of Vision, 18–22, especially p. 31.


Lindberg, Theories of Vision, 18–22.

Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464 fols. 202a–202b; London, British Library, MSS Or. 14140 fol. 129b; translation, with minor changes, based on Carbone, “The Wonders of Creation,” p. 274. For the same creature in the Sarre Qazwini, see Atl, Art of the Arab World, p. 131.


Ibid.

Paris, Bibliothèque nationale, MSS supp. pers. 332, fol. 21b.

Talismanic Images


3 This first occurs in the fifteenth century. For example, a Persian manuscript dated 1494/5 and now in Istanbul includes magic squares with gold grid lines and a wide variety of talismanic images. Topkapi Palace Museum, MSS R. 1659, fols. 169b–170a, 170b ff.


10 Gombrich, Warburg, p. 198.


20 Carboni, Following the Stars; Carboni, “Il Kitāb al-Bulhān di Oxford.”

59 At Ibn Khaldun’s translator, Frantz Rosenthal here clarifies that what the people who work with words are removing to reach truth and divine light is “the veil” [kābah] mentioned at several points in the Qur’an and in the hadith; it figures as a barrier between light and dark; truth and falsehood; and belief and disbelief. See Mona Siddiqui, “Veil,” *Encyclopedia of the Qur’ān* (Leiden: Brill, 2000-8).


61 Ibid., pp. 170-1.

62 Ibid., p. 176.

63 Ibid., p. 171.

64 Ibid., pp. 162-3.

65 Ibid., p. 176.

66 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 414, fol 1b.


Epilogue


4 von Hees, *Enzyklopädie*. 5 The deep value placed on personal relationships within the scholarly culture in which Qazwini was working is evident in the mechanisms through which that culture conventionally tracked and documented scholarly authority. For example, considerable importance was attached to chains (isnab) of transmission of knowledge from one scholar to the next, such as the isnab considered in chapter one that traced the work of madras scholars back to Ibn Sina. Similarly, the closest equivalent to a diploma was a document called the *iṭṭa*. Whereas our diplomas are issued to individuals by institutions, the *iṭṭa* would be issued to an individual by an individual. It was written by a particular person, the author of a specific book, vouching that the beare had studied that book with the author, had in his possession an authorized version of it, and was permitted to teach and disseminate it. Johannes Pedersen, *The Arabic Book* (Princeton: Princeton University Press, 1984).

6 The Sarre Qazwini manuscript, which is divided between the Freer Gallery of Art and the Spencer Collection in the New York Public Library, might or might not be a fourteenth or fifteenth-century manuscript from the Islamic west; and it is closely related to several other manuscripts of elusive origin. Although it was long considered a fourteenth-century manuscript, and then a fifteenth-century manuscript, its provenance has been infamously difficult to establish. Fittingly enough, *Arab Painting: Exim Atl. The Art of the Arab World* (Washington, D.C.: Smithsonian Institution, 1971); Julie Badice, “The Sarre Qazwini: An Early 14th Century Manuscript?” *Ars Orientalis* 14 (1984): 97-113. It was also traditionally considered as a possible source for manuscripts with strikingly similar images that were made in the Decani in the early 1370s. Most recently, however, Barbara Schmitz has suggested a date of 1640 for the Sarre Qazwini, on the basis of a calendar within the manuscript. Subsequently, Stefano Carboni has suggested that although this manuscript had previously been considered a possible source for the Decan manuscript, it might instead be a later copy of them. He has also suggested that several other manuscripts with image programs linking them both to the Sarre and to the Decan manuscripts should be considered as part of a Decani group. Schmitz, *Islamic Manuscripts in the New York Public Library*, pp. 7-13. Carboni, *Constellations, Giants and Angels from al-Qazwini Manuscripts*, 83-97. However, it is important to note that the calendar upon which Smitz bases the suggestion of a seventeenth-century date appears as an illustration for the chapter on time, and does not purport to document the year of the manuscript’s production. Further, the paper and pigments of the Sarre Qazwini manuscript are much more compatible with a fourteenth- or fifteenth-century date than with a seventeenth century one. The materials of the Sarre Qazwini manuscript (as well as those of the related manuscript in St. Petersburg, Institute of Oriental Studies MSS E-2) are clearly quite unlike those of two manuscripts in the British Library, which are securely attributed by their colophonos to the Decani group (Loth 723 and Loth 724). In the two British Library Loth manuscripts, not only the paper and the pigments, but also the manner of rendering faces are clearly compatible with a sixteenth-century Decani provenance.

7 The 1140 manuscript in the Suleymaniye Library in Istanbul (MSS Fanh 4711) is illustrated only with maps.


9 El, s.v., “Abū Ma‘ṣhar” (Charles Burnett).

11 Sam Fogg. *Islamic Manuscripts Catalogue 23* (London, Sam Fogg Rare Books and Manuscripts, 1999), catalogue entry 33.
15 Storey, *Persian Literature*.
18 Istanbul, Süleymaniye Library, MSS Laleh, 1991, fol. 714b-714a. In Cambridge MSS Ns. 1-74 folio 48b, the chapter on winds is accompanied by an illustration that shows the winds' effect. At the bottom foreground of the painting, two sparsely foliated trees bend dramatically to the left, their leaves bowing down to the blue ground. A third, even sparser tree standing alone against the gold sky at the top of the image echoes their sway. According to convention, the blue ground is punctuated with small tufts of vegetation, but the artist has tweaked the convention by showing almost all the shoes of these vegetal tufts as sweeping to the left. The result is a highly effective rendering of a windswept landscape in which the rendering and vegetation suggests harshness in a harsh climate.
20 ibid. fols. 105b-105a.
21 Princeton, Rare Books and Special Collections, MSS Garrett 850; for the date of the images see the discussion of fig. 88.
22 These are aṣḥāb al-farāda and aṣḥāb al-qadīm.
23 Ruhdanz, "Illustrated Persian (Aṣḥāb)," p. 33, n. 17.
25 Elı, s.v., "Kazwin" (M. Strock).
27 As early as the ninth century, the mystic al-Ḥakīm al-Tirmidhī had described exactly this arrangement. According to his interpretation, the point is that whatever seems to serve as a foundation for the world must itself have a foundation. The successive foundations seem increasingly precarious until one finally accepts that they all rest upon God. Al-Ḥakīm al-Tirmidhī, *The Concept of Salvation in Early Islamic Mysticism: Two Works by al-Ḥakīm al-Tirmidhī* (London: Routledge, 1991).
31 Cornell Fleischer, "Ancient Wisdom and New Sciences, Prophecies at the Ottoman Court in the Fifteenth and Sixteenth Centuries," in Falcoholic, ed. Farhadi, pp. 331-43.
34 Gotha, Forschungs- und Landesbibliothek, MSS A. 1167. Karin Ruhdanz, "Islamische Miniaturschriften aus Beständen der DDR: Qazvini-Illustrationen des 15. Jahrhunderts." *Wissenschaftliche Zeitung der Universität Halle* 46 (1975) ii: 155-66. The earlier accession number for this manuscript was "Habib Nr. 416." "Habib" (or Habib) is the Arabic name of Akepo.
35 For another compelling comparison of images from these two manuscripts, consider fig. 81 in conjunction with a closely related image in A. 1167, published in Ruhdanz, *Osmanische Illustration*, 1984, p. 141.
36 Ruhdanz, "Illustrated Persian (Aṣḥāb)," p. 33, n. 17.
40 It is generally agreed that the Arabic Qazwini manuscripts made in the Deccan were closely based on medieval Arabic manuscripts. A large corpus of manuscripts with closely related images survive, but it is not entirely clear which of these might be medieval. See note 8 above.
42 Princeton, Rare Books and Special Collections, MSS Garrett 807, Garrett, *Descriptive Catalog*, cat. no. 11.
43 See figs. 80-85, Garrett, *Descriptive Catalog*, cat. no. 11, p. 11-15.
44 Fig. 80 is published in Annabelle Collin, "al-Qazwini et le genre littéraire des Merveilles," in Laurence Ponelle, ed.,
44 Daston and Park, Wonders, p. 32; Greenblatt, Marvelous Possessions; Kenez, The Age of the Marvelous.
46 I thank Pierre-Jacques Lamblin of the Bibliothèque de Douai for this information.
51 Flood, Objects of Translation.
54 The Chinese image I have suggested as a comparison belongs to a visual tradition associated in China with the Taoist canon. For much more “Chinese” looking renderings of images from the same visual tradition in the Ilkhaniid context, see Berlekamp, “The Limits of Artistic Exchange in Fourteenth-Century Tabriz.”
55 Campany, Strange Writing, p. 33.
58 Munich, Bayerische Staatsbibliothek, MSS cod. arab. 464, fol. 7b.
59 Farhad, ed., Falmāzā. For fāl images in the Kitāb al-Bulhān, see p. 211; for fāl images in the streets, see p. 28.
63 Fleischer, “Ancient Wisdom and New Sciences.”
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