Scope

Many Islamic texts in Arabic, Persian, and Turkish contain illustrative diagrams. Although almost all such diagrams either are intended as graphic aids to the texts they accompany or are employed as clear and efficient methods of presentation, some simultaneously serve as graphic representations of cosmological ideas or, in a few cases, as complete cosmographies. The identification of a given diagram as cosmologically significant is admittedly not always a matter of certainty. For the purposes of a general survey, it will be sufficient to include those specimens that exhibit a certain measure of correlative thought—that is, diagrams where two or more different orders of existence or component parts of the universe are correlated with each other, as well as those that are presented as partial or total representations of the structure of “perceived” reality (whether material or spiritual).

It needs to be emphasized that the diagrams thus brought together are fairly broad in range, encompassing material that falls into many specialized areas such as astronomy, astrology, alchemy, geomancy, geography, philosophy, theology, and mysticism. There was in Islam no single, continuous tradition of cosmological speculation that produced a more or less homogeneous set of diagrams to illustrate the major features of a universally accepted Islamic cosmology. Instead, there existed several distinct schools of thought that rested on different, if interrelated, cosmological doctrines, and the frequency with which graphic representation was used for better presentation varied considerably from one school to another. Although this chapter focuses on the cosmographical diagrams themselves and not on the cosmologies behind them, it is necessary at this point to give a brief account of the historical development of cosmological speculation in Islam in order to place the later discussion of the diagrams themselves into its proper intellectual and cultural context.¹

Cosmology in Islam

In premodern Islamic high culture, cosmological thought was cultivated primarily within three major intellectual traditions: the philosophical/scientific, the gnostic, and the mystic. Significantly, mainstream religious scholarship itself stayed for the most part clear of concentrated reflection on the structure and nature of the universe. Devotees of the religious sciences, most prominently scholars and lawyers of the Qur’an and hadith (reports on the sayings and doings of the Prophet Muhammad), even looked askance at attempts to construct comprehensive cosmologies. The distanced attitude of the religious scholars toward cosmological speculation was dictated in large part by the rather meager cosmological content of the two major sources of Islamic religious scholarship—the Qur’an and the hadith.

The Qur’an, the single most important source of Islamic culture, does not contain a systematic cosmology. No single Qur’anic verse addresses the structure of the universe directly, and materials of cosmological import that appear in the Qur’an are as a rule devoid of descriptive detail and do not lend themselves to comparative analysis. Thus God is said to be established on a throne (Qur’an 7:54, 10:3, 13:2, 20:5, 25:59, 32:4, 57:4), yet the Qur’an records only that this throne either rests on water (11:7) or is borne by angels (69:17) and that it encompasses the heavens and the earth (2:255). The sky, frequently described as a canopy spread over the earth (2:22, 20:53, 21:32, 40:64, 43:10, 50:6, 78:6), was raised without any supports that humans could see (13:2) and is illuminated by the sun and the moon (25:61, 71:16, 78:12), but the seven heavens it is said to comprise (2:29, 17:44, 41:12, 65:12, 67:3, 71:15, 78:12) exist but in name—only

the lowest heaven is described as adorned with the beauty of the stars (37:6, 41:12, 67:5). Similarly, the earth, spread wide and held firmly in place by mountains (13:3, 15:19, 16:15, 21:31, 31:10, 50:7, 51:48, 55:10, 78:7, 79:32), proves to be only one of seven earths that match the seven heavens (65:12); the other six earths, however, remain totally obscure. Consequently, though it would not be wrong to state that in broad outline the Qur’ānic universe is a hierarchical, multilayered complex that stretches from the throne of God on top through the seven heavens in between down to the seven earths at bottom, it is not possible to answer crucial questions concerning the size, shape, nature, and location of the entities that make up this universe.

The hadith corpus, the second major source of the Islamic religion after the Qur’ān, is richer in cosmological content. It not only provides many details that complement the Qur’ānic material but also attributes cosmological status to certain entities that are only nominally mentioned in the Qur’ān, such as the Tablet, the Pen, and the Balance.2 In spite of the relative wealth of material available, however, it is hardly possible to build a homogeneous cosmology on reports transmitted by the hadith any more than on the Qur’ān because of the disconnected, inconclusive, and frequently irreconcilable nature of the reports in question.3

The development of a separate tradition of religious, as opposed to philosophical and scientific, cosmological speculation was also hindered by the early crystallization of theological trends that dissuaded believers from literalist interpretations of transmitted knowledge, including the Revelation. They were clearly discouraged from adopting an inquisitive attitude toward ambiguous or enigmatic sections of the Qur’ān and the hadith. In the interpretation of the Qur’ān, for instance, the “throne” was either explained away as a metaphorical expression for God’s knowledge and power or simply accepted as a real entity. No attempt was made to render it more intelligible to the human mind, since the real meaning of the Qur’ānic word “throne” was thought to be beyond human comprehension.4

It is no doubt partially due to the entrenchment of such theological approaches that a separate tradition of religious cosmological speculation did not develop in Islam. What exists, instead, are either relatively short accounts of Creation, and thus of the universe, that are incorporated into larger historical, religious-literary, and encyclopedic works, or independent and brief collections of hadith on cosmological topics.5

Not all channels of inquiry relied so heavily on the Qur’ān and the hadith as did religious scholarship. Early in Islamic history several other intellectual traditions came into being that were more favorably disposed to cosmological thought. The earliest of such traditions was the philosophical/scientific, which came into its own during the third and fourth centuries of Islam (ninth and tenth centuries A.D.) under the direct influence of pre-Islamic, especially Greek, schools of learning. Already in the second Islamic century, the Muslims had begun to grow familiar with the pre-Islamic scholarly traditions of the Near East and India, and there had been considerable infusion of Indian and Iranian learning into the nascent


Islamic high culture. This early eastern phase was, however, soon to give way to a most decisive Greek phase through an unprecedented movement of translation into Arabic of scientific and philosophical texts, either directly from Greek originals or from intermediate Syriac versions. This translation movement resulted in a veritable proliferation of scientific and philosophical activity and led to the establishment of falsafah (“philosophy,” in the classical Greek sense of an encyclopedic system of knowledge that includes both “physics” and “metaphysics”) as a major tradition of learning within Islamic culture.

The legacy of Greek learning was far from being determinate in scope and uniform in nature, and the difficulties of translating an enormous body of specialized literature in Greek into Arabic certainly added to the confusion. It would nevertheless not be mistaken to state that the great majority of Hellenizing Muslim philosophers and scientists, who allotted a substantial role to human reason (as opposed to revelation) in their quest for the “truth,” subscribed to Ptolemaic cosmology or to slightly modified versions of it. Reason fortified by scientific observation dictated that the universe was geocentric in structure, with a limited number of heavenly spheres (usually nine) arranged concentrically around the earth in the middle, and that the latter, itself spherical in shape, was only partially inhabitable. Harnessed to many different philosophical and theological systems throughout the centuries, this essentially Ptolemaic cosmology became the most widely accepted view of the universe among educated Muslims.

Mainstream religious scholars never ceased to view the “extraneous” philosophical and scientific thought with suspicion, which meant there would always be a chasm between Muslim piety on the one hand and intellectual commitment to the principles of the “sciences of the ancients” on the other. Interpenetration was inevitable, however, and theological and theosophical schools in the first instance adopted Hellenistic philosophical material pertinent to their concerns with remarkable facility. Cosmologically most significant was the adoption of Neoplatonic doctrines, not by theology, which was on the influence of the philosopher-mystic Ibn al-‘ArabI and his own during the thirteenth century under the formative circumstances, locating cosmographical diagrams in Islamic works is a tedious and drawn-out task that necessarily has to rely more on published texts than on unpublished manuscript sources. This dependency on the work of modern editors has its own drawbacks, since even in the case of reliable critical editions the student of cosmography is compelled to fall back on the manuscripts themselves in order to determine the exact number of diagrams contained in any given work and to further examine the originals at first hand. In a general study such as the present survey, however, it is not possible to go into such detail, nor do the diagrams themselves always warrant close scrutiny of this nature. Clearly this survey of Islamic cosmographical diagrams, the first of its kind in scholarly literature, cannot be exhaustive and will need to be supplemented as more and more manuscripts are made available to the researcher.

Almost all the diagrams presented in the following

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6. The scholarly literature on the classical heritage of Islam is reviewed in Felix Klein-Franke, Die klassische Antike in der Tradition des Islam (Darmstadt: Wissenschaftliche Buchgesellschaft, 1980).

pages appear as illustrative material in books and were obviously intended as visual aids to the texts they accompany. This does not mean that none of them can stand alone without their textual context or that none have any independent value on their own. There are some that would be perfectly intelligible and clear even without any textual explanation and others that serve as “graphic text,” that is, that contain material otherwise not presented or explained in the text. Such diagrams cannot be treated as simple illustrations subversive to the text surrounding them.

Whether independently valuable or not, all the figures involved are primarily didactic in nature. They are intended more as general and often arbitrary visual images of certain cosmological ideas than as technically precise and measured representations of space. This is true not only of figures that graphically represent spiritual or sacred space, in which case it would hardly be appropriate to search after technical precision and accuracy, but also of those presented as realistic representations of physical space. Generally speaking, there is no consideration of scale where this could be applicable, and the emphasis is on gross outlines, with little or no attention paid to details.

The diagrams exhibit a certain graphic consistency that is perhaps best characterized by the overwhelming use of geometric forms. More specifically, concentric circles divided into equal parts by means of radii seem to be the predominant pattern used for illustrating cosmological schemes. This popularity of circular representation in Islamic cosmographical diagrams no doubt reflects the universal acceptance in Islamic culture of the Aristotelian belief that the sphere is the most perfect of all forms. Very often this belief in the perfection of the spherical form was coupled with the argument that God could only have created the best of all possible worlds, which naturally led to the conclusion that the universe was spherical. A clear statement of this kind of reasoning is provided by Ḥaydar Âmuli (720/1320 to after 787/1385), who was probably the most productive of all Islamic cosmographers:

> The form of the world, the heavenly spheres, the bodies, and the [four] elements were made spherical, since the spherical, round form is the best of all forms, as it is said: “The best of all forms is the circular form.” If a form more beautiful and more perfect than the circular form were to be possible, then the world would have been created in that form, since it is established that “a world more excellent than this one is not possible, because if it were to be possible, it would have been necessary to [attribute] either impotence or avarice to God—who is [however] beyond these two [attributes].” Thus it is proved that a more excellent and more beautiful form than this one [that is, the spherical form] and this state is not possible.⁸

Others, however, had different reasons for thinking that the created universe was spherical. A case in point is that of the mystic philosopher Ibn al-ʿArabi, who built an interesting argument on Qur’ānic material:

> Know that since the world is spherical, man yearns for his beginning [when he reaches] his end; thus our coming into existence from nonexistence is from God and to him shall we return, since he said, “everything will be returned to him” [11:23], and he said, “and fear the day when you shall be brought back to Allah” [2:281], and he said, “he is the place of destination” [5:18 and others], and “the end of all things belongs to him” [31:22]. Do you not see that when you start drawing a circle . . . you do not stop drawing it until you reach its beginning [point] and [only] then it is a circle? If this was not the case so that we were to have originated from him in a straight line, we would not return to him, and his word would not be true, and yet he is the truthful one and to him shall you return. Thus everything and every being is a circle returning to him from whom it originated.⁹

It was due to the prevalence of these and similar views that the sphere figured prominently in Islamic cosmological speculation and hence the circle in Islamic cosmography.

The technical simplicity of the cosmographical diagrams under review meant there was little need for specialized draftsmen to execute them. It is safe to assume that the scribe and the draftsman were frequently the same person. Lack of specialization at the production end was paralleled by lack of differentiation at the receiving end: the figures were addressed to the same audience as the texts that contained them. On a different level, the extent to which cosmography was “submerged” in the text surrounding it is demonstrated by the absence of specific terms that apply only to cosmographical diagrams. The relevant terminology is very general in nature and could apply equally well to maps, pictures, miniatures, and marginal illumination. The following terms are used most frequently in relation to cosmographical diagrams: širah (form); širah combinations like širat al-shakl (the drawing of the form), širat al-dāʿirah (the drawing of the circle); and širat-al-ʿalam (the representation of the world); dāʿirah (circle); taṣawwir (depiction); rasām (picture), shakl (shape); and mithāl (representation).

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Cosmographical Diagrams


Exoteric Realism: Philosophical and Scientific Diagrams

Celestial Diagrams

The Ptolemaic model of the universe formed the subject of a set of diagrams that appear in various works written by Muslim philosophers and scientists or by others they influenced. In the Almagest, Ptolemy had adopted the traditional ascending order of seven celestial spheres (moon, Mercury, Venus, sun, Mars, Jupiter, Saturn), and in the Planetary Hypotheses he had described these as spherical shells contiguous with each other in such a way that the outer limit of each shell corresponds to the inner limit of the one directly above it. In Islam, once it became known and accepted, this model was normally represented simply by a set of concentric circles drawn around a spherical earth in the middle. In different diagrams of the same kind, the seven planetary spheres were usually combined with those of the three elements—water, air, and fire—which were believed to surround the earth (the fourth element) in that ascending order. The outer boundary of the Ptolemaic universe was then extended beyond the sphere of fixed stars (also referred to as the sphere of the zodiac) by adding a sphere entitled the “encircling sphere” or “the sphere of spheres” to explain the diurnal motion of the sphere of the fixed stars (figs. 3.1 and 3.2).

The first examples of the celestial-sphere diagrams all date back to the turn of the eleventh century, suggesting that Ptolemaic cosmology, already known to the Muslims from the ninth century onward through Arabic translations of Ptolemaic works, gained prevalence especially during this period. Thereafter, the validity of this model of the universe was on the whole never questioned by Muslim philosophers and scientists. The appearance of Ptolemaic celestial-sphere diagrams, even in completely mystical works as late as the end of the medieval period, is testimony to the spread and endurance of the model.
FIG. 3.2. THE CELESTIAL SPHERES FROM THE MA'RIFETNÄME. For a translation see figure 3.1, diagram on the right. 
Size of the original: 8.1 × 8.4 cm. By permission of the British Library, London (MS. Or. 12964, fol. 39b).

The celestial diagrams were sometimes accompanied and complemented by related diagrams. Such were the figures of the spheres of individual planets, separate diagrams of the sublunar spheres of the four elements (fig. 3.3), and figures that illustrate the correlations believed to exist between the signs of the zodiac, on the one hand, and the planets, the four elements, the four directions, the mineral world, the parts of the human body, and so forth on the other hand (figs. 3.4 and 3.5). In all these cases Muslim scholars were drawing upon Hellenistic material of more or less determinate origin, and it is possible that the diagrams themselves had precedents in Greco-Roman antiquity.

GEOGRAPHICAL DIAGRAMS

The influence of Ptolemy was also extensive in the formation of Islamic views concerning the configuration of the earth. In its Ptolemaic version, the theory that the inhabited portion of the earth was divided into seven climata (Arabic īqlâm, pl. āqâlîm) rapidly became an inalienable part of Islamic high learning, although research on technical aspects of the theory—namely, the determination of the boundaries between climata based on latitude calculations—was naturally the preserve of a handful of qualified scientists. In quite a few scientific as well as nonscientific works, the seven-climata system was illustrated by simple diagrams consisting of eight straight parallel lines or concentric circles drawn within a circle that represented the earth (figs. 3.6 to 3.9). None of these diagrams reflect a concern with accuracy in representing the climata. Instead, they seem to have been intended primarily to orient readers in a very general sense and probably also to demonstrate the centrality, in the inhabited world, of the fourth region where the administrative center of the Islamic empire was situated.

14. Examples appear in al-Biruni, Kitāb al-taiffany, 29 (note 12); Shihâb al-Din Abu 'Abdallâh Yaqût ibn 'Abdallâh al-Ḥamawi al-Rûmî al-Baghdâdi (d. 626/1229), Kitâb mu'jam al-buldan; see the edition by Ferdinand Wûstenfeld, Jacut's geographisches Worterbuch, 6 vols. (Leipzig: F. A. Brockhaus, 1866–73), 1:14–15, reproduced here as figure 3.3; and İbrahim Ḥâkî, Ma'rîfetnâmê, 127 (note 13). This view of the earth's atmosphere draws directly upon Aristotle's Meteorologica.

15. Correspondence between the signs of the zodiac and the planets: Rasâ'il ikhwân al-safâ', 1:120 (note 5); al-Biruni, Kitāb al-taiffany, 396 (note 12). Correspondence between the signs of the zodiac, the four directions, and the four elements: al-Biruni, Kitâb al-taiffany, 322, reproduced here as figure 3.4; Abû Mu'in Naṣîr Khusraw Qubdâiyânî, Kitâb-i jâmî' al-hikmatayn (comp. 462/1069–70); see the edition by Henry Corbin and Muhammad Mu'in, Kitâb-e jâmî' al-hikmatayn (Tehran: Dâr-e Ģânîyân, 1933), 278 reproduced here as fig. 3.5. Correspondence between the signs of the zodiac, the planets, the organs of the five senses, the brain, and the heart: Naṣîr Khusraw, Kitâb-i jâmî' al-hikmatayn, 287. Correspondence between the signs of the zodiac, certain minerals, and the planets: Shams al-Dîn Abû 'Abdallâh Muḥammad ibn İbrahim al-Dinâshqî (d. 727/1327), Nûhbat al-dahr fi 'ajâ'ib al-barr wa-al-bahr, see the edition by A. F. M. van Mehren, Nûhbat ad dahr fi 'adshâ'îb al barr wal bahr (Saint Petersburg, 1866; reprinted Leipzig: Otto Harrassowitz, 1923), 52.

16. These drawings are also discussed in the context of geographical mapping in this volume, chapter 6.

17. André Miquel, "Iklîm," in Encyclopaedia of Islam, new ed., 3:1076–78, with further bibliography; also Ernst Honigmann, Die sieben
The same concern was also dominant in a rival theory of dividing the earth into regions—the seven-kishvar system of Persian origin. In this view the inhabited portion of the world was made up of seven circular regions (Persian kishvar) of equal size, arranged so that six of the regions totally engulf the seventh central one. As pointed out by the celebrated scholar al-Birüni, who first drew a diagram of this view of the world (fig. 3.10), “This par-

Size of the original: 11.4 × 9.9 cm. From Henry Corbin and Muḥammad Mu‘īn, eds., Kitāb-e jāmī’ al-ḥikmatayn (Tehran: Département d’Iranologie de l’Institut Franco-iranien, 1953), 278. By permission of the Institut Français de Recherche en Iran.

FIG. 3.6. THE SEVEN CLIMATA WITH INTERSPERSED PLACE-NAMES. Drawing from the title page of the anonymous manuscript Kitāb hay‘at ashkāl al-arḍ wa-miqdaruhā fi al-fāl wa-al-‘arḍ al-ma‘ruf bi-juḥrāfšiyah, dedicated to Sayf al-Dawlah (d. 356/967), a Hamdanid sultan. Approximate translation on the right. (This manuscript is discussed below as an abridgment of Ibn Hawqal, see figs. 5.11, 6.2, 6.3, 6.10, and appendix 5.1, no. 42.)

Diameter of the original: 15.2 cm. By permission of the Bibliothèque Nationale, Paris (MS. Arabe 2214).
FIG. 3.7. THE SEVEN CLIMATA FROM RASA‘IL IKHWAN AL-SAFA‘. For an approximate translation see figure 3.6, diagram on the right.
Diameter of the original: ca. 5.5 cm. From Rasa‘il ikhwân al-sa‘fa‘ wa-khullan al-wafa‘, 4 vols. (Beirut: Dâr Bayrût, Dâr Şadîr, 1957), 1:165.

FIG. 3.8. THE SEVEN CLIMATA FROM AL-QAZWINI’S KITÂB ‘AJÂ‘IB AL-MAKHLUQAT. For an approximate translation see figure 3.6, diagram on the right. (See also fig. 6.8 below.)

FIG. 3.9. THE SEVEN CLIMATA FROM KITÂB AL-BAD’ WA-AL-TARÎKH. This diagram illustrates the correspondences between the seven climata, the seven planets, and the twelve signs of the zodiac. The authorship of this Arabic manuscript, dated 977/1569–70, has been the subject of some debate among scholars; see p. 145. Translation on the right.
Diameter of the original: 10.2 cm. By permission of the Bodleian Library, Oxford (MS. Laud. Or. 317, fol. 7a).
tion had nothing to do with natural climatic conditions, nor with astronomical phenomena. It was made according to Kingdoms which differed from one another for various reasons—different features of their peoples and different codes of morality and customs.”

In reality, the seven-kishvar view drew directly upon the ancient Indo-Iranian belief that the world was divided into seven regions that were thought to have come into existence when the first rain fell on the earth and broke it into seven pieces. In Islamic times, however, this belief survived only marginally and never matched the Ptolemaic seven-climata scheme in popularity.

More widespread than the Iranian kishvar partitioning and, properly speaking, more Islamic than either of the two “extraneous” schemes so far mentioned was a geographical regionalization of the world around the Ka’ba. The maps produced by this process are numerous enough to form a distinct class of sacred geography, with several subdivisions, and they are described in a separate chapter. In themselves they can hardly have been of practical use to the believer who needed to ascertain the direction of the qibla from a given geographical location. It might have been for this reason that directions for determining the qibla in each region were at times incorporated into the text that accompanied the pictorial representations. The Ka’ba-centered scheme was preferred predominantly in religious works, most probably with the purpose of emphasizing a sacred geography over profane schemes that had their origins in non-Islamic cultures.

Perhaps the earliest and most important corpus of occult and scientific writings in Islam is attributed to Jābir ibn Ḥayyān. Consisting of numerous tracts and treatises, some containing cosmo graphical diagrams, the texts were compiled at the end of the eleventh century at the latest.

ESOTERIC SPECULATION: Gnostic and Mystical Diagrams

Gnostic Diagrams

Perhaps the earliest and most important corpus of occult and scientific writings in Islam is attributed to Jābir ibn Ḥayyān. Consisting of numerous tracts and treatises, some containing cosmographical diagrams, the texts were compiled at the end of the eleventh century at the latest.


20. See chapter 9 of this volume.
The Jabirian alchemy rests on a peculiar cosmology that combines material from Aristotelian (the sphere of the First Cause), Neoplatonic (the spheres of Intellect, Soul, and Substance), and Ptolemaic (the spheres of the seven planets, of the fixed stars, and of the four elements, in this descending order) ideas and sources. This cosmology is laid out most clearly in the treatise entitled Kitab al-taṣrīf (The book of conjugation), where the views put forward are partially illustrated by simple diagrams that consist of several concentric circles (fig. 3.11).21 The connection between this eclectic view of the universe and alchemy is then explained in another short treatise called Kitab al-mizan al-ṣaghir (The book of the small balance). There it is stated that everything below the third and fourth spheres of Soul and Substance comes into being through a process of generation whereby the Soul unites with the Substance (which consists of the four elementary natures of heat, cold, humidity, and dryness) to produce the bodies that make up the physical world. Closely involved in this process are the four categories of quality, quantity, time, and space. The direct influence of these determines the exact composition of any given combination of the Soul and the four elementary natures. The possible combinations of influences that could be worked on the Substance by the categories are presented by means of a set of diagrams (fig. 3.12).22 It is the purpose of Jabirian alchemy to determine the precise composition of any given physical entity through a close analysis of the influences exercised upon it by the four categories. The eventual aim was to discover the secrets of generation and apply them alchemically in the laboratory.23

Leaving aside partial exceptions, it does not seem that later occult scientists shared Jabir ibn Hayyān's enthusiasm for cosmographical diagrams.24 Instead it was the


22. Mukhtar rasa'il Jabir b. Hayyān, 443, 446, 447, and 448 (different possible combinations of the four categories of quality, quantity, time, and space) (note 21).


Gnostic Ismāʿīlīs who took a deep interest in cosmology and produced a great number of sacred cosmographies. Ismāʿīlism attained full maturity after it adopted Neoplatonic doctrines during the tenth and eleventh centuries. The synthesis of the original Ismāʿīlī Gnostic teachings with Neoplatonic ideas led to the development of complicated cosmologies that are characterized above all by a strict hierarchical ordering of the component elements of the universe and a symmetrical juxtaposition of the physical and spiritual worlds. This predilection for hierarchy and symmetry might explain the appearance of a large number of cosmographical diagrams in the works of prominent Ismāʿīlī thinkers.

The first name to be mentioned in this connection is al-Sijistani (d. between 386/996 and 393/1002-3), one of the earliest Ismāʿīlī philosophers whose works are available to us in late manuscript copies. Al-Sijistani put forward his cosmological teachings in several monographs, but he used cosmographical drawings in a work that was not primarily concerned with cosmology, Kitāb ʾithbāt al-nubūqāʾ (The book of the proof of prophecy). None of the diagrams contained in the ʾIthbāt are complete cosmographies. They are intended to illustrate only some of the correlations al-Sijistani establishes between what to him are the two cosmic orders that make up the universe—the natural order (or world of nature) and the normative order (or world of religion). The former consists, in descending order, of the Intellect, the Soul, and the Substance, which in turn comprise the seven spheres (the “fathers”), the four elements (the “mothers”), and the three mawālid ("offsprings") of animals, plants, and minerals, while the latter is but a hierarchy of spiritual or sacred entities that corresponds exactly to the natural order. With the exception of one diagram that is somewhat general in nature, all of al-Sijistani’s drawings deal with particular aspects of these two parallel hierarchies, such as the Intellect, the Soul, physical directions, natural and “prophetic” species, natural and prophetic movements, and physical quantity.

Al-Sijistani’s attempts at a systematic cosmology were taken further by the later philosopher Ḥamīd al-Dīn Aḥmad ibn ʿAbdallāh al-Kirmānī (d. after 411/1020-21).

25. The diagram illustrates the subdivisions of the sphere of substance with the hierarchy proceeding from the center outward; Abū Yaʿqūb ʾIshāq ibn Aḥmad al-Sijistani, Kitāb ʾIthbāt al-nubūqāʾ, ed. ʿĀrif Tāmir (Beirut: Manshūrat al-Maʾbabʾat al-Kāthulūqiyah, 1966), 22.


Other drawings, not reviewed here on account of their partial nature, can be found in al-Sijistani, ʾIthbāt al-nubūqāʾ, 17 (printed version not accurate), 37, 45, 52, 82, 89, 102, 126, 131, and 151 (note 25).
in a major work entitled Ṛḥat al-ʿaql (The comfort of the intellect). In his effort to synthesize the conflicting theories of his predecessors (including al-Sijistānī), al-Kirmānī introduced into Ismāʿīlī philosophy the doctrine of ten intellects. According to this scheme, the Intellect and the Soul of al-Sijistānī's natural order were conceived as only the first two in a descending series of ten intellects. The remaining eight corresponded to the seven spheres plus the active intellect that governs the sublunar sphere. In addition, al-Kirmānī thought in terms of four rather than two cosmic orders, which were the world of creation (ʿālam al-ibṭādaʾ), the world of matter (ʿālam al-jism), the world of religion (ʿālam al-dīn), and the world of the second emanation (ʿālam al-inbīʿāth al-thānī). These four cosmic orders were united into a meaningful whole through a theory of evolution, the two ends of which were respectively the Primordially Originated One (al-mubdāʿ al-awwal = the First Intellect = the First End) and the Second Emanation (al-inbīʿāth al-thānī = the Human Mahdi = the Second End). Al-Kirmānī illustrated his theories in diagrams: the interrelations among the four cosmic orders were clarified through two sets of diagrams where al-Kirmānī resorted to numerical comparisons (figs. 3.13 and 3.14), while the theory of evolution was graphically expressed in the form of concentric circles.27

The Neoplatonizing cosmologies of al-Sijistānī and al-Kirmānī found varying degrees of acceptance in later Ismāʿīlī doctrinal thought. Their predilection for graphic illustration, however, certainly seems to have been taken up by subsequent Ismāʿīlī thinkers, as evidenced by the cases of Nāṣīr Khusraw (394 to ca. 481/1004 to ca. 1088–89) and al-Ḥāmīdī (d. 557/1162). Besides the more or less standard drawings of the heavenly spheres and of the zodiac, both Nāṣīr Khusraw and al-Ḥāmīdī also designed original diagrams to illustrate specific aspects of their cosmological doctrines. The former had recourse to the ever popular scheme of partitioned concentric circles on several occasions in his Khvān al-ikhwān (The table of the brethren) to present in simple visible form certain sets of correlations that he described at length in the text (fig. 3.15). The latter, whose tendency toward visual thinking is reflected in the many simple drawings strewn across his Kanz al-walad (The treasure of the son), chose to represent his innovative doctrine of the “fall” of the third intellect and the resulting cosmology in a simple cosmography.28 That the number of printed Ismāʿīlī works is as yet very small is a real obstacle to meaningful generalizations about the degree and nature of graphic representation in Ismāʿīlī cosmological treatises as a whole. Yet it seems safe to assume that the renewed interest in Ismāʿīlīism that is currently visible among historians of Islamic thought will eventually lead to the discovery of many more Ismāʿīlī cosmographies than the ones recorded here.

### Mystical Diagrams

The literature of Islamic mysticism, vast in size and scope, is on the whole devoid of graphic elements. Given the unsusceptibility of mystical experience to any form of “representation,” such a reluctance by mystics to translate inner experiences onto the plane of visual expression is hardly surprising. Even mysticism, however, is not impervious to philosophical speculation, and whenever philosophizing tendencies manifest themselves and mystics begin to subject “ineffable” mystical experiences to systematic scrutiny, there may also emerge the need for graphic illustration. Such, in any event, is the case in Islamic mysticism, where the few cosmological diagrams that can be located in the literature all bear the indelible stamp of Ibn al-ʿArabī, the mystic-philosopher whose all-encompassing philosophy of being can be said to have transformed the whole subsequent history of Islamic mystical thought.

Ibn al-ʿArabī himself drew several diagrams to illustrate certain aspects of his mystical doctrines. Two cosmographical drawings concerning the different planes of being and the creation of the world through divine names appear in a well-known short work entitled Inshāʾ al-ḍawāʾir (The production of spheres).29 That he chose this title for the work in question suggests that Ibn al-ʿArabī...
FIG. 3.13. THE FOUR COSMIC ORDERS ACCORDING TO AL-KIRMÂNÎ. The world of creation, as the “cause” (‘illah) of all the other orders, is at the center and is thus correlated to the numeral 1, which is the “cause” of all other numerals. Translation on the right. The line drawing in the printed edition (Râhat al-‘aql, ed. Muḥammad Kāmil Ḥusayn and Muḥammad Muṣṭafā Ḥilmi [Cairo: Dār al-Fikr al-‘Arabi, 1953], 128) is misleadingly inaccurate. Diameter of the upper circle: approx. 8 cm. By permission of Abbas Hamdani, University of Wisconsin–Milwaukee (MS. al-Kirmâni, Râhat al-‘aql, “al-mashri‘ al-khamis min al-sūr al-rabi‘,” fol. 103a).
FIG. 3.14. AN ALTERNATIVE CONCEPTION OF THE FOUR COSMIC ORDERS ACCORDING TO AL-KIRMANI. The world of creation comprehends all the other cosmic orders, like the numeral 1, which is said to comprehend the other numerals. The world of second emanation is placed at the center, since it contains elements of all the other cosmic orders, like the numeral 1,000 which contains all numerals from 1 to 1,000. Translation on the right.


assigned particular importance to the diagrams in question, though, it appears from the text, primarily for didactic purposes. Another cosmographical drawing by Ibn al-ʿArabi appears in his magnum opus, al-Futūḥāt al-Makkiyyah (The Meccan revelations or conquests), which has as its subject the relation between the “center” (= the Absolute manifesting itself as God) and the spheres surrounding it (= “genera and species,” that is, permanent archetypes; fig. 3.16).30

If one bears in mind that Ibn al-ʿArabi’s philosophy is notoriously dense and his style of writing correspondingly convoluted, it is not surprising that at least some of his later commentators had recourse to diagrams in order to present his doctrines in a readily intelligible manner. Variations of Ibn al-ʿArabi’s diagram of the different planes of being seem to have enjoyed particular popularity among his spiritual disciples. Such diverse figures as the poet Maghribi (d. 809/1406-7), the encyclopedist mystic-scholar İbrāhīm Ḥaḳḳī (d. 1194/1780), and the mystic Muḥammad Nūrū‘l-ʿArabiyyāl-Melāmī (1228–1305/
FIG. 3.15. THE UNIVERSAL INTELLECT, THE CREATOR, AND THE CONSTRUCTION OF THE UNIVERSE ACCORDING TO NASIR KHUSRAW. This diagram demonstrates the correlation that exists between the way the Universal Intellect worships the Creator and the way the universe is constructed. The Universal Intellect’s worship of the Creator is based on the structure of the Muslim testimony of faith, َلا إلَهَ َلا إلَى اللَّهِ (there is no God but Allah), which is composed of four words, seven syllables, and twelve letters. Thus the Universal Intellect worships the Creator based on the four fundamental modes of tasbih (pakizah kardan, “purification”), izafat (báz bastan, “tracing its origin to God”), ibtihal (gardan nihdan, “submission”) and ta’zim (buzurg dâshtan, “glorification”) as well as based on several subdivisions of these into seven and twelve parts. This structure of worship is said to correspond to the structure of the Universe that is built out of four elements, seven planets, and twelve signs of the zodiac. Not incorporated into the diagram is another set of correlations with the human body, namely its four humors (blood, phlegm, black bile, and yellow bile), its seven internal organs (brain, heart, lungs, liver, pancreas, gallbladder, and kidneys), and its twelve “visible” organs (head, face, neck, breast, stomach, back, two hands, two legs, and two feet). Translation on the right.

Size of the original: not known. From Nasir Khusraw, Khván al-ikhván, ed. Yahyá al-Khashsháb (Cairo: Mâṭba’at al-Mâ‘had al’ilmi al-Faraní li’il-Árhár al-Sharqiyyá, 1940), 139.

FIG. 3.16. A PARTIAL ILLUSTRATION OF THE RELATIONS BETWEEN THE “DIVINE PRESENCE” AND “PERMANENT ARCHETYPES” ACCORDING TO IBN AL-‘ARABI. Translation on the right.

1983–88) all produced slightly different versions of this diagram (fig. 3.17). More significantly, however, it was one of these distant disciples of Ibn al-'Arabi—namely, Haydar Amuli—who, to all indications, alone in the history of Islamic thought developed a veritable art of cosmographical “diagramology.”

Haydar Amuli stands at the pinnacle of a particular trend in "ashari Shi'ite thought that is characterized by a high degree of openness to mystical speculation and, more specifically, by an effort to integrate the thought of Ibn al-'Arabi into Shi'i philosophy. The argument central to his profuse philosophical output is encapsulated in the maxim “the true Shi'is are Sufis and the true Sufis are Shi'is.” The Sufi par excellence for Haydar Amuli seems to have been Ibn al-'Arabi, and he devoted his formidable intellectual energies to the task of merging "ashari doctrines and Ibn al-'Arabi's theories into a consistent and rigorous whole. In this effort he rarely resorted to graphic representation and drew many cosmographical diagrams, of which only twenty-eight have so far been recovered. These are extremely elaborate diagrams that reflect almost all aspects of Haydar Amuli’s wide-ranging speculations, and as such they require separate collective treatment elsewhere. Several of the drawings are meant to illustrate points of Ibn al-'Arabi's teachings, and at least in some cases they derive from drawings by Ibn al-'Arabi himself. But the great majority of Haydar Amuli's diagrams are original. They have as their subject the complex network of correspondences between the two major spheres of creation—the world of manifest, corporeal entities and the world of hidden, spiritual beings. These two complementary faces of creation are referred to by Haydar Amuli as the Kitab 'afq (Book of horizons) and the Kitab anfusi (Book of souls) respectively. Also involved in this "science" of correspondences is the Book of revelation—the Qur'an—which seems to act as a heuristic device in the effort to discover or uncover the series of correlations that underlie and connect the two spheres of creation.

Other than the sheer numbers of diagrams involved,
what is intriguing about Ḥaydar Ṭūms is the importance the author assigns to them: they are not mere illustrations. Instead they are conceived by Ḥaydar Ṭūms as an independent section of the work in which they appear. It is not easy to know the intended meaning of such autonomy of the graphic image vis-à-vis the written word, yet there is reason to think that the diagrams in question were not all the results of a conscious attempt at clarity of presentation. In at least some cases, the representation on paper, far from being a mere illustrative tool, records the real visionary experiences of the author. It is most likely, therefore, that in Ḥaydar Ṭūms’s eyes the diagrams possessed a degree of directness and intimacy far surpassing the oblique and much attenuated residue of reality contained in the written text. The graphic, in this case, was a more representative medium for conveying spiritual and metaphysical realities than the verbal. As such it demanded “preferential treatment” from the author, who responded by turning into a “diagramologist.” There were many others in the history of Islamic thought, as demonstrated in this chapter, who resorted to graphic representation at certain points along several disparate paths of cosmological speculation. But Ḥaydar Ṭūms is quite singular in his belief in the representational power of diagrams. In this sense he is perhaps the only true “cosmographer” in that complex history.

FIG. 3.18. THE “TOPOGRAPHY” OF THE DAY OF JUDGMENT FROM THE MA’RIFETNÄME. The place of resurrection and judgment is in the middle, surrounded by a circle of fire and complete with the balance with which human deeds are going to be weighed, the “deed records” (dafâtir), and the banner of praise, as well as assigned seats for all the prophets and the religious scholars who are going to oversee the process of judgment. The only exit from this place of assembly leads to the straight path that stretches above hell at bottom: only those whose good deeds outweigh their sins will be able to cross this bridge over hell and take the route to paradise on top.

35. Ḥaydar Ṭūms, al-Muqaddimät, Arabic text, 18, par. 50, lines 18–20 and French introduction, 18–21 and 32–33 (note 8). In this passage, Ḥaydar Ṭūms conceived of his work in seven sections: three preliminary sections (tamhidat), three principal chapters (arkân), and the diagrams (dawâdîr). The number of diagrams is given as twenty-seven in this same section, though in fact twenty-eight all together are included in the work. It is probable that the number twenty-seven was meant to refer to the twenty-seven chapters of Ibn al-‘Arabî’s Fuṣûṣ al-hikam, the work of which al-Muqaddimät is ostensibly an interpretation. It is probable that the vision and its subsequent recording in a work devoted to the interpretation of Ibn al-‘Arabî’s Fuṣûṣ al-hikam were occasioned by Ḥaydar Ṭūms’s reaction to Ibn al-‘Arabî’s views on walâyah. This question is discussed by Henry Corbin in Les fidèles d’amour, 201–8 (note 32).
should not be imagined that the dislike of Muslim scholars of the "religious sciences" for cosmological speculation (and perhaps also for visual representation) was universal. A case in point is the complete religious cosmography found in the encyclopedic work titled *Maʿrifetnāme* (The book of Gnosis) by the aforementioned scholar-mystic İbrahim Ḥakki (plate 3), which is accompanied by a striking “topographic” representation of the Day of Judgment (fig. 3.18). The appearance of such exceptional visual renderings of the religious cosmos, complete with an eight-layered paradise on top of an eight-layered hell at bottom, in one of the most popular religious manuals in late Ottoman Turkish leaves open the possibility that similar cosmographies are to be found in other late religious works in Islamic languages, even though no such drawings have yet come to my attention. Equally intriguing is the likelihood that loose cosmographical drawings circulated among the populace. The ground is shaky here, since documentation on popular culture is meager and mostly of very recent origin. Nonetheless, evidence in published works indicates that research on this front is sorely needed.