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THE INTRODUCTION OF PAPER TO THE ISLAMIC LANDS AND THE DEVELOPMENT OF THE ILLUSTRATED MANUSCRIPT

Scholars have long noted that there was a sudden explosion in the production of illustrated books in the Islamic lands during the late twelfth and early thirteenth centuries, when many different types of books were illustrated with pictures, apparently for the first time. In addition to scientific and technical works, which had long been illustrated with diagrams and maps, works of poetry and belles-lettres began to be produced with pictorial frontispieces and illustrations that were not necessary to understand the text.1 Scholars have offered various explanations for this phenomenon. Some, adducing pictorial evidence from the other arts, such as ceramics, have argued that manuscript illustration had been practiced for a long time in the Islamic lands, although no illustrated manuscripts actually survive from early times.2 Others have traced this explosion of illustrated books to external influences, such as artists in the Islamic lands copying Middle Byzantine or Syrian Jacobite painting,3 while still others have argued that the appearance of illustrated manuscripts was the result of an internal development, specifically the emergence of the bourgeoisie as patrons of this new art form.4 Oddly enough, few if any scholars have linked the emergence of the illustrated book to the introduction and increasing use of paper.5

Paper was introduced to the Islamic lands from Central Asia in the eighth century and was quickly adopted for use in government offices.6 The oldest surviving book on “Arab” or “Islamic” paper is generally thought to be a Greek manuscript of the teachings of the Church fathers (Vat. Gr. 2200), believed to have been copied in Damascus ca. 800. Apart from a manuscript in the Alexandria public library recently discovered by the Israeli scholar Malachi Beit-Arie,7 the oldest surviving book on paper in Arabic (in Europe) is a work in Leiden on unusual terms in the prophetic traditions, which is dated Dhu‘l-Qa‘da 252 (November–December 867). It bears no indication of where it was copied.8

Over the course of the ninth and tenth centuries the use of paper became increasingly common as the early Islamic traditions of oral culture were transformed into, although not entirely replaced by, a text-based culture of books.9 As in many cases, the lead seems to have been taken in Iraq and Iran, where paper had been known longest and used in various contexts and by bureaucrats, who were the first to use paper in large quantities, although few, if any, examples of paper documents have survived from the early period.10 Several dated manuscripts of the Koran copied on paper, presumably in Iran and Iraq, survive from the tenth century, the most famous of which is, of course, that copied by the noted calligrapher Ibn al-Bawwab at Baghdad exactly one thousand years ago.11 In Egypt, over the course of the tenth century, the manufacture of paper completely supplanted the 4,000-year-old papyrus industry, and archaeology confirms what the medieval geographers say, that papyrus was no longer used in Egypt.12 George Scanlon’s excavations at Fustat showed an overwhelming preponderance of paper over papyrus from the eleventh-century levels.13 Only in North Africa and Spain, which was known for its production of leather and hides, did parchment remain the preferred material for copying manuscripts, particularly the Koran, but by the year 1000 even in this region paper was being made in significant quantities. Several Christian manuscripts in the library of the monastery of Burgos, for example, were partly copied on paper, presumably of Muslim manufacture, as early as the tenth century.14

The tradition of the Islamic illustrated book only developed in the period after ca. 1000 as a product of the increased availability of paper in the Islamic lands. The increased familiarity with and use of paper in the two centuries before the Mongol conquests
led not only to the burgeoning production of illustrated books but also to important changes in the ways in which artists and architects in the Islamic lands thought and worked.

Despite the survival of hundreds of Islamic manuscripts copied before the mid-thirteenth century, only about three dozen illustrated manuscripts survive from this period, of which only three date from before the twelfth century. In contrast, for example, to Byzantine illustrated manuscripts, the vast majority of which are on parchment, all surviving Islamic illustrated manuscripts were copied on paper. The oldest is 'Abd al-Rahman al-Sufi's *Treatise on the Fixed Stars*, dated 1009–10 and now in the Bodleian Library at Oxford. The illustrations show the configurations of the stars in the forty-eight constellations recognized by Ptolemy, but the figures are dressed in Oriental garb rather than with classical attributes. Al-Sufi wrote that he knew of another illustrated astronomical treatise, but he copied his original illustrations directly from images on a celestial globe, and the Oxford manuscript was copied from the author's original by his son.

The second oldest illustrated manuscript, hitherto ignored by art historians, probably because there are no people in the pictures, is a 1037 copy of the geography by the noted mathematician and geographer, Muhammad ibn Musa al-Khwarizmi (or al-Khwārizmī, d. ca. 846). Al-Khwarizmi, a native of the Khuwārizm region of Central Asia south of the Aral Sea, had been attached to the caliph al-Ma'mun's House of Knowledge in Baghdad and is best known for his mathematical works. The English word "algorithm" derives from his epithet, for the first Latin translation of his work on algebra began with the words "Dixit Algorismi." While al-Khwarizmi's mathematical work has long been known in the West (indeed, the lost Arabic text has been reconstructed from Latin translations), his geographical work was also thought to be entirely lost until a unique manuscript was discovered in Cairo at the end of the nineteenth century. This manuscript, now in Strasbourg, contains four sketch maps showing the Island of the Jewel, the World Ocean, the Nile, and the Sea of Azov. Scholars are undecided as to what extent these images reflect al-Khwarizmi's original maps.

The third illustrated manuscript from the eleventh century is an Arabic translation of Dioscorides' *De Materia Medica*, dated 1083, in Leiden. Most of the pictures in the Dioscorides manuscript depict just plants; the sole figural miniature demonstrates the pharmaceutical use of a plant and seems to have been modeled on an earlier Greek prototype. As geographical, scientific and technical works were routinely illustrated in antiquity, it seems logical to assume that writers and translators in early Islamic times simply continued the tradition of producing illustrated works. It is therefore possible that illustrated texts were made on parchment or papyrus, although none has survived. Considering, however, that Islamic interest in the ancient sciences only burgeoned in the ninth century along with the translation movement in Baghdad, itself contemporary with the introduction and spread of paper, it seems more likely that the development of scientific illustration in the Islamic lands was itself a function of the increased production and use of paper.

The scattered references in textual accounts to a few early illustrated manuscripts, which scholars have so assiduously collected over the last century, do not indicate that illustrated manuscripts were common. Indeed, another way of interpreting these same tantalizing references is that authors noted illustrated manuscripts precisely because they were so unusual. When the historian Mas'udi, visited the house of a notable in the Iranian city of Istakhri in 915, he reported that he saw an illustrated manuscript about the Sasanian kings and their achievements. The manuscript, supposedly compiled two centuries earlier, in 731, from sources found in the old Sasanian library, seems to have been copied on leaves of parchment tinted purple and embellished with twenty-seven "life-like" portraits of rulers, twenty-five kings and two queens, painted with gold, silver, and copper. It was said that a copy of the manuscript had been sent to the Umayyad Caliph Hisham. Even assuming that this report is something more than a medieval tour guide's flight of fancy, there is no reason to believe that there were many such manuscripts, but there is also no question that some illustrated manuscripts were produced in the early centuries of Islam; the important questions are how many and what kind?

Ibn al-Nadim, the tenth-century author of the *Fihrist*, a guide to writers and their works, intended his book to be illustrated, but one could hardly imagine that these illustrations were "art." In several places the text is followed by a space for an illustration to clarify the author's meaning. In one place, for example, he writes, "It is said that this is the form of the idol that is at Multan [in India]," and in several late manuscripts this phrase was followed by a blank
of the Islamic manuscript tradition from pre-Islamic times. Even if some manuscripts of the Kalila and Dimna fables were illustrated, however, there is still no reason to assume that manuscripts illustrated with superfluous pictures were common.

The earliest known fragment of an Islamic illustrated book has been dated on paleographic grounds to the late ninth or early tenth century, but the illustration is only a simple and schematic drawing used to fill up the empty space at the end of the text page. Like the unillustrated Thousand and One Nights fragment in Chicago, it was discovered in Egypt, and consists of a worn fragment of paper, measuring only 16 × 14.5 cm (about 6 inches square) when open and representing, when folded, the first and last leaves of a quire.26 The text begins on the verso of folio 1 with the standard invocation at the start of a written text and concludes on the recto of the last folio with “until death did them part. This is their tomb, may God have mercy upon them,” followed by a crude painting of two stepped tombs separated by a tree. There is no way to tell how much text is missing between the first and last pages, although it would have had to be relatively short to fit within the leaves in the quire, or whether there were any other illustrations in the booklet. D. S. Rice, who first identified the text and image on this fragment, suggested that it belonged to a well-known literary genre of stories concerning unhappy lovers united only in death.27

In the Fihrist, Ibn al-Nadim classifies this type of story under the genre of night entertainments and fanciful tales, and explains that such works enjoyed great popularity under the Abbasids in the early tenth century. The schematic simplicity of the image and its technique, combined with the small size of the text, confirms that this was a popular work of no great artistic importance and suggests that the copyist inserted the illustration only to fill up the blank space on his page.

Many other fragments of paper have been found in the rubbish heaps of Fustat, largely in the course of rogue excavations, and some of these are inscribed with drawings from medieval times which have been interpreted as evidence for a lost Islamic art of the book. In general, however, these drawings provide little or no evidence for any art of book illustration, because few of them have both text and pictures. For example, one of the most impressive is a somewhat large (280 × 180 mm) drawing in the Israel Museum of a nude and tattooed woman carrying a lute.28 The

Ibn al-Muqaffa‘, who was of Iranian origin, made his Arabic translation from a Middle Persian collection of the animal fables known as Kalila and Dimna, which were translated into Arabic by Ibn al-Muqaffa‘ (d. ca. 758-60), although no illustrated Islamic example survives from before the early thirteenth century.23 According to Ibn al-Muqaffa‘’s introduction, the space intended for an illustration, although one was never supplied.22

Quite unusually, a series of illustrations appear to have been specifically associated with manuscripts of the animal fables known as Kalila and Dimna, which were translated into Arabic by Ibn al-Muqaffa‘ (d. ca. 758-60), although no illustrated Islamic example survives from before the early thirteenth century.23

According to Ibn al-Muqaffa‘’s introduction, he who peruses this book should know that its intention is fourfold. Firstly it was put into the mouths of dumb animals so that light-hearted youths might flock to read it and that their hearts be captivated by the rare ruses of the animals. Secondly, it was intended to show the images of the animals in varieties of paints and colors, so as to delight the hearts of princes, increase their pleasure, and also the degree of care which they would bestow on the work. Thirdly, it was intended that the book be such that both kings and common folk should not cease to acquire it; that it might be repeatedly copied and recreated in the course of time, thus giving work to the painter and抄ist. The fourth purpose of the work concerns the philosophers in particular.24

Ibn al-Muqaffa‘, who was of Iranian origin, made his Arabic translation from a Middle Persian collection of the tales, itself derived from the popular Indian fables of the Panchatantra. As Ibn al-Muqaffa‘’s text was repeatedly embellished in later times, scholars are undecided about whether the passage ascribed to him really belongs to his eighth-century edition or to some later edition to justify the inclusion of illustrations.

Leaving that unanswerable question aside, however, these tales were extraordinarily popular in the Middle Ages, for medieval Hebrew, Latin, and New Persian translations are also known, including a fragment of an illustrated Greek version on parchment, attributed to southern Italy between 980 and 1050. The similarities between the illustrations in the Greek fragment to the illustrations in later Arabic and Persian manuscripts of the text have led Julian Raby to suggest that they all derive from a common, but lost, manuscript source of the tenth century.25 Moreover, the similarity between the supposed images in the presumed manuscript source to Central Asian wall paintings made at the time of the Islamic conquest of the region, as well as to images molded on ceramics dated to second- or third-century Sri Lanka, suggests that illustrations may have been an integral part

DEVELOPMENT OF THE ILLUSTRATED MANUSCRIPT
drawing, on yellowish paper, was first done in red ink and then gone over in black, with touches of white and crimson, a technique that can be traced back to classical times. Some scholars have suggested that this image of a dancing girl represents a famous courtesan in Fatimid Egypt, while others have suggested that it represents Venus playing the lute. As there is no text around or on the back of the image, it seems unlikely that the page was taken from a book, and its purpose remains a matter of speculation.

Another well-known fragment from Egypt bears a calligraphic drawing of a lion on one side accompanied by a few lines of text which have been identified as a discourse on wild animals by the early Jewish convert to Islam, Ka'b al-Ahbar (d. 652-53); this would suggest that the drawing came from an early Islamic book about animals. The drawing, however, is attributed to the twelfth century. A drawing of a hare on the reverse, however, is accompanied by a text irrelevant to the text on the front of the sheet, so it is difficult to envision how this page could once have formed part of an illustrated book.35 Another painting claims to be the frontispiece to a collection of poems by a well-known Umayyad poet, but similar historical and technical problems raise doubts about the authenticity of this painting and several other drawings.36

Taken together, this evidence does not amount to very much, let alone sufficient evidence for the existence of a coherent tradition of manuscript illustration in the first four centuries of Islam. Faced with this paucity of evidence, some scholars have attempted to use the images preserved on other papers and in other media. For example, Ernst Grube interpreted many of the drawings and paintings found at Fustat that are not from books as preparatory studies for painters working on manuscripts or even pottery, ivory boxes, glass vessels, wooden panels, and the like. Other drawings are thought to have served the textile weaver or embroiderer, the bookbinder and metalworker for the creation of his designs.37 Yet there is no evidence that wall painters, potters, metalworkers, glassblowers, or weavers used preparatory drawings or sketches on paper at this date.38 The drawings have little or nothing to do with contemporary representations on pottery. A potter in ninth-century Iraq or eleventh-century Egypt, for example, would have learned to draw on ceramics by practicing, not with ink on paper, but with a brush on unfired ceramics or whatever other surface was readily available. His artistic repertoire would have been stored in his memory and maintained by his muscles. The vast majority of his sketches would therefore have been painted over or thrown out, leaving only the finished product with little or no indication of how the artist had worked. A few ceramics, such as tiles in the British and Metropolitan museums, retain traces of totally unrelated drawings on their backs, which show that potters normally practiced their drawing on disposable or concealed surfaces.39

The freshness of representation and execution in most early Islamic art, whether on ceramics, metalwork, or textiles, is further evidence for artists' use of a direct technique, in which they drew or worked directly on the medium itself. Had potters or metalworkers copied images from another medium, such as paper, their drawing would have lacked the intensity and individuality that characterize them. No two pots are exactly—or even nearly—alike, and drawings on early Islamic ceramics are not studied and repeatedly rehashed but fresh and quite independent of representations in any other medium. In short, the men who painted ceramics did not make—or probably even look at—designs for metalwares or carved wood, let alone those on paper.

One group of potters, however, probably did use paper designs from an early date, for the use of paper best explains the group of ceramics inscribed with Arabic aphorisms in a studied, elegant script and attributed to tenth-century northeastern Iran and Transoxiana, particularly the cities of Nishapur and Samarqand.40 Unlike the other pottery attributed to the region in this period, which was painted directly on the surface of the dish, this group of inscribed plates and bowls has clearly been planned out in advance so that the calligraphy fits the surface exactly. The inscribed texts include pithy but non-religious proverbs, such as "Learning is at first bitter to the taste but in the end sweeter than honey" or "Deliberation from action protects you from regret."

The inscriptions on these ceramics are written in a studied and deliberate style. The script is closest to that used on parchment manuscripts of the Koran attributed to the ninth century. It is entirely different in style from that used on contemporary manuscripts, whether of secular or religious texts.41 Considering the high status accorded calligraphers and the relatively low status of potters, it is unlikely that calligraphers would have designed to decorate pots or known how to use a brush; it is equally improba-
The techniques of tapestry weaving and embroidery reveal the artisan's activity as he works; he sees the results of his decisions and can change them if he likes. In contrast, in drawloom weaving, which became increasingly popular for luxury silk textiles in the eastern Islamic lands around the year 1000, a pattern is prepared in advance and entered on the loom prior to weaving, much as a program is installed on a modern computer. Entering the pattern consists of tying the warp threads in bundles so that a complicated pattern can be woven. The bundles in themselves, however, do not reveal how the finished textile will look, just as program files do not show what a program will do. Once the pattern has been entered on the loom, the weaver and his assistant, known as the drawboy, start the process of weaving, the drawboy selecting bundles of threads to raise and lower and the weaver inserting the colored wefts to make the cloth. As long as the weaver and his assistant follow the instructions encoded in the bundles of cords, the designer's pattern will be reproduced in the weave. The weaver cannot decide to weave another pattern on the spur of the moment.

We have absolutely no knowledge about how medieval Islamic weavers encoded their patterns, but analogies can be drawn from later times, where the same technique was used. A careful drawing of the pattern had to be transferred to graph paper, and the graph then transferred to the simple, a series of cords, each of which controlled a single warp thread. The cords were then tied into the bundles. The process of entering the pattern into the loom could take a month or more, and progress in weaving might vary from a few centimeters to a meter per day, depending on the fineness of the pattern and number of colors used. This complexity explains why this elaborate technique was only used for the finest silks, such as the so-called Shroud of Saint-Josse, inscribed in Arabic with the name and titles of a Turkish commander active in northeastern Iran who was executed on the orders of his Samanid sovereign in 961. It is inconceivable that this splendid textile was prepared without using a preliminary drawing to set up the loom. Although we cannot know on what material this drawing was made, it is quite probable, considering when and where the textile was made, that it was paper.

The increased, but still rather limited, role of paper in the production of some of the arts in the eastern Islamic lands in the period before the year 1000
suggests that the development of the illustrated book as an art form was very much a product of the period after ca. 1150. Paper’s smooth surface allowed for new types of scripts; paper’s absorbency demanded new ways of preparing pigments and binders. While there can be no question that some illustrated books were produced in the earlier period, they seem to have been relatively uncommon. The increased number of illustrated manuscripts that have survived from the twelfth century suggests that by then they were being produced in greater quantities. This supposition is confirmed not only by textual references to the production of manuscripts but by the increased use of paper in the production of ceramics and the other portable arts, as well as architecture and its decoration.

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NOTES

1. I am using the word “illustration” to refer only to pictures added to the text. “Illumination” is non-representational decoration added to the text. Illuminated—as opposed to illustrated—frontispieces and headings are frequently found on parchment manuscripts of the Koran that may date from as early as the ninth century C.E.


10. Apart from those papyrus (and paper) documents discovered at such Egyptian sites as Akhmim, Ashmunayn, and Aphrodito, the oldest actual documents on paper to have survived are the Fatimid decrees preserved at Mt. Sinai, for which see S. M. Stern, Fatimid Decrees: Original Documents from the Fatimid Chancery, All Souls Studies (London: Faber and Faber, 1964).


nation in Handschriften aus der Großen Moschee von Sanaa," in *Jemen*, ed. Werner Daum [Innsbruck–Frankfurt/Main: Pinguin-Verlag, Umshau-Verlag, 1987], pp. 177–90; because there is no scientific proof for von Bothmer’s claim that the manuscript has been carbon dated to the Umayyad period, and a ninth-century date seems more likely on the basis of the script.


18. Leiden, University Library, Cod. Ar. 289 Warn. See Weitzmann, “Greek Sources,” p. 252, pl XXXIV, fig. 8; Ernst J. Grube, “Materiellen zum Dioskorides Arabicus,” in *Aus der Welt der Islamischen Kunst: Festschrift für Ernst Kühnel zum 73. Geburtstag*, ed. R. Ettinghausen (Berlin: Mann, 1959), pp. 169, 175, fig. 5.

19. Weitzmann, “Greek Sources,” fig. 11.


24. Quoted in Rice, “The Oldest Illustrated Arabic Manuscript,” p. 209. There is some doubt as to whether this passage was written by Ibn al-Muqaffa’ or by a later editor.


26. Rice, “The Oldest Illustrated Arabic Manuscript.”

27. Ibid.


29. See Stefano Carboni in *Trésors fatimides du Caire*, exhibition catalogue, 28 April–30 August 1998 (Paris: Institut du Monde Arabe, 1998), p. 99. As dealers have been known to “embellish” or “improve” some genuine medieval pages and drawings to increase their worth on the art market by providing them with identifying texts or illustrations, it would be hazardous to use this leaf as evidence for early book illustration.

30. See Grube, “Fustat Fragments,” pp. 33; and Gaston Wiet, “Une peinture du XIIe siècle,” *Bulletin de l’Institut d’Égypte* 26 (1944): 109–18. Another well-known drawing of two warriors in Cairo (Museum of Islamic Art, Inv. 13703; see *Trésors fatimides du Caire*, cat. no. 22) is equally suspicious, although it is repeatedly reproduced in books on Islamic art. The truncated inscription, which reads “Power and prosperity to the commander Abi Mans ...” was never meant to be complete—a extraordinary and unexplained anomaly. Virtually all of these works appeared on the art market at the same time as the “Buyid” silks, now definitively shown to be modern forgeries. See Sheila S. Blair, Jonathan M. Bloom, and Anne E. Wardwell, “Reevaluating the Date of the ‘Buyid’ Silks by Epigraphic and Radiocarbon Analysis,” *Ars Orientalis* 23 (1993): 1–42. The drawings, like the textiles, were “authenticated” by the same unsuspecting scholars in the same way using the same types of evidence. Technical reexamination of these drawings is essential.


