CHAPTER 4

# Paper in Sudanic Africa

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Paper was invented in China in the centuries before Christ and was first used as a writing material there about the beginning of the first millennium AD. Within a thousand years, thanks to the agency of Islam – which united a vast swath of western Asia and northern Africa in a single cultural sphere – paper and papermaking technology were carried from the deserts of Central Asia to the Atlantic shores of Morocco and Spain. From Spain and Italy, where paper and papermaking were also introduced from the Arab world, they spread to the rest of western Europe, spurred in the mid-fifteenth century by Gutenberg's development of printing with movable type. Thanks to the availability of this flexible, strong and relatively cheap writing material, printing made mass-produced books more common and accessible than manuscripts laboriously copied onto parchment.[1]

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By the beginning of the second millennium AD paper was known and used across all of Muslim North Africa from Egypt to Morocco, enabling its diffusion northwards into Christian Europe. Its diffusion southwards across the Sahara into the region known as Bilad al-Sudan, however, was quite different from its route north. As Christians came to control larger areas of the Iberian Peninsula after the year 1000, papermakers in these areas improved and surpassed their former masters in the Muslim regions of the south, exporting paper and ultimately papermaking techniques to other regions of western and southern Europe. In contrast, while paper and paper manuscripts must have been exported across the Sahara to the Muslim centres of West Africa, papermaking technology did not reach this region until the colonial period. This long delay meant that in Bilad al-Sudan paper remained for centuries an expensive, imported luxury item rather than the engine of intellectual and cultural transformation it was elsewhere in the Islamic lands.

Paper seems to have been first used in ancient China as a textile material for wrapping, but by the beginning of the first millennium AD it began to replace the heavy bamboo tablets and the costly silk cloth that the Chinese had used previously for writing and drawing. Paper and papermaking techniques were carried by Buddhist monks, mission-

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aries and merchants from south-eastern China, the region where it was invented, throughout East Asia. They found it a useful medium on which to collect and transmit Buddhist scripture. Buddhists brought paper and papermaking to Korea and Japan in the east, Vietnam in the south, and Central Asia in the west, where travellers stopped on their way around the Himalayas to India, the homeland of Buddhism. Oddly enough, while many Chinese Buddhists travelled to India, there is no evidence that they introduced papermaking to India at this time, perhaps because Indians already had a satisfactory writing material in the form of palm leaves, which were trimmed and gathered together with cords to form books.

Paper is a mat of cellulose fibres that have been beaten in the presence of water, collected on a screen, and dried. Cellulose is present in varying quantities and qualities in virtually all plants and in materials made from them, such as textiles, old rags, ropes and nets. While the Chinese logograph for paper suggests that they initially used plant and textile waste fibre to make paper, they soon came to make it from bast (plant) fibres, particularly the inner bark of such plants and shrubs as bamboo, paper mulberry, rattan and ramie, which grow abundantly in the warm and moist climate of south-east China. These fibres would have been collected, moistened, pounded to a pulp, suspended in water, collected in moulds, and dried. As papermaking technology was taken to other regions with other climates, technical adjustments had to be made. In the extreme and arid climate of Central Asia, for example, where plants such as bamboo and rattan did not grow, papermakers used such materials as rags and old ropes to supplement bast fibres derived from flax and hemp plants. Much of our knowledge of early paper comes from archaeological finds in the deserts of Central Asia, where the extremely dry climate has preserved fragments that would otherwise have disappeared. Among the most famous are the more than 30 000 paper rolls sealed in a cave in the early twelfth century at Dunhuang in Gansu Province, China. Some of the paper was surely imported, but other paper must have been made locally.

Following the revelation of Islam in early seventh-century Arabia and its spread throughout West Asia after the death of the Prophet Muhammad in 632, Muslim armies began to make forays into western Central Asia, establishing a permanent presence there in the eighth century. They defeated the Chinese at the Battle of Talas in 751, theoretically opening the way to the Muslim penetration of eastern Central Asia, but the Muslims decided not to expand further east. Instead, men and ideas from Khorasan (north-west Iran) and Central Asia began to play critical roles in the Islamic civilisation developing in Iraq. At this time, Muslim bureaucrats, who had previously used only papyrus and parchment, the two flexible writing supports known in the Mediterranean region in antiquity, learned of Central Asian paper and papermaking. While papyrus was cheap, it could only be made in Egypt where the papyrus plant grew; parchment, made from the skins of animals, could be made virtually anywhere, but it was expensive because it entailed killing an animal. Paper combined the best of both: it was relatively cheap and

could be made virtually everywhere. Within an extraordinarily short time, paper technology had been carried from Central Asia to Iran and Iraq. By around 800 rag paper was being made at Baghdad, the new Abbasid capital, as well as at Damascus, the old Umayyad one. A century later paper was being made at what is now Cairo in Egypt, causing the 4 000-year-old papyrus industry to collapse, and by the year 1000 it had been carried across North Africa to Spain.

The first Spaniard to mention paper was the Muslim poet and encyclopaedist Ibn 'Abd al-Rabbih (860–940). In his encyclopaedia *al-'Iqd al-farid* (The Unique Pearl), he discusses the different kinds of reed pens most suitable for writing on parchment, papyrus and paper. Considering the early date at which he wrote, he probably encountered paper on his pilgrimage to Mecca rather than in Spain itself.[2] By the middle of the tenth century, however, substantial quantities of paper must have been available for the tenth-century lexicographer Ibn Hani al-Andalusi to give his students paper on which to copy books from his private library. The library of the Umayyad caliph and bibliophile al-Hakam II (reigned 961–76) was said, perhaps incredibly, to contain 400 000 volumes, but only one manuscript (copied in 970) from al-Hakam's library is known to survive.[3] Papermaking in the Iberian Peninsula soon became a major business, not only among the Muslims but also among the Christians of the newly conquered provinces of Valencia and Aragon, where the great need for legal documents spurred an unusually great demand for the material. Although Iberian papermakers were soon exporting their product to France, Italy and elsewhere in Europe, documents show that even as late as the fourteenth century, Fez still shipped some fine paper to Majorca and Aragon.[4] In the thirteenth century Italians began making paper near Genoa, having learned it from the Catalans, but the major centres of Italian papermaking were to be located either in central Italy at Fabriano, where paper was made from the mid-thirteenth century, or in the north at Treviso, Florence, Bologna, Parma, Milan and Venice, where it was made from the mid-fourteenth century.

Italian paper was distinguished from Arab and Spanish paper by the introduction of watermarks, a faint design – often figural – imparted to the sheet during the manufacturing process, which served as a trademark. Dated documents on watermarked paper have allowed scholars to catalogue and chronicle their evolution. Undated documents can often be dated by their watermarks. In contrast, paper made in the Islamic lands was never watermarked, which makes dating undated documents difficult. Early Spanish paper bears characteristic zigzag lines that are poorly understood. They may have been meant to mimic the marks found on parchment sheets.

In the central and eastern Islamic lands, where paper was adopted earliest, its introduction had a transformative effect on all aspects of administrative and intellectual life, as people from bureaucrats to scholars and writers on all subjects – from the religious sciences to astronomy, belles-lettres, cookery and popular literature – began to use it. For the first few centuries, however, Muslims appear to have been reluctant to

Parchment as shown here, made from the skins of animals, could be made virtually anywhere, but it was expensive because it entailed killing an animal. Very few of the Timbuktu manuscripts are made of parchment, but many are encased or covered in leather.

transcribe the Qur'an onto paper, preferring to use the traditional medium of parchment sheets or folios formatted horizontally or in 'landscape' format, and gathered together or bound into books. By the middle of the tenth century, however, copyists in Iran began copying the Qur'an onto sheets of paper, thereby engendering two transformations: first, Qur'an manuscripts with a vertical or 'portrait' format became standard; and second, calligraphers developed new, more fluid scripts from the old scribal hands for copying the Qur'an.

Nevertheless, writers in the western Islamic lands continued to use parchment when elsewhere it had been abandoned in favour of paper, and they continued to use the older scripts and their variants rather than the new ones that had become *de rigueur* elsewhere. The major reason for this seems to have been that the region was somewhat isolated by its great distance from Islamic cultural centres in West Asia. This tendency may have been exacerbated by the political and cultural situation: the neo-Umayyads ruled in al-Andalus until the eleventh century, and in North Africa the advent of the Shi'ite Fatimids in the early tenth century meant that the region became increasingly isolated from developments elsewhere. By the eleventh century, when strong relations with the east were re-established, the die had been cast. Furthermore, the provinces of Ifriqiya (corresponding to modern Tunisia) and Sicily were great centres for sheep raising, and the manufacture of leather and parchment, as well as the export of hides, remained an important industry. Many surviving Qur'an manuscripts on parchment are attributed to ninth- and tenth-century Qayrawan, although none is dated. One of the most famous Tunisian manuscripts, the 'Nurse's Qur'an', is a manuscript copied and illuminated by 'Ali ibn Ahmad al-Warraq ('the stationer') for the wet-nurse of the Zirid ruler al-Mu'izz ibn Badis in 1020, a date by which calligraphers anywhere else would have transcribed

any book, including the Qur'an, onto paper. The oldest surviving Maghribi Qur'an manuscript on paper dates from a century later in 1139–40,[5] but scribes continued to use parchment well into the fourteenth and even fifteenth centuries. Maghribi scribes also continued to use parchment for other types of manuscripts long after paper had become common elsewhere. For example, one Muhammad ibn Hakam ibn Sa'id transcribed a copy of Abu Hatim al-Sijistani's *Kitab al-nakhl* (Book of the Palm) in a distinctive North African (Maghribi) script on 27 small parchment folios; he completed his work on 26 March 1004, a date by which such a book produced elsewhere would surely have been copied on paper.[6] In addition, while Egyptian letter writers had made the transition to paper about a century earlier, private letters and accounts sent from Tunisia found among the Cairo Geniza documents (which relate to the medieval Jewish community) were written on parchment well into the middle of the eleventh century. Geniza documents also indicate that Tunisians got their paper from Egypt.[7] Nevertheless, paper is said – perhaps somewhat wishfully – to have been known in North Africa as early as the ninth century.[8]

Papermaking was surely practised in North Africa from the eleventh century, since the only medieval account of Arab papermaking to survive anywhere is the treatise on bookmaking by the Zirid prince Tamim ibn al-Mu'izz ibn Badis (1031–1108), who ruled in what is now eastern Algeria and Tunisia.[9] Oddly enough, he makes no mention of the preparation of parchment, although he does give recipes for making special coloured inks to use on it. According to Ibn Badis, to make paper:

> you soak the best white flax repeatedly in water and quicklime, rub it with your hands, and then dry it in the sun until the plant stalks release the fibers. Next you soak the fibers in fresh water to rinse away the lime and then pound it in a mortar until it is very fine. You then dissolve the pulp in water and make it into sheets on molds. These are made from straw used for baskets, nails, and the walls are collapsible. Under it is an empty rib. The flax is beaten with the hand vigorously until it is mixed. Then it is thrown with the hand flat in the mold so that it will not be thick in one place and thin in another. When it is evened, then its water dries away. It is found proper in its mold. When the desired [result] is attained, it is adjusted on a flat tablet. Then it is bound to a wall and straightened with the hand. It is left until it is dry. It separates and falls off.[10]

Taken as a whole, Ibn Badis's text is remarkably out of date, for he neglects to mention the use of rags, which papermakers actually used, and he describes making paper with a floating mould that most papermakers in the Muslim world had long abandoned for production with a two-piece dip-and-drain mould. Ibn Badis's book is therefore comparable to many medieval Islamic 'how-to' manuals: long on theory but short on practical advice.

In the absence of dated manuscripts, the suggestion that North Africans produced paper during Ibn Badis's lifetime is confirmed by the report of the fourteenth-century writer Ibn Abi Zar', who said that by the end of the twelfth century the city of Fez had

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At the same time that Muslims were bringing paper and papermaking technology across North Africa to Spain, they were also bringing Islam from the Maghrib to the Bilad al-Sudan. In the western Sudan, Islam was initially a simple badge of social status like the luxury goods – such as horses, salt, fabrics and glassware – that were also imported from the north. Islam gradually took root among African merchants in the cities and in the courts of local chiefs, who might encourage their subjects to convert, but it took many centuries before Islam would spread from the cities to the countryside, from the elites to the peasantry, and from the inhabitants of the cities on the fringes of the desert to the villages of the deep interior.

472 paper mills.[11] Whatever the accuracy of his number, the paper industry in Fez was encouraged by the swift stream that flows through the industrial centre of the city, which still supplies dyers and tanners with plenty of fresh water and could also have powered hammer mills for processing pulp. Documents show that even in the fourteenth century, Fez still shipped some fine paper to Majorca and Aragon.[12]

By the middle of the fourteenth century, however, Arab chanceries in North Africa started to use Italian paper. Having learned the art of papermaking from Muslims, European Christians were able to make it better and cheaper by harnessing copious supplies of running water to power their paper mills. In addition to their technical advantage, European merchants 'dumped' their product below cost in North African and West Asian markets, thereby destroying local paper industries, in an attempt to corner the market. By the middle of the fourteenth century, a letter from the sultan of Tunis to King Peter IV of Aragon–Catalonia, dated 8 December 1350, was written on paper bearing a griffin watermark that had probably been exported from Italy to Tunis as part of the trade carried out between the two regions.[13] Another paper document dated 23 February 1360 is written on a sheet bearing both a watermark and a zigzag, the distinctive mark of Spanish papers. It was probably made in Italy especially for the North African or Catalan markets.[14] Meanwhile, the Egyptian writer al-Qalqashandi (d.1418) claimed that the European paper imported into Egypt was of the 'worst' quality.[15] Egyptians continued to make some paper – known as *waraq baladi* – into the seventeenth century, but the Mahkama court in Cairo was already using European paper by the middle of the sixteenth century, as the earliest watermarked paper there was made in Genoa in 1524.[16]

Muslims were initially troubled about using these European products, especially because some of them bore watermarked images such as crosses or animals, which particularly conservative people found objectionable. Common watermarks included a hand (or glove) and anchor, which are typical of Genoa; a bull's head and a pot, which are typical of France; three tiers of bells topped by a cross; and a crown, star, and crescent. A watermark with three crescents appeared in the early sixteenth century and enjoyed wide popularity from the seventeenth century to the nineteenth. It was known in Italy as *tre lune* and in the Arab world as *waraq hilali*.[17] In Tlemcen, a city now in western Algeria, the noted jurisconsult Abu 'Abdallah ibn Marzuq (d.1439) delivered a long *fatwa*, or legal decision, on 21 August 1409. Entitled *Taqrir al-dalil al-wadih al-ma'lum 'ala jawaz al-naskh fi kaghid al-rum* (Decision Concerning the Permissibility of Writing on Paper Made by Christians), it shows that by the beginning of the fifteenth century Italian paper had entirely supplanted local production. According to the document, paper had once been made in Tlemcen as well as in Fez and in al-Andalus, but it no longer was. Pious Muslims were therefore forced to write on European paper bearing watermarks that they found offensive, since the designs often contained a cross or an image of some living being. According to Ibn Marzuq's decision, which saw the problem

in terms of ritual purity, the act of writing in Arabic over the idolatrous designs rendered them invisible. Writing God's name (and message) on such papers, Ibn Marzuq argued, replaced falsehood with truth. He argued that the situation was comparable to the way Muslims had been able over the centuries to transform Christian churches into mosques.[18] In short, by the fifteenth century the North African paper industry had vanished in the face of European competition.

## The introduction of Islam and paper to the Bilad al-Sudan

At the same time that Muslims were bringing paper and papermaking technology across North Africa to Spain, they were also bringing Islam from the Maghrib to the Bilad al-Sudan. Islam closely followed the caravan routes from the Maghrib across the Sahara. Thanks to the domestication of the camel, merchants were able to cross the desert from Sijilmasa to Awdaghust and Ghana in the west; Tripoli, Ifriqiya and Wargla to Tadmakka and Gao in the centre; and the Nile Valley in the east. Different routes came to the fore with the rise and fall of such northern powers as the neo-Umayyads in the Iberian Peninsula and Morocco, the Fatimids and Hafsids in Ifriqiya, the Almoravids and Almohads in north-west Africa, and the Ayyubids and Mamluks in Egypt.

For Muslims, who first mentioned the western Sudan in the second half of the eighth century (for example, the geographer al-Fazari), the region represented not primarily a locus for new converts but a source of high-value merchandise such as gold, ivory, precious woods and slaves. With the exception of a few expeditions, the historical caliphates of North Africa never attempted to occupy any part of the region, and schismatic Kharijites may have made up most of the initial Muslim presence. Even the Almoravids, who traced their origins to southern Mauritania in the eleventh century, based their power in the north. Although they attached great importance to the control of the gold routes across the Sahara, they soon lost interest in the region's politics, and their role in the Islamisation of West Africa has remained controversial.[19]

The slow pace of cultural contact and interaction is partially explained by the absence of a strong centralising power that drew its legitimacy from its profession of Islam. In the western Bilad al-Sudan, Islam was initially a simple badge of social status like the luxury goods – such as horses, salt, fabrics and glassware – that were also imported from the north. Islam gradually took root among African merchants in the cities and in the courts of local chiefs, who might encourage their subjects to convert, but it took many centuries before Islam would spread from the cities to the countryside, from the elites to the peasantry, and from the inhabitants of the cities on the fringes of the desert to the villages of the deep interior. Apart from Mauritania, where the settlement of the Banu Hilal tribes in the eleventh century led to an early and significant degree of Arabisation and Islamisation, the initial Islamic penetration of the western Sudan did not lead, as it did in other regions of the Islamic world, to the rapid spread of the Arabic

language, except in a few educated circles and in the adoption of some Arabic loan words for the days of the week, commerce and personal names.[20] Rulers seem to have been able to profess Islam while maintaining all of their traditional practices.

In the first centuries of Islam in the region there would have been, therefore, limited call for books and paper for writing. Most Muslims – as they did elsewhere – would have learned parts or all of the Qur'an and the traditions of the Prophet orally rather than by reading from books, and this would have fitted perfectly with local African traditions of orality. Although Muslims might have built mosques for their communal worship, there was no fixed plan or design necessary for a mosque, so local traditions could be adapted. The relatively shallow level of Islamisation at this time did not lead to the adoption of other aspects of contemporary material culture in the Islamic lands of south-west Asia and North Africa, such as architectural decoration with *muqarnas*, arabesque ornament, glazed ceramics or papermaking.

Apart from the figure of Ibrahim b. Ya'qub al-Dhakwani al-Kanemi (d. between 1211 and 1213), who 'appears like a comet in the late twelfth century', no other local writer in Central Sudan is known by name before around 1500. The founding of the Madrasa Ibn Rashiq in Cairo for the benefit of Kanemi's students in the mid-thirteenth century suggests that they would have returned to their homeland with some level of scholarship, and a letter of Mai 'Uthman b. Idris of Borno to the Mamluk sultan al-Malik al-Zahir Barquq demonstrates the presence of 'sophisticated' scribes in Borno in 1391–92.[21] In western Bilad al-Sudan, the arrival of larger numbers of books and scholars can be dated from the period following the pilgrimage of the Malian ruler Mansa Musa (1312–37) to Mecca in 1324.[22] While on the pilgrimage, he is said to have met the Andalusian poet Abu Ishaq Ibrahim al-Sahili (d.1346), who accompanied him back to Mali. The poet, known as al-Tuwayjin (the little casserole), was the son of the head of the corporation of perfumers in Granada.[23] He was the most notable of several scholars from North Africa or the Saharan oases known to have settled in Timbuktu in the period after 1350,[24] but apart from their names there is little evidence for a broad-based culture of writing that would have demanded supplies of paper greater than those that could be brought in by trans-Saharan caravans.

Some authors have also suggested that al-Sahili played a decisive role in the development of Islamic architecture in Mali, but more reasoned analysis suggests that his role, if any, was quite limited.[25] The architectural crafts in Granada had reached their zenith by the fourteenth century, and it is extremely unlikely that a cultured and wealthy poet would have had anything more than a dilettante's knowledge of the intricacies of contemporary architectural practice.[26] Similarly, as Sudani written culture expanded in the fourteenth and fifteenth centuries, few – if any – Muslims from Egypt or the Maghrib would have been able to teach local residents how to make paper, because the paper industry in those regions was already in sharp decline in the face of strong European competition. Thus, most Sudani manuscripts were written on European – specifically Italian – paper, which had been trans-shipped via such entrepôts as Cairo and Tripoli.

Egypt established early trade relations with western Bilad al-Sudan because it was on the route to the Holy Cities. In 1635 Santo Seguezzi, the Venetian merchant whose account is among the *Relations veritables et curieuses de l'isle de Madagascar et du Bresil…et trois relations d'Egypte et une du royaume de Perse* (True and Curious Accounts of the Island of Madagascar and of Brasil…and Three Accounts of Egypt and One of the Kingdom of Persia), reported on the gold brought from the *pays d'Acrouri* that was exchanged for 'silk stuffs from Italy, coral, paper, lead, copper, tin, and quicksilver'.[27] About this time, a Cairene merchant stored paper – presumably Venetian or Genoese – for a party of West African pilgrims while they journeyed on to the Hijaz and back.[28] Earlier sixteenth-century export paper might have included French or Italian paper watermarked with hands, pots or bulls' heads.[29]

In the seventeenth century, Tripoli became a market for Euro–African exchange, and the major trade routes linking western Bilad al-Sudan with the Mediterranean world shifted. The French never succeeded in gaining a commercial foothold in Tripoli, and almost all reports of the paper trade from the seventeenth century onward refer to Italian imports, particularly paper watermarked with the *tre lune* or three crescents. The French consul Le Maire reported at the end of the seventeenth century that the trade between Fazzan and Borno of glass beads, bracelets, cloth, paper, copper wire and sheets was mostly from Venice. Eighteenth-century accounts confirm the Venetian dominance of the paper trade, much of which was re-exported 'to the blacks'. A 1767 British report on the trade of Tripoli listed among imports from Venice: 'paper stamped with three moons' (800 reams), 'writing paper' (200 reams), 'outside quires' (300 reams), 'another kind of the same' (150 reams). The Venetians (but not the Genoese, the Livornese or the Marseillais) were so entrenched that the British toyed with the idea of making 'three half-moon' paper at Mahon (in the Balearics) to cut into their share.[30] In seventeenth-century Morocco, French paper made in Provence sold well and some was undoubtedly shipped south. Hunwick noted the 'raisin' watermark on a Timbuktu manuscript dated 1715 with a heart and the initials FS.[31] By the eighteenth and nineteenth centuries paper often ranked only after cloth as the most important article of trade among European exports to the Middle East and North Africa, and the profit earned in selling it was as high as that earned on the sale of any European-crafted product.[32]

The German explorer Henry (Heinrich) Barth (1821–65) wrote in his *Travels and Discoveries in North and Central Africa* that 'Common paper, called on the coast "tre lune," is imported in great quantity, being used for wrapping up the country cloth; but it is a bulky heavy article, and in large quantities is sold at a very cheap rate.'[33] Gustav Nachtigal (1834–95), another German explorer, wrote in *Sahara and Sudan* that 'Paper is also a not unimportant article of commerce in Kuka. It is very coarse...[and] shows its Italian origin by its watermark of three crescents with the legend, tre lune.'[34] Their observations are confirmed by surviving Sudani manuscripts, which were written on paper produced in Pordenone and Friuli, now in north-east Italy. Foremost among them are the products of the Galvani firm, those of Giovanni Berti, and an unidentified

A watermark with three crescents, known as the *tre lune*, appeared on handmade paper from Italy in the early sixteenth century and enjoyed wide popularity from the seventeenth to the nineteenth century. There are several variants on the basic design. The top row above shows the typical form. The centre row shows a variant with one of the crescents slightly tipped. The last row shows a variant with faces.


Watermark of Beniamino Arbib inscribed in Arabic, *ya nasib* (O Fate!) found on several dozen manuscripts from the western Sudan produced in the late nineteenth and early twentieth centuries. The image in the centre may represent a charging horse and rider with flying robes and a gun. The location of this paper mill has not yet been identified, but the prominent Arbib family had branches across North Africa and in Livorno, Italy.

papermaker who marked his sheets SSB. Other papers included those manufactured by the Venetian firms of Bernardino Nodari, Isidoro Mori, Niccolo Berlindis, Niccolo Raccanelli, and Luigi Trentin, as well as the Austrian papermaker Franz Thurn.[35] Paper made by the British firms Waterlow & Sons Limited, John Dent & Co., TH Saunders, and CMS Bookshop (Lagos) probably dates from the time of the British occupation of Nigeria (protectorate in 1901 and colony in 1914).[36]

The situation was similar in the eastern Bilad al-Sudan. WG Browne visited Darfur in 1796–98 and found that 'writing paper' was a 'considerable article [of trade]'.[37] In 1801, Girard noted that of the 20 000 reams of Venetian paper imported to Egypt, part was consumed there, part exported to Arabia and part exported to the interior of Africa.[38] Paper was re-exported to eastern Bilad al-Sudan by long-distance merchants travelling to Sinnar (Sennar) and Darfur and to western Bilad al-Sudan by long-distance merchants and pilgrims travelling the caravan routes via the Libyan oases.[39] The Swiss traveller and orientalist John Lewis Burckhardt (1784–1817) provides some explicit details for the early nineteenth century: 'Paper [*papier de trois limes*, from Genoa and Leghorn] is rather a heavy article here; it is more in demand in the western countries, to which it is carried by the Darfour caravans: it is, however, always found in the warehouses of the Egyptians.'[40] Some nineteenth-century travellers report on a trade in 'Turkish paper' or 'paper dressed in the Turkish fashion', but this seems to refer to Italian paper that had been glazed in Egypt and bore crescent watermarks. After the establishment of the Turco–Egyptian regime in 1821, large quantities of paper must have been shipped from Cairo to Khartoum for the use of the bureaucracy; supplies may have also reached Khartoum from Jidda.[41]

In the mid-nineteenth century, the French consul in Cairo, Delaporte, estimated that the eastern Sudan trade amounted to 750–2 400 reams (each of 500 sheets) of 'Frioul' (that is, Galvani) paper a year, no more than 5 per cent of Egypt's paper imports. By the 1870s, paper imports from Italy into Darfur had increased significantly, and paper was no longer rare. At the end of the nineteenth century, a thick brown (perhaps cream-coloured) paper called *abu shibbak*, presumably referring to its weave or even texture, was also imported from Europe.[42]

It is beyond the scope of this chapter to explore the attempts to revive papermaking in the Islamic lands. Suffice to say that Muhammad 'Ali, the ruler of Egypt from 1805 to 1849, established a paper factory in 1833. In 1834 he ordered his soldiers (and in 1836 the shaykhs of the town quarters) to send their old clothing to the factory to serve as raw material. The paper, produced sporadically until 1870, wasn't very good.[43] By this time, however, European and American papermakers had discovered that they could make paper from trees, and the virtually inexhaustible supplies of cellulose in that raw material, quite apart from all sorts of other factors, meant that Egypt was in no position to compete.

## Conclusion

The history of paper in Sudanic Africa differs sharply from its history in most other parts of the Muslim world. Elsewhere, the spread and growth of Islam was closely paralleled by the spread and growth of institutions and practices associated with Islamic society, particularly a culture of writing, reading and ultimately papermaking. The ready availability of paper in turn reinforced the culture of writing and reading. While raw materials for papermaking were available in Sudanic Africa, several centuries intervened between the first introduction of Islam and the growth of Islamic societies, and during that time the practice of Islam was largely limited to merchants and some rulers. By the time that sufficient numbers of African Muslims needed a quantity of paper for writing sufficient to support local production, their co-religionists in Egypt and the Maghrib, who might once have been able to teach them to make paper with local materials, had long forgotten how, and the production of paper had fallen entirely into European hands.

The closest parallel to the situation in Africa might be India, another land where Islam appeared at about the same time. Already in the centuries after Christ, Indians should have learned of papermaking from Chinese Buddhist missionaries, but curiously there is no evidence that they did so. Although some Muslims settled in Sind as early as the eighth century, about the time when paper first became known in the eastern Islamic lands, the first permanent Muslim presence in northern India dates from the late twelfth century, and the first manuscripts that can be ascribed to India date from the fourteenth century, just about the time that Europeans were beginning to manufacture and export paper. India, however, was much further from Europe than Africa, and until the sixteenth century there was little chance that European paper would be exported that far. Instead, under the tutelage of Central Asian and Iranian papermakers, Indians began making paper in the early fifteenth century and they were ably to supply the needs of a wide range of writers and artists through the seventeenth and eighteenth centuries. Indeed, as late as the eighteenth century paper was exported from Dawlatabad to Iran, although by the nineteenth century most Iranian paper was being imported from Russia.

The history of paper in Sudanic Africa, therefore, is inextricably tied to the history of Islam in the region as well as to the varying fortunes of papermakers in the Muslim lands to the north. The nature of conversion to Islam and its relatively late date meant that paper, unlike elsewhere in the Islamic lands, was comparatively unimportant and that locally made paper did not play the transformative role in African Islamic society that it had played elsewhere.

**NOTES**

1 Bloom (2001).
2 *'Iqd al-farid* (Cairo, 1904/1322), 2:183, quoted in Pedersen (1984: 62). On Ibn 'Abd al-Rabbih's pilgrimage, see Shafi (1922).
3 Lévi-Provençal (1934).
4 Burns (1985: 174–176).
5 Sold at Christie's London, 9 October 1990, sales catalogue pl. 46. See Khemir (1992: 117).
6 The manuscript, now in Palermo, Biblioteca Regionale della Sicilia Ms. III.D. 10, is discussed in Curatola (1993: 180–181).
7 Goitein (1967–94: 1:112).
8 According to 'Abd al-Wahhab (1956), there is a manuscript on paper copied at Qayrawan in 884 and the manufacture of paper began in the tenth century at Qayrawan, Tunis and Mahdiyya. The oldest dated paper made at Qayrawan is from 1154.
9 Levy (1962: 39–40).
10 Levy (1962: 43–44).
11 Le Léannec-Bavavéas (1998: 111).
12 Burns (1985: 174–176).
13 Valls i Subirà (1970: 11).
14 Valls i Subirà (1970: 12).
15 Ashtor (1977: 270).
16 Walz (1988: 30).
17 Walz (1988: 31).
18 The decision, recorded by the Fassi jurist al-Wansharisi, is summarised in Lagardière (1995: 42). I am most grateful to David S Powers of Cornell University for bringing this reference to my attention.
19 Gibb et al. (1960), s.v. 'Sudan, Bilad al-' 9: 752.
20 Gibb et al. (1960), s.v. 'Sudan, Bilad al-' 9: 753.
21 Hunwick (1995: 16–17).
22 Gibb et al. (1960), s.v. 'Sudan, Bilad al-' 9: 756a.
23 Morris & Preston Blier (2003: 190).
24 Hunwick (2003: 8).
25 Gibb et al. (1960), s.v. 'Mansa Musa' 6: 421–422; Ibn Battuta (1994: 958); Aradeon (1989); Hunwick (1990).
26 Aradeon (1989).
27 Walz (1988: 40).
28 Walz (1988: 40).
29 Walz (1988: 40).
30 Walz (1988: 40).
31 Walz (1988: 47 n.46).
32 Walz (1988: 29).
33 Walz (1988: 47).
34 Walz (1988: 47).
35 Walz (1988: 41).
36 Walz (1988: 41–42).
37 Walz (1988: 40).
38 Walz (1988: 39).
39 Walz (1988: 39).
40 Walz (1988: 46) quoting Burckhardt (1822: 302).
41 Walz (1988: 39).
42 Walz (1988: 40).
43 Walz (1988: 38).

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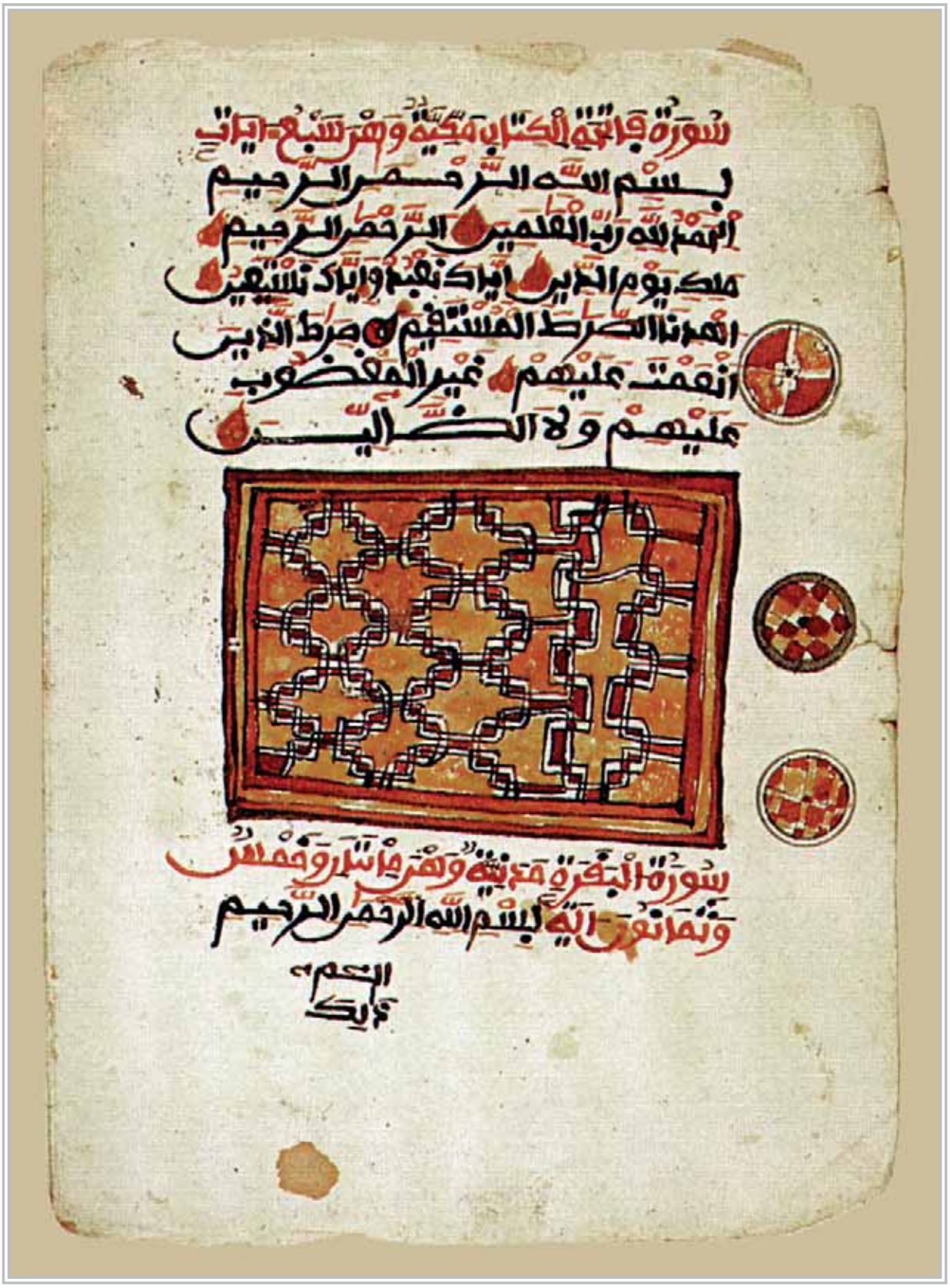
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