

INTRODUCTION TO ARABIC MANUSCRIPT STUDIES

HILL MUSEUM & MANUSCRIPT LIBRARY (HMML)

June 13-24, 2022

Dr. Lucia Raggetti



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hmmml

- *Cultural sphere* (Islamic, Christian) – *Allography/Heterography* (Arabic written in a different script)

CODICOLOGY

Physical features, 'Grammar & Synthax'
of the manuscript book

PALEOGRAPHY

Deciphering, describing,
dating, and locating script

ARABIC MANUSCRIPT STUDIES

PHILOLOGY
(textual criticism)
The text and
its transmission

**Interdisciplinary approach to
Arabic manuscript studies**

None of this component exists
in isolation!

Acting like Sherlock Holmes:
follow the clues...

Eyes & Mind wide open!

Our sources:

- Observation and study of
preserved written artifacts
- Arabic Mediaeval and early
modern primary sources
- Studies

13.VI.2022 – Day 1, WRITING SUPPORTS

Dr. Lucia Raggetti (University of Bologna) lucia.raggetti@unibo.it



WRITING SUPPORTS MENTIONED IN THE *FIHRIST*

It is said that first of all **Adam wrote on clay**. Then for a period after that the peoples wrote **on copper and stone for the sake of durability**. This was before the Flood. To meet the needs of the moment they also wrote on **wood and the leaves of trees**, as well as on *tūz*, bark with which their bows were mounted to make them last long. We have discussed this matter in detail in the chapter on philosophy.

Later on they **treated hides** upon which people wrote. **The Egyptians wrote on Egyptian paper made from the papyrus reed**. It is said that the first person to do this was the prophet Yūsuf (Joseph), for whom be peace.

The Greeks write on white silk, parchment, and other things, as well as on Egyptian scrolls and *al-fulḥān*, which is the skin of wild asses. The Persians used to write on the skins of water buffaloes, cows, and sheep. The Arabs write on the shoulder blades of the camel and on *likhāf*, which are thin white stones, and on *‘usb* or palm stems; the Chinese on **Chinese paper made of hemp**, which is the most important product of the land; the Indians on brass and stone, also on white silk.

There is **the Khurāsānī paper made of flax**, which some say appeared in the days of the Banū Umayyah, while others say it was during the ‘Abbāsīd regime. Some say that it was an ancient product and others say that it is recent. It is stated that craftsmen from China made it in Khurāsān like the form of Chinese paper.

For a number of years the people of Baghdād wrote on erased sheets. The register spoiled at the time of Muḥammad ibn Zubaydah were parchments, which after being erased were once more written upon.

It is said that the books used to be made of parchment treated with lime (*nūra*) and exceedingly dry. Later the Cūfic treatment was with dates, giving flexibility.

from *Fihrist*, Bayard-Dodge (tr.), I 39-40

MANY SURFACES ARE
ELEGIBLE FOR WRITING...



Private collection of West African
writing boards
Source: Artpropelled



Arabic script on bone
Source: Marriot Library UT



Moroccan legal documents from the
19th and 20th cent. On wooden
sticks of different formats
Source: Ter Lugt Collection

AND EVEN MORE SURFACES ELEGIBLE FOR WRITING...



The golden dirham of 'Abd al-Malik
Source: Wikimedia Commons



Mosque Lamp of Amir Qawsun,
ca. 1329–35
Source: MET Museum



Seal ring with shi'ite
inscription (15th-16th
cent.)
Source: MET Museum

Late Fatimid tapestry-woven textile (12th cent.)
Source: MET Museum



PAPYRUS (*bardī/burdī* [bot.], *bardiyya / qirtās*)

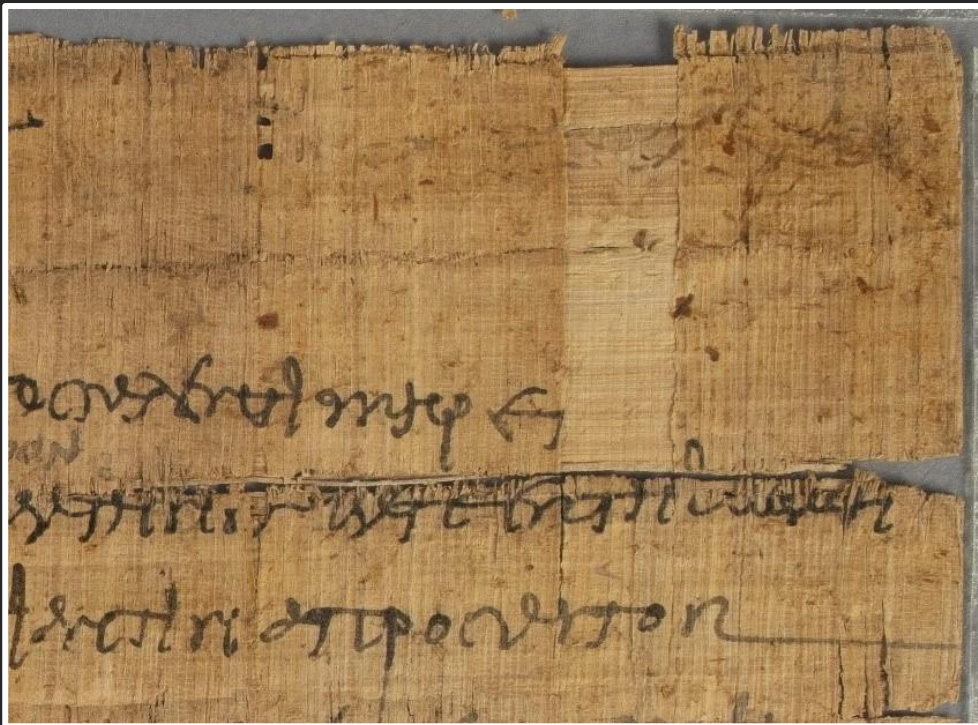


Papyrus plant (*Cyperus papyrus*), MS Bologna BU 2954, f. 42v (detail)

Abū ‘Abbās al-Nabātī: ‘[...] Description of the preparation of papyrus among the Egyptians in the ancient times: they used to take the long stalks of this type and to split these in two halves, from beginning to end [of the stalk] and then to cut strips from these, the one after the other. Each strip is adjoined to the other on a tablet of polished wood.

Then they take the **fruits of lotus**, make them into a glue using water, and apply that glue on the strips, and leave it like that till it has become completely dry. Then they **beat it gently with a piece of wood** which looks like a small rod, until their roughness has been smoothed, so that it gets the consistence of full paper, and that they use in medical therapy.’

أنها أضخم، عليها هذب ذهبي اللون مليح المنظر، وصفة عمل القرطاس عند المصريين في الزمان الأول كانوا يعمدون إلى سوق النوع فيشقونها بنصفين من أولها إلى آخرها ويقطعونها قطعاً قطعاً ويوضع كل قطعة منها إلى لصق صاحبها على لوح من خشب أملس ويأخذون ثمر البشنين ويلزجونه بالماء ويضعون تلك اللزوجة على القطع ويتركونها حتى تجف جداً ويضربونها ضرباً لطيفاً بقطعة خشب شبه الأرزية صغيرة حتى تستوي من الخشن فتصير في قوام الكاغد الصنف الممتلىء ويستعملونه في العلاج. ديسقوريدوس في الأولى: بانورس وهو البردى ومنه تعمل القرطاس. جالينوس في السادسة: هذا نبات ليس



E2751, some vertical fibers are missing, revealing the horizontal fibers from the other side. Source: Penn Museum, Papyri Project

Recto and verso of the papyrus: check the direction of the fibers!
Horizontal fibers point at the recto

Different papyrus leaves were glued together to obtain a scroll, the direction of the fibers helps in finding the joint.

Scribes used a brush or a reed pen to write.



A piece of modern papyrus through transmitted light
Source: Penn Museum, Papyri Project



Staatliche Museen zu Berlin, Ägyptisches Museum und Papyrussammlung, P 24011: Arabic papyrus (with Nile mud and seal) with an exit permit, dated January 24, 722 CE, from Hermopolis Magna, Egypt. Source: Wikipedia Commons.



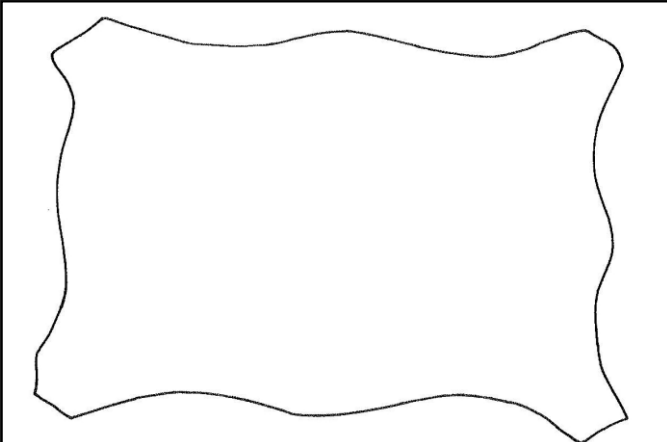
Goat Skin on Drying Rack for Parchment.
Source: Wikimedia Commons.

PARCHMENT (*raqq* / *ǧild*)

Parchment is prepared from the hide of different animals (sheep, goat, cow, gazelle). The skin of young animals yields better results because it is still thin and supple.

Raqq al-ǧazāl is not always to be interpreted literally, the expression may easily point to a high-quality parchment (exactly like the Latin *vellum*).

The size of the animals determines the size of the book.
1 animal = 1 parchment leaf / 1 book = 1 flock. Each skin can be folded twice (oblong format) or three times (squared format). Its production is labour intensive and rather expensive.



6. The shape of a hide used for parchment.

Drawing showing which part of the hide can be used for writing
Source, Déroche, *Islamic Codicology*, 2006, p. 39



Monkeys making parchment,
from a Mediaeval English Psalter.

A number of written traditions preserve the description of different procedures to prepare parchment. The main steps of the process are as follows:



- Skiving and smoothing the skin with a curved blade to remove hair, fat, and flesh; sometimes done by means of one or more lime baths, or with the application of several substances (dates, barley flour, pigeon droppings, etc.)

- The skin is stretched on a frame to make it dry, while its reticular collagen fibers are forced into an arrangement in parallel layers.
- The skin is levigated by using a rough substance (natural pumice or an abrasive paste)
- Possible additional treatments (e.g. to equalize the two sides)

WHEN LOOKING AT PARCHMENT...

- Difference between the **'hair side'** (outward side of the hide) and **'flesh side'** (inner side of the hide)
- The 'hair side' is often darker than the 'flesh side', and often the pores in which the hairs were implanted are still visible.
- Holes, defects (e.g. residual hair), striations, and repairs
- Contours of the animal still visible
- Occasional traces of reuse: the old text is erased in order to have a clean writing surface. Either to the naked eye or with the use of different spectrums of light and other technologies, the underlayer remains visible (palimpsest)
- Parchment could be tinted too, the 'Blue Qur'an' is perhaps the most famous example in the Arabo-Islamic tradition (in Mediaeval Europe, there is the Rossano Codex)



Large (c. 50 x 70 cm) *Qur'an* on parchment, showing hairside (left) and fleshside (right). Note the difference in colour. Leaves do not belong together, the text is not continuous. Parchment has become brittle (dried out) and was damaged in course of time.

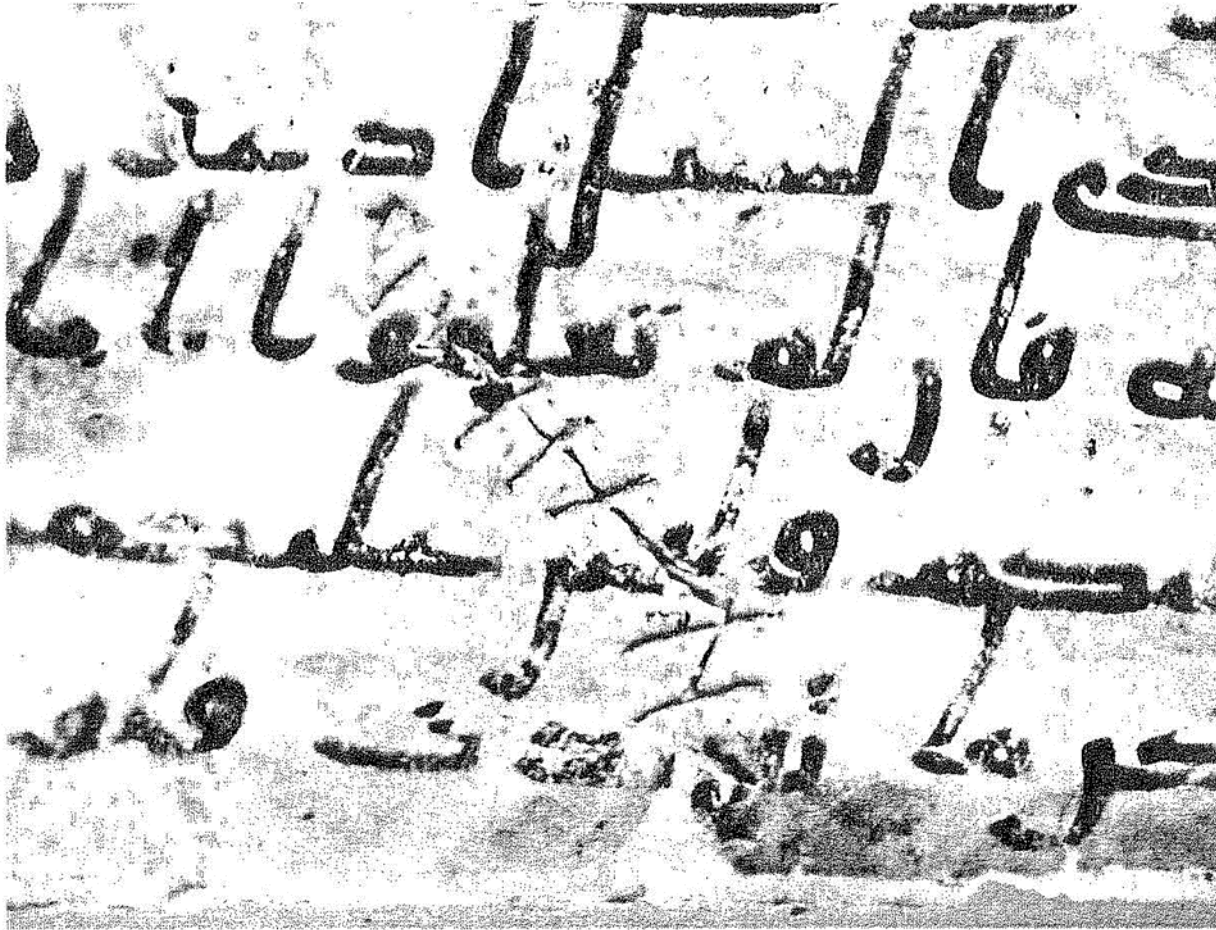
Source: MS Leiden Or. 14.545a, ff. 1b-2a.



Parchment Qur'an, MS Collegeville Arca Artium Rare Book Collection, 13th cent.?
Shelfmark: Kacmarcik Ms. 26
HMML Proj. Num. AARB 00232
Āl 'Imrān 3:39-47



Difference between the 'hair side' (outward side of the hide) and 'flesh side' (inner side of the hide)



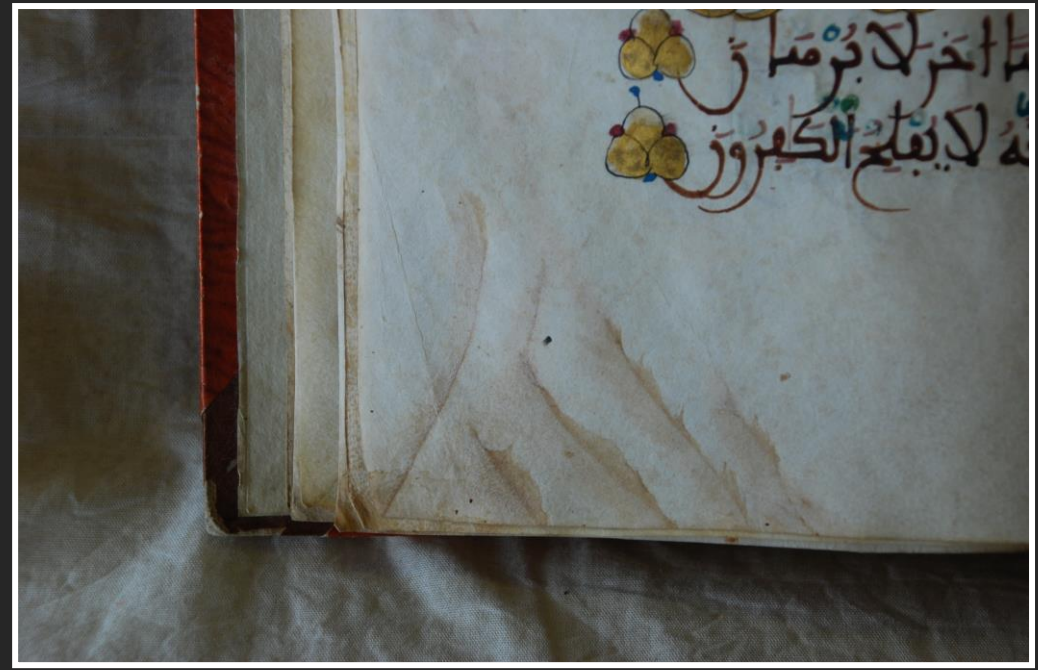
8. Torn parchment repaired with stitches. Istanbul, TIEM (Türk ve İslâm Eserleri Müzesi) ŞE 85, f. 6 (detail).

Fragment of a Qur'an on parchment, in which the rims of a laceration are sewn together.

Source: Original MS Istanbul (TIEM), Sham Awraqi No. 85, f. 6 (detail), from F. Déroche, *Islamic Codicology*, 2006, p. 41.



Maghribī (or Andalusī?) Qur'an on parchment, opening at hair side, possibly 13th century CE.
 Hole (and repair?) in the material



Traces of scraping (bottom, left).

Source: MS Leiden Or. 228, p. 27, detail.

PALIMPSEST (TIRS)

Among writing materials, parchment is the more suitable for and more resistant to re-use. The high production costs were a powerful material reason.

The two layers of text are called 'scriptio inferior' and 'scriptio superior'. Sometimes the lower layer remains visible, sometimes specific photographic techniques are required to make it so.

Just a few Arabic palimpsests are preserved, mostly Qur'anic. Their survival is also connected with the reluctance to destroy written artifacts (like in the Cairo Geniza, or under the roof of the Sana'a mosque).

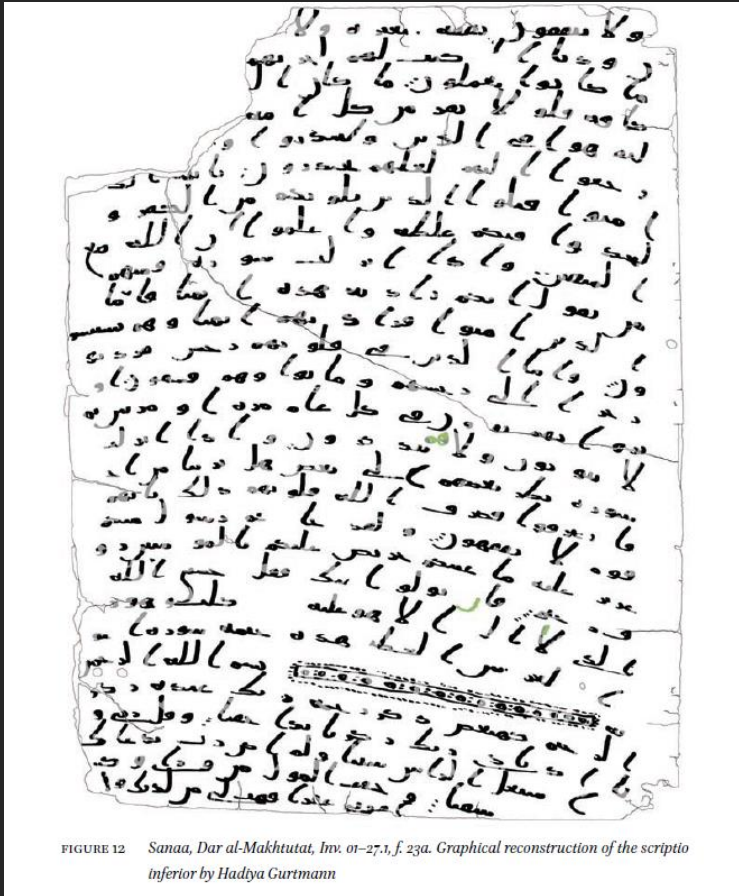
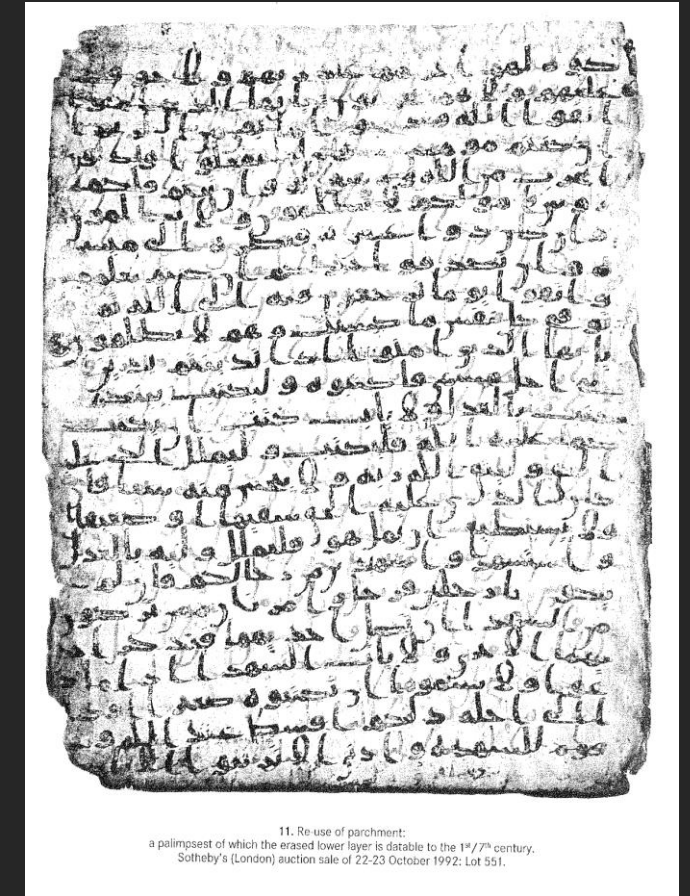


FIGURE 12 Sanaa, Dar al-Makhtutat, Inv. 01-27.1, f. 23a. Graphical reconstruction of the scriptio inferior by Hadiya Gurtmann

The famous Sana'a palimpsest
Source: Sotheby (Auction October 22-23, 1992, No. 551); quoted from F. Déroche (2009), p. 169.



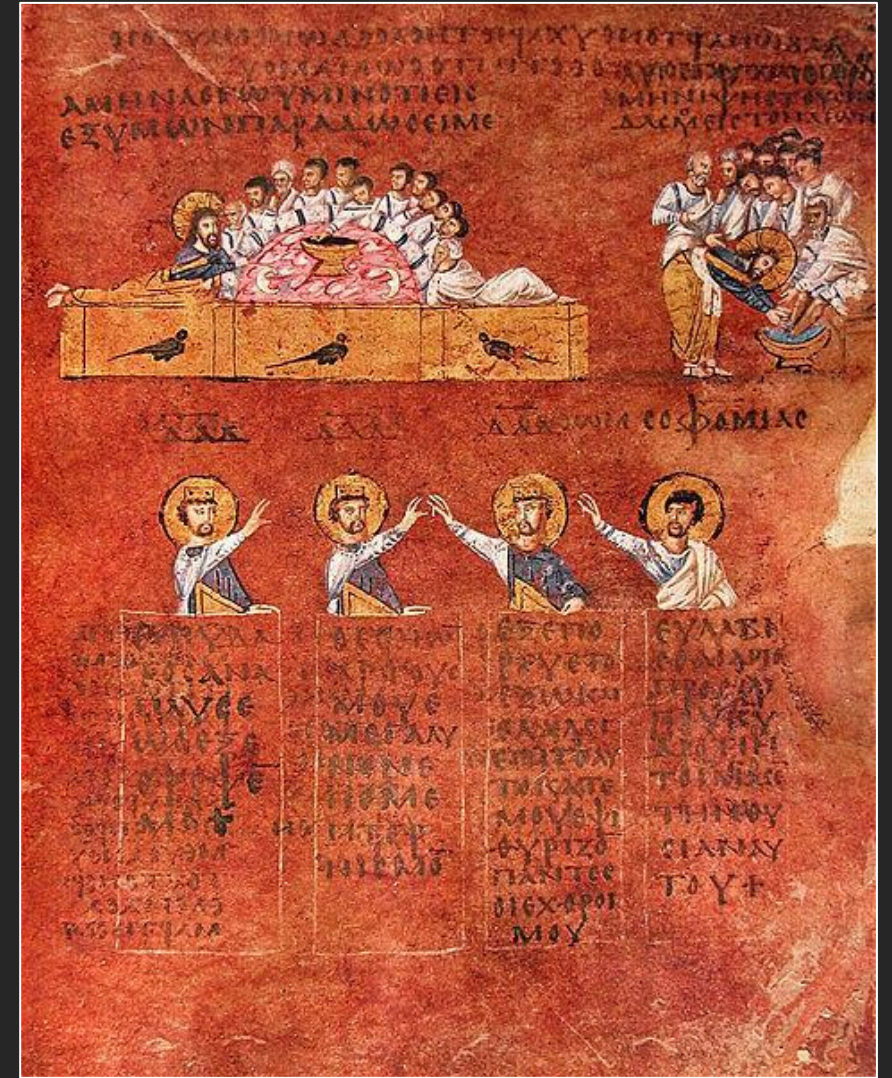
11. Re-use of parchment:
a palimpsest of which the erased lower layer is datable to the 1st/7th century.
Sotheby's (London) auction sale of 22-23 October 1992: Lot 551.

Source: Sotheby (Auction October 22-23, 1992, No. 551); quoted from F. Déroche (2006), p. 45.

TINTED PARCHMENT



FIGURE 1 Leaf from the Blue Koran. 239×351mm. Boston, Museum of Fine Arts, 33.686
PHOTOGRAPH BY THE AUTHOR



Codex Purpureus Rossanensis, a 6th cent. Gospel from Southern Italy (Wiki Commons)

Source: Bloom, *Blue Koran Revised*, 2015, p. 198.

1.3 PAPER (*waraq* / *qirtās* / *kāghidh*)



a. ORIENTAL PAPER

b. EUROPEAN PAPER
(13th cent.)

c. MACHINE MADE PAPER
(after 1820 ca.)

Source: Museo della Carta e della Filigrana, Fabriano
https://www.museodellacarta.com/it/viaggio_carta.html

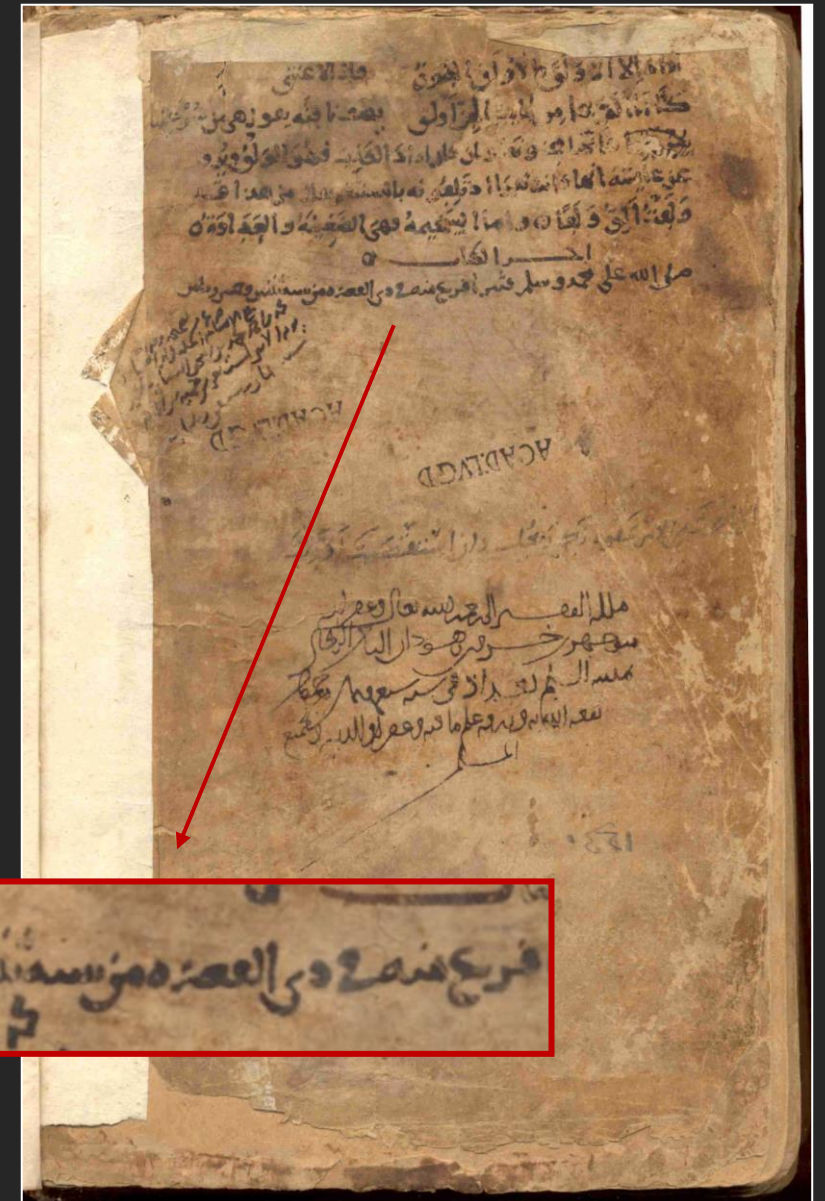
- Paper was invented in China in the 2nd cent. BC, a few centuries later a narrative ad hoc described it as the invention of an imperial eunuch, Cai Lun; the Emperor Hedi praised him for his brilliant invention and named it after him.
- Mostly made of hemp fibers, it was not suitable for writing and was probably used to wrap medicinal substances. By the first cent. CE, its surface started to be treated (starch, glue, or gypsum coating) and paper became suitable for writing. In the course of time, many kinds of fibers were used to produce different sorts of paper for a varied range of purposes (including toilet paper).
- This technological innovation gave a great input to the development of scholarship and literature, also thanks to paper the Arabo-Islamic culture became a book-culture. Stationery became a powerful cultural tool, its dealer (*warrāq*) were active part of the intellectual life.
- Another narrative, that of the Chinese papermakers captured in the battle of Talas in 751, metaphorically describes how paper was introduced into the Arabo-Islamic world at the beginning of the 'Abbasid period. The word *kāḡid* itself is a loanword from the Soghdian.
- The encounter between paper and 'Abbasid administration is a great success: not only because paper was a better choice than expensive parchment or scarce papyrus, but also because paper absorbs inks and makes much more difficult to forge a document.



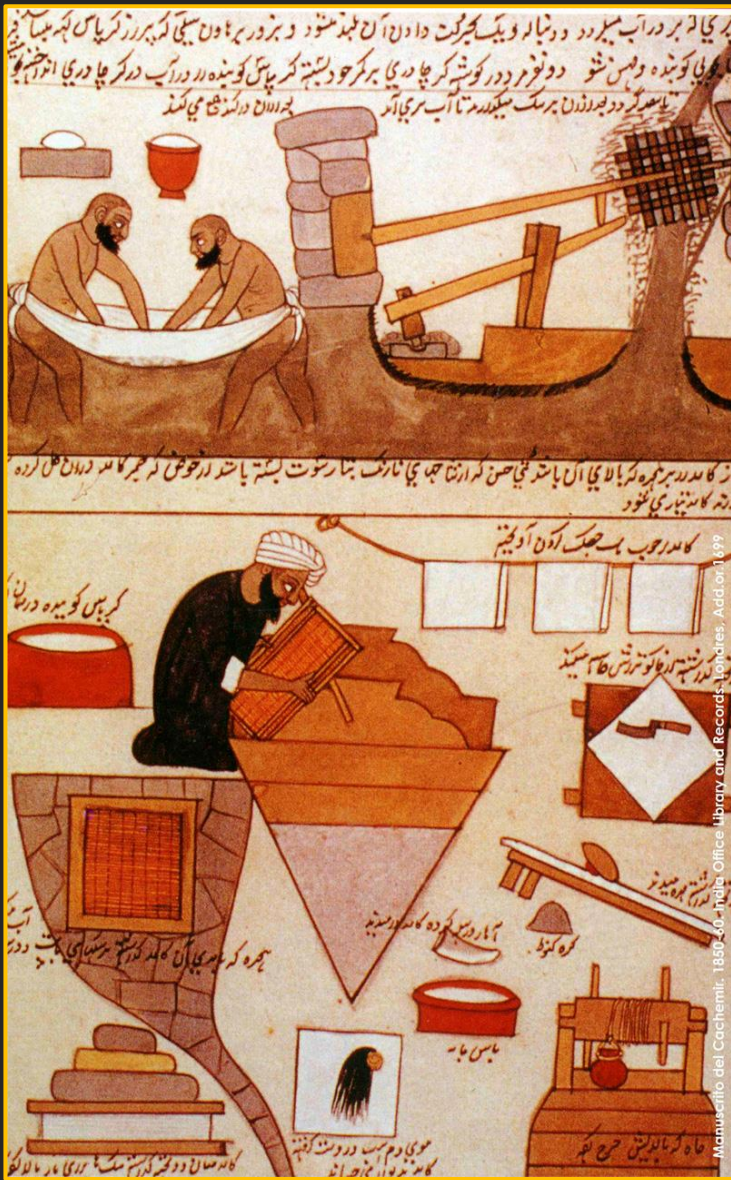


MS Leiden, Or. 298, possibly the oldest known dated manuscript on paper. On f. 241b the colophon the date Dhū-l-Qaʿda 252 AH (= 866 AD)

- The innovation gradually spread all over and paper mill became active in many areas, from East to West. Baghdad was famous for its refined paper and the shores of the Nile were the ideal place for such manufacture.
- Paper making reaches al-Andalus by the 10th cent., and the Christian army encounters this technology when conquering Toledo in 1085.
- By the 14th cent., European paper has found its way into North African chanceries and some Muslims wonder about the opportunity to use paper with Christian watermarks:

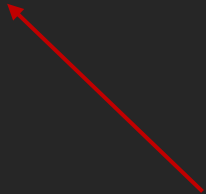
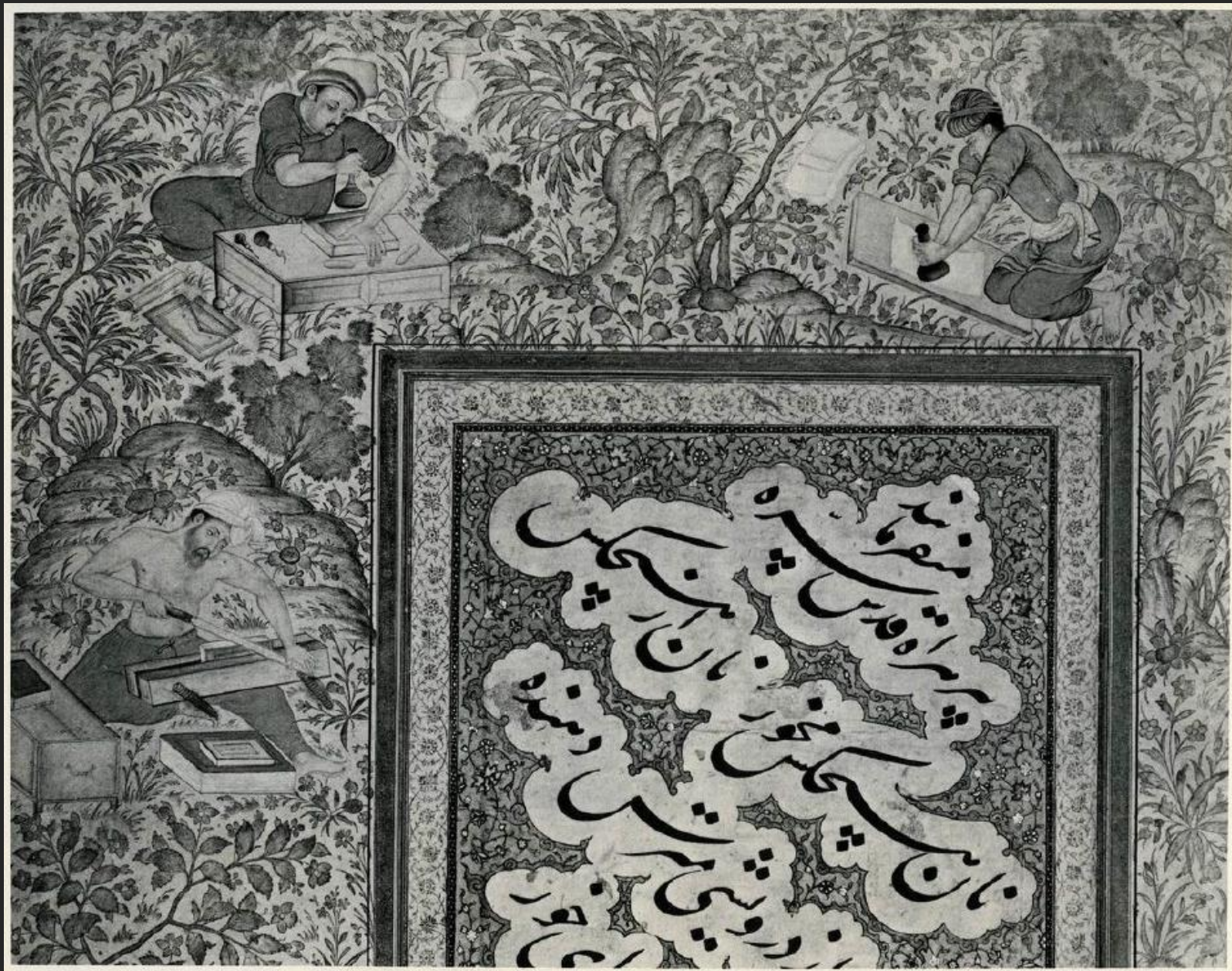


HOW DID A PAPERMAKER WORK?



1. The pulp is prepared in the watermill (from rags, vegetal fibers, old paper: the thinner the pulp, the finer the paper)
2. The pulp is sieved with water, here using a cloth
3. The watery pulp is collected in a basin
4. The mould is immersed in the basin and filled with pulp
5. The mould is left to leak for while, to lose the water in excess
6. The sheet is removed from the mould and let to dry on a line
7. The sheets are then piled up and pressed
8. Paper is then sized and polished

Kashmiri manuscript in Persian illustrating arts and crafts (written c. 1850-1860). Source: Original MS: India Office Library, London, Or. 1699

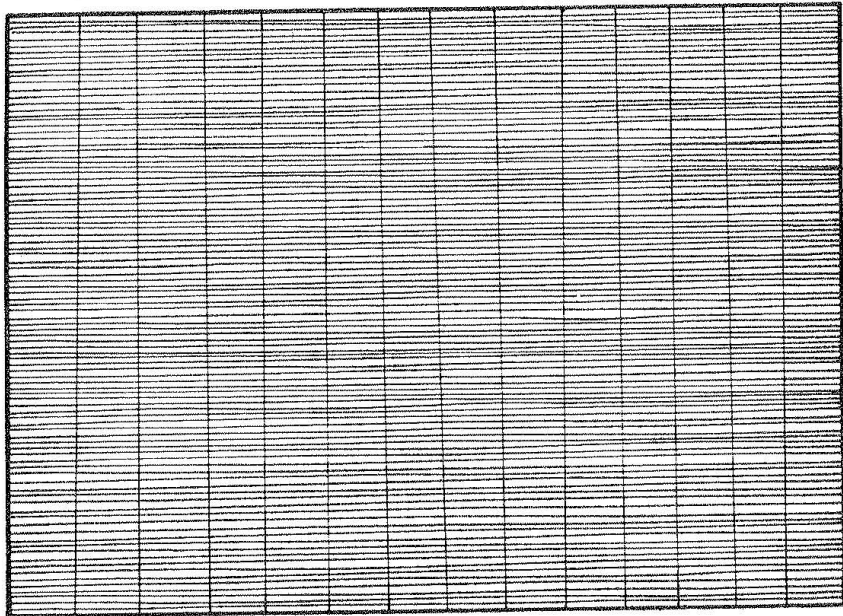


The burnishing of
paper
-
The importance of
treating the surface

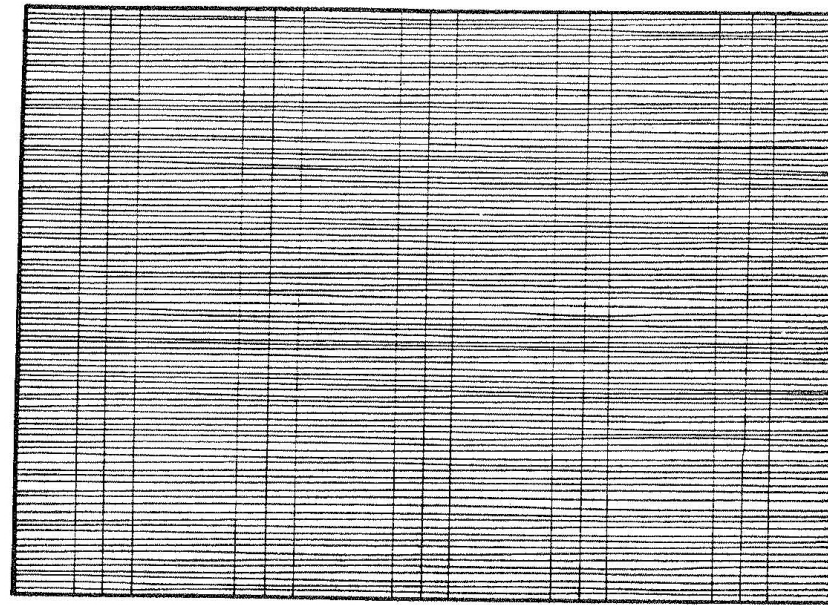
Different stages of book production in the margins of the Jahanjir album (1615 ca.). Source: Schimmel, *Calligraphy*, 1990, p. 77

ORIENTAL PAPER

Wire lines/wired marks/laid lines (natural fibers, horizontal, parallel to the long side of the mould) –
Chain line (vertical, perpendicular to the long side of the mould)



12. Non-watermarked Oriental paper with chain-lines spaced at regular intervals.



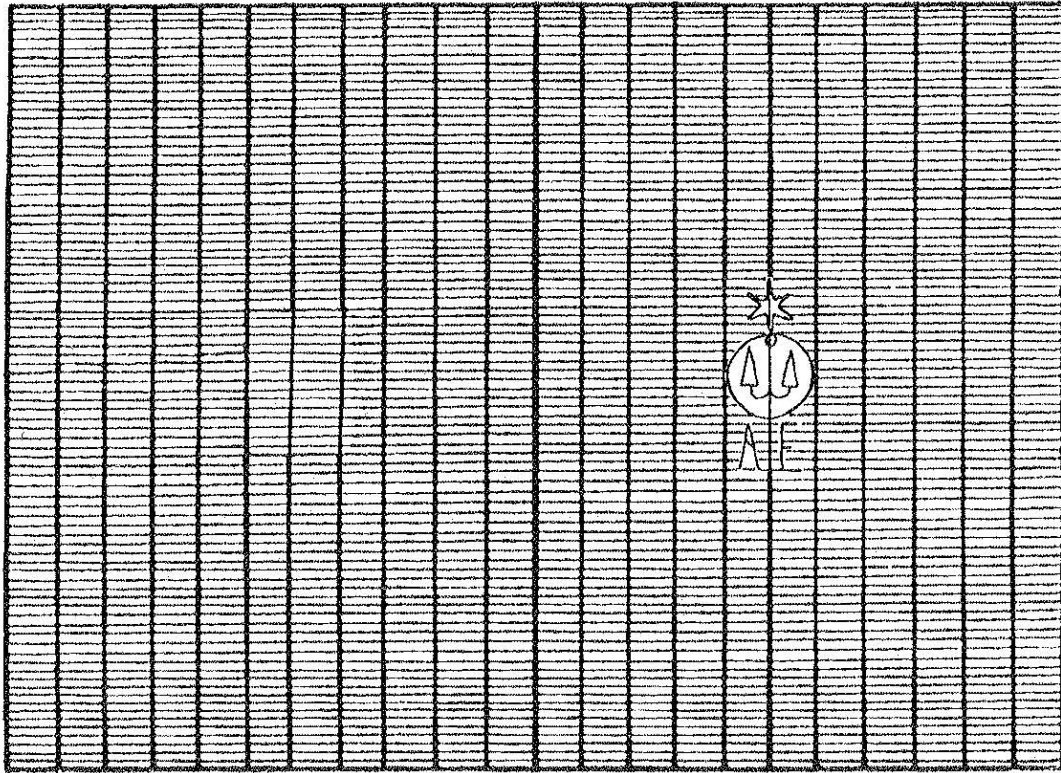
13. Non-watermarked oriental paper with chain-lines in groups of three.

- The features of the wire screen of the mould: chain lines are either evenly distributed or grouped (by 2, 3, 4, and 5) and their pattern can be used for a typological analysis (*cum grano salis!*).

The mould is made with natural fibers.

- Chain lines are not always clearly visible in Oriental paper and the different pulp used shows in the rather irregular size and distribution of the fibers

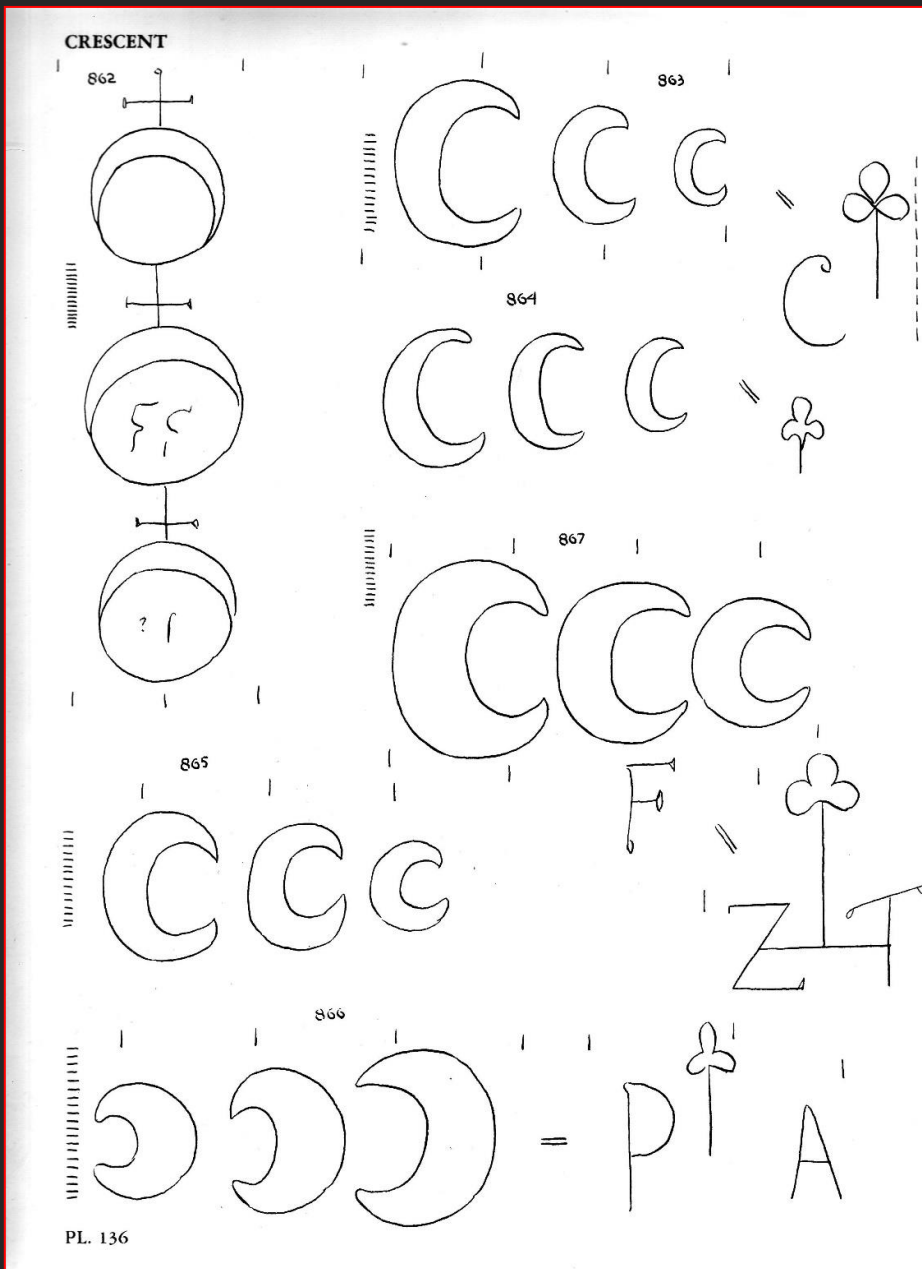
WESTERN PAPER



14. European paper with watermark in the form of an anchor.

Source: F. Déroche, *Islamic Codicology*, 2006, p. 58

- Great innovations in papermaking techniques were developed from 1264 onwards in Fabriano (Italy) and gradually spread all over Europe (composition of the pulp, coating).
- **Metal wire** was used for the wire lines, conferring a much more regular appearance to the wire lines, if compared with the result of the Oriental mould made of natural fibers.
- The most striking innovation is the inclusion of a watermark, that is the impression of a mark in the paper left by a metal wire sewn to the mould to create a **'LOGO'** (a 'countermark' could be added on the other half of the sheet).
- Western paper, either imported or imitated, became dominant in the Arabo-Islamic market, although local productions of Oriental paper survived in different areas.



TRELUNE: WESTERN WATERMARKS FOR THE ISLAMIC MARKET

Western papermakers realized the potential of the Arabo-Islamic market and designed watermarks that could appeal to the taste of their customers better than crosses and crowns.

The crescent was often used for this purpose, and one of the most common 'Islamic' watermarks combines three crescents, deriving from these the name of *trelune*.

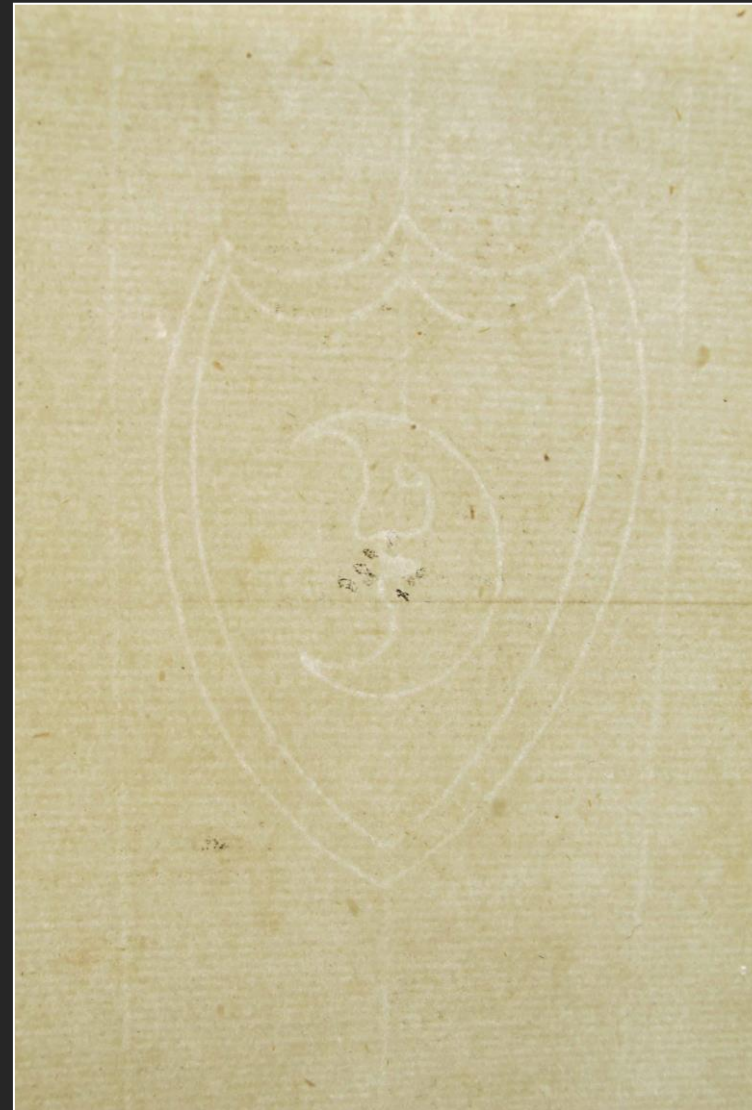
With a number of variations, this graphic motif was adopted by several papermakers (trademarks were still to be invented...).

TRELUNE & CO: SOME EXAMPLES

Sometimes watermarks are in 'uncomfortable' positions and taking a picture may not be easy. In any case, the light has to shine through the page in order to make the watermark visible. Also for this reason, the repertoires usually include drawings and not photos.



Three Crescent Moons
Watermark from the Grand
Imam Yousouf manuscript
collection (N'Guigmi, Niger,
2010)
Source: SOAS



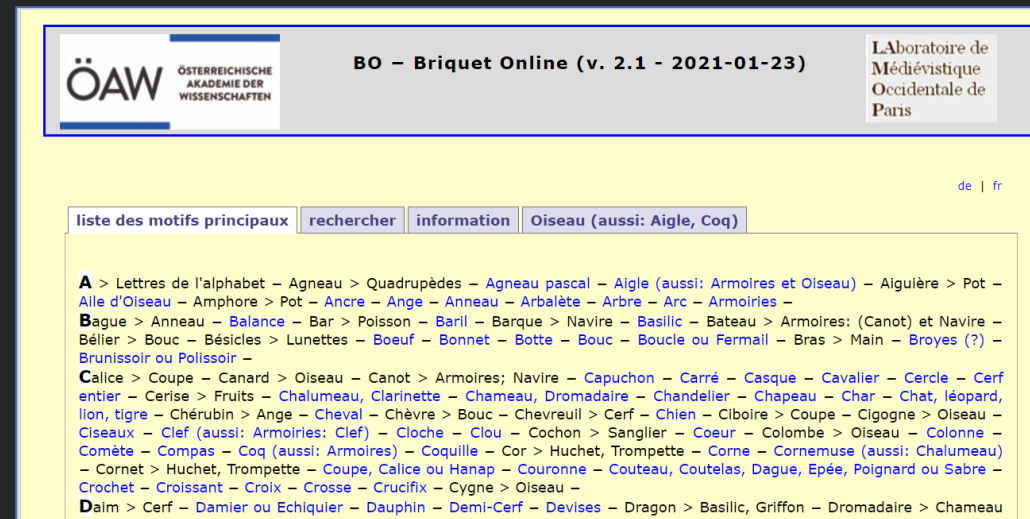
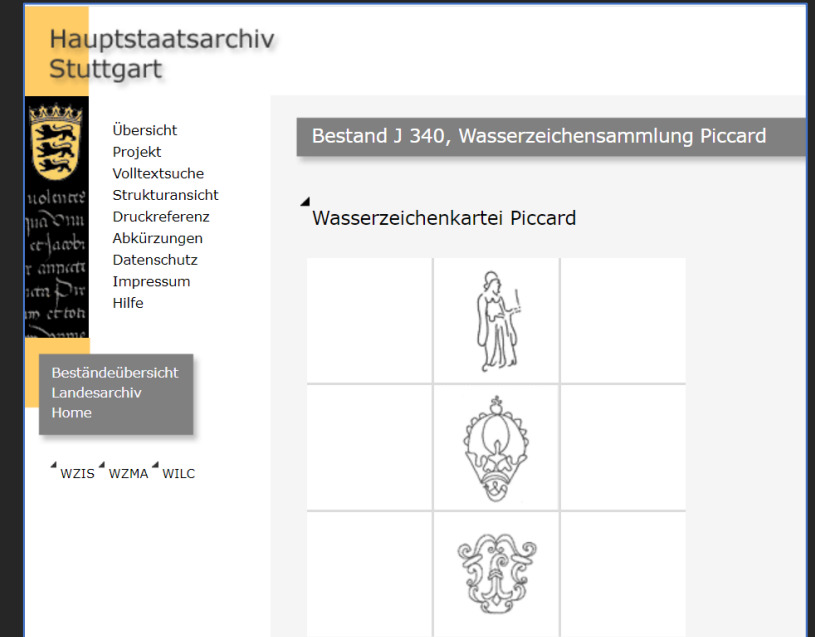
Abū Shubbāk, 'the
man in the window', is
the nickname of this
watermark in paper
made by Andrea
Galvani, from
Pordenone, Italy. This
leaf was used in a
manuscript copied in
Mecca in 1886.
Source: Witkam, *Copy
on Demand*, 2018.

WATERMARKS REPERTOIRES ONLINE

Piccard online — <https://www.piccard-online.de/start.php>



Wasserzeichen-Informationssystem (visual navigation) — <https://www.wasserzeichen-online.de/wzis/index.php>



Briquet online — <https://memoryofpaper.eu/briquet/BR.php?IDtypes=113&lang=fr>

CAVEAT ABOUT WATERMARKS

A watermark is a **clue** and not a smoking gun.

It is certainly important to check for its presence, but this information must be handled carefully, **recorded but not overstated**.

From the chronological point of view, it offers us a ***terminus (post quem)*** rather a sure way of dating a manuscript.

Mutatis mutandis, watermarks were placed on paper as a sort of 'logo' of the manufacture. **They were not originally meant as chronological landmarks or intellectual signatures**, even though sometimes we may use them to in the attempt to date a manuscript.

As for determining the provenance of paper, it is important to keep in mind that very similar graphic motifs were adopted by different manufactures, and their one-to-one identification is hardly possible.

Moreover, **from the 18th cent. onwards, the number of papers with watermarks greatly increased**, which does not allow for meaningful identification.

TINTED PAPER



The practice of tinting paper is already attested in the 5/11th cent., this use reaches its apogee in Iran and in the Ottoman Empire in the 9/15th cent., especially for anthologies and collections of poetry.

From the 7th/13th cent., in the making of luxury manuscripts, a coloured bifolium/foolium was included in the quire.

From the 9th/15th cent., different coloured leaves alternated in the same quire

Source: Treatise on Islamic Law, Ottoman Turkey 18th cent. Christies Auction closed on 23 April 2012.

Description of different dyes for coloured leaves

As for the dyeing of the leaves [in blue with heliotrope], for this you have to take the fresh juice, boil it with water, squeeze its juice in a clean vessel until the intensity of the blue satisfies you. Then soak the leaf in it and leave it until it has dried. Then burnish it and it will be excellent.

As for the beautiful oil-like yellow colour, if you want this dye, change it from the mentioned blue [into yellow] with pure saffron, until you have obtained a colour that pleases you.

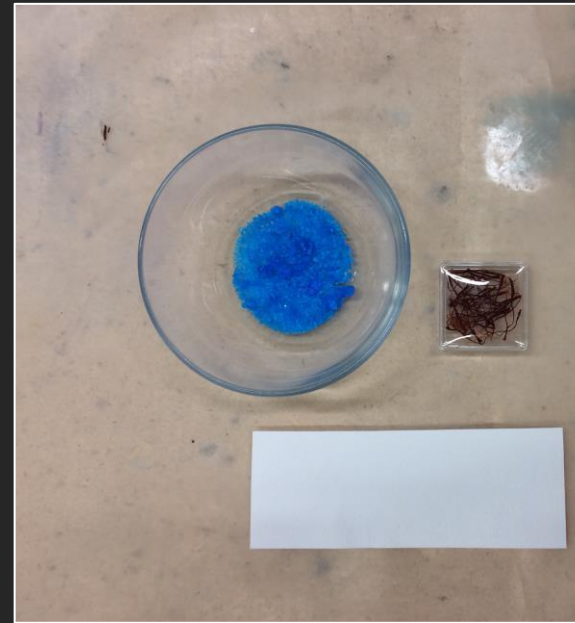
If you want a violet dye, temper the blue with the red of lac, until you have obtained a colour that pleases you.

As for the red dye, it is made with dissolved lac, and this is the apogee of beauty and colour.

As for the wood-like and the dark wine colour (purple red), it is made with burnt Sappan wood, and this is the apogee of beauty.

Replication of al-Zarkhūrī 's light green dye for leaves.

Replication & Photo by Marco Baschetti and Sofia Maccherozzi.



As for the young crop green dye, it is made with verdigris and saffron; temper it until you have obtained a colour that pleases you.

As for the yellow dye, it is made with saffron and lemon.

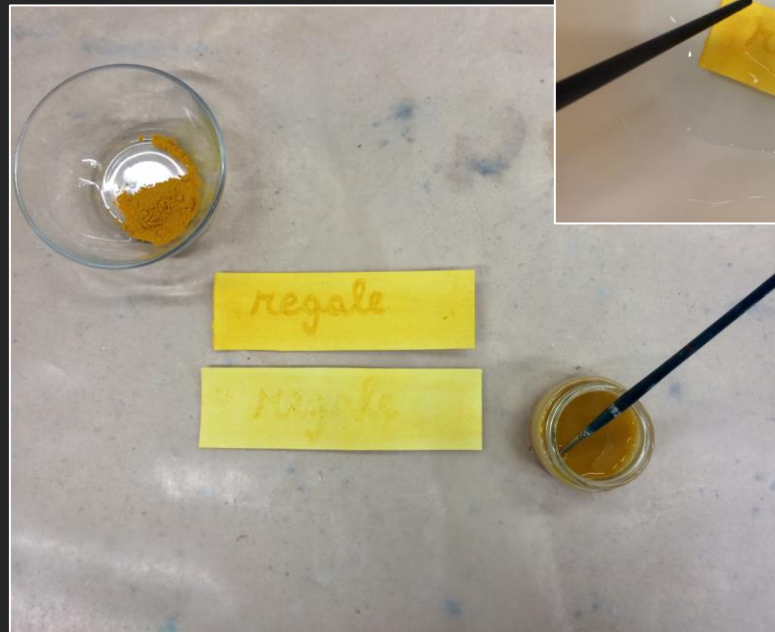
TINTED PAPER... FOR TRICKS

Description of the 'Royal' Ink

This ink is rather singular: the leaf must be dyed with yellow saffron and, when you immerse it in water, a writing with an unparalleled red colour will appear.

Preparation: take some curcuma and use it to write on the yellow leaf mentioned before, add some potash water and the writing will become red when you immerse the leaf in this water.

Al-Zarhūrī, *Kitāb zahr al-basātīn*, 9/15th cent.



Replication of al-Zarkhūrī 'Royal' ink
Replication & Photo by Marco
Baschetti and Sofia Maccherozzi.



REFERENCES I

- BLAIR, Sh. 2000. 'Color and Gold: the decorated Papers Used in Manuscripts in Later Islamic Times', *Muqarnas* 17, 24–36.
- BLOOM J. 2015. 'The Blue Koran Reviseted', *Journal of Islamic Manuscripts* 6, 196–218.
- BLOOM, J. 2001. *Paper Before Print* (New Haven/London: Yale University Press, 2001).
- DÉROCHE, F. 2009. *Qur'an of the Umayyads. A First Overview* (Leiden/Boston: Brill, 2009).
- DÉROCHE, F. 2006. *Islamic Codicology: an Introduction to the Study of Manuscripts in Arabic Script* (London: Al-Furqān Islamic Heritage Foundation, 2006).
- GACEK, A. 2009. *Arabic Manuscripts. A Vademecum for Readers* (Leiden/Boston: Brill, 2009).
- GINZBURG, C. 1984. "Morelli, Freud, and Sherlock Holmes: Clues and Scientific Method", in U. Eco and T. Sebeok (eds.), *The Sign of Three: Dupin, Holmes, Peirce*. Bloomington, IN, Indiana University Press, 81–118.
- GRÜNDLER, B. 2020. *The Rise of the Arabic Book* (Cambridge, Massachusetts: Harvard University Press, 2020)
- IBN AL-BAYṬĀR 2001, *Al-Ġāmi' li-mufradāt al-adwiya wa-l-ağḍiya*, (Beirut: Dār al-Kutub al-ʿIlmiyya, 2001)

REFERENCES II

- HEAWOOD, H. 1950. *Watermarks, mainly of the 17th and 18th centuries* (Hilversum: The Paper Publications Society, 1950)
- PRINCIPE, L.M. 2018. 'Texts and Practices: The Promises and Problems of Laboratory Replication and the Chemical Explanation of Alchemical Procedures', in E. Nicolaidis (ed.) *Greek Alchemy from Late Antiquity to Early Modernity* (Turnhout: Brepols, 2018), 159–170.
- RAGGETTI, L. 2016. 'Cum Grano Salis. Some Arabic Ink Recipes in Their Historical and Literary Context', *Journal of Islamic Manuscripts* 7, 433–494.
- RAGGETTI, L. 2021. *Un Coniglio nel turbante. Intrattenimento e inganno nella scienza arabo-islamica* (Milano: Editrice Bibliografica, 2021)
- SIJPESTEIJN, P. M. 2020. 'Arabic script and language in the earliest papyri: mirrors of change', *Jerusalem Studies in Arabic and Islam* 49, 294–338.
- WITKAM, J. J. 2018. 'Copy on demand. Abu Shubbak in Mecca, 1303/1886', in Anne Regourd (ed.), *The Trade in Papers Marked with non-Latin Characters* (Leiden: E.J. Brill, 2018), 206-226.

REFERENCES II

EI2

Sellheim, R. “Ḳirtās”

Witkam, J. J. – Khouri, R. G. “Raḳḳ”

EI3

Déroche, F. “Codicology”

BRIQUET ONLINE — <https://memoryofpaper.eu/briquet/BR.php?IDtypes=113&lang=fr>

PICCARD ONLINE — <https://www.piccard-online.de/start.php>

WASSERZEICHEN-INFORMATIONSSYSTEM (visual navigation) — <https://www.wasserzeichen-online.de/wzis/index.php>

BBC A History of the World in 100 Objects — <https://www.bbc.co.uk/programmes/b00sl6jb>

