

THREE FAITHS SCRIPTORIUM

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*Beautiful writing gives truth more clarity.
It demonstrates that when the pens are good,
the books smile.*

Saying of the Prophet Muhammad, quoted by
Ibn Badis (1007–1061)

WHAT IS A SCRIPTORIUM?

IN ITS BROADEST SENSE, a scriptorium is the place where scribes write and illuminate books or scrolls. In medieval Catholic and Orthodox Christian monasteries, it may have been an entire workshop dedicated to the preparation, writing, and decoration of manuscripts by numerous scribes. In the traditions of Judaism and Islam, where the writing of manuscripts is a more solitary practice, the nature of a “scriptorium” varies greatly. It is sometimes simply a slanted desk or a flat table, surrounded by the implements and materials necessary for the making of a book or scroll.

PARCHMENT & PAPER

WHILE THE EARLIEST SCRIBES WROTE on papyrus, by the 4th century CE they had begun to use parchment for the pages of books. Parchment is animal skin that has been specially prepared to be used for writing. Vellum is calfskin parchment. Torahs require parchment made from kosher skins, and Qur'an's require parchment made from halal skins, following the dietary laws of their respective religions. Between 62 and 200 skins are required to produce each parchment Torah, Bible, or Qur'an.

Paper became the preferred writing medium by 1000 CE in the Ottoman Empire. Paper was created using a pulp made from flax or hemp. Using a deckle and mold, artisans fashioned the pulp into sheets. The dried paper was then sized, or coated, with a mix of alum and egg white and polished once it had dried again.

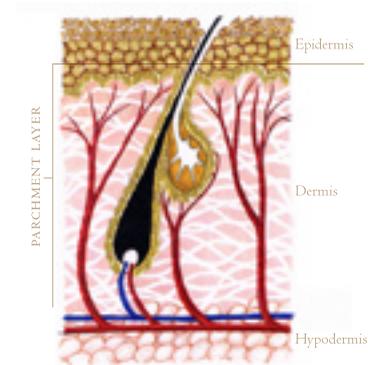
With the rise of the printing press in the late 15th century, linen rag paper, sized with animal hide glue, largely replaced parchment throughout Europe. However, some of the highly decorated early printed books continued to be printed on parchment. Parchment volumes tend to survive the centuries better than paper ones.

left: It is often possible to see parchment's pigmentation and veins, even in a photograph. DNA testing has recently been used on some manuscripts to determine the species of the animal the parchment was derived from.

Bible, in Latin. Cambrai, ca. 1280. Manuscripts and Archives Division

right: Paper became a popular medium for Islamic manuscripts centuries before it did for Jewish and Christian books.

Qur'an. Iran or Afghanistan, 11th–12th century. Manuscripts and Archives Division



PREPARATION OF PARCHMENT

When an animal hide is prepared to make parchment, the epidermis is scraped away, removing hair, pigmentation, and oils in the follicles. The remaining dermis is the parchment layer.

Parchment can be split to make it thinner. The majority of parchment used by Jewish scribes today is *klaf*, the top grain layer of split skin. This is in contrast to European split skins, where the top grain is used for leather, and the bottom for very thin parchment. Islamic scribes do not usually write on parchment made from split skins.

left: Diagram of skin by The Gorst Studio, 2010

middle: Flax from *Hortus Romanus juxta systems Tournefortianum Paulo*, edited by Niccolò Martelli. Rome: Sumptibus Bouchard et Gravier, 1772–1793. Rare Book Division

right: Papermaking from *Theatrum machinarum universale* by Tieleman van der Horst. Amsterdam: P. Schenk, 1736. Science, Industry and Business Library



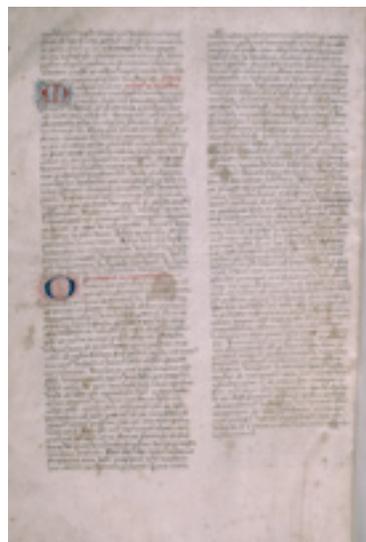
FLAX

Though the flax plant is thin, it is very strong. It is 20% stronger when wet, and five times stronger than cotton. The raw flax fibers can be spun into thread and woven into a cloth called linen. In Renaissance Europe, linen rags were used to make paper. In the Ottoman Empire, flax was soaked in a caustic paste to weaken the fibers before they were hammered by hand to make paper pulp.



PAPERMAKING IN A RENAISSANCE MILL

- 1 The waterwheel's shaft drives the hammers.
- 2 The hammers beat the old rags into pulp.
- 3 The pulp is put into a vat of water. The papermaker dips the deckle into the pulp vat and forms a sheet of paper.
- 4 The wet, newly formed paper is flipped onto a piece of felt. These pieces of felt are stacked one on top of the other. Once there is a large enough stack, the felts are placed in a large press to squeeze out the excess water.
- 5 The delicate unsized paper, called waterleaf, is hung to dry.
- 6 To strengthen the paper, the dry sheets are then dipped in parchment gelatin and hung to dry a second time.



WHO IS A SCRIBE?

SCRIBES ARE ARTISANS who write texts by hand. Some scribes dedicate themselves to writing sacred texts and, guided by tradition and religious law, they are expected to live devout lives. They are also expected to write each letter with the proper intention; in so doing, they transform what might otherwise be a commonplace act into a sacred undertaking. Writing a Torah, Gospel, or Qur'an requires a scribe to have deep knowledge and a profound level of commitment. After years of religious study, calligraphic practice, and specialized training, a scribe is ready to begin a first manuscript.



Seen here are scribes of all three Abrahamic faith traditions surrounded by the tools of their trade: inkwells, quills, reeds, and pen-knives, all used in the creation of manuscript texts.

top left: Jewish scribe from *Jüdisches Lexikon* by George Herlitz and Bruno Kirschner. Berlin: Jüdischer Verlag, ca. 1982 (ca. 1929). General Research Division

top right: Saint Jerome from *Horae et Psalterium*, ca. 1450. Spencer Collection

bottom: Turkish scribe from *The Oriental Album*. New York: A. D. F. Randolph, 1862. Miriam and Ira D. Wallach Division of Art, Prints and Photographs, Art and Architecture Collection



In the past, scribes not only had to be expert calligraphers, but also needed to have a comprehensive knowledge of how to make inks and paints, prepare parchment, polish paper, and locate the many rare resources necessary for them to ply their trade. Today's global marketplace has changed that. Scribes can now buy materials, some of which already conform to religious specifications, instead of having to create everything from original sources.



PENS, INK & WRITING

BEAUTIFUL CALLIGRAPHY DEPENDS ON the harmony of pen, ink, and writing surface. Pens can be fashioned from feathers, wood, reeds, and bamboo. Islamic scribes prefer reeds, some of which are cured in dung for four years to harden them. The harder-edged reeds make crisper letters. Some Sephardic Jews also prefer reeds.

Western Christian and Jewish scribes use quills made from flight feathers (the first four feathers on a bird's wing) that have been soaked, plunged into hot sand, and cut to a broad edge. When dipped into ink, quills soften and caress the writing surface, which makes it easier for a scribe to create clean lines.

Carbon ink (often made from soot) and gallotannic ink remain scribes' preferred inks. It takes an Islamic scribe about thirty hours to grind soot ink smooth enough for use in a reed. Gallotannic ink is made from gum, copper salt or iron salt, and oak galls, which are growths formed by oak trees as a reaction to wasp eggs laid in their leaves or stems.

RESTORING THE REEDS

For centuries, many Islamic calligraphers preferred reeds that came from marshes in southern Iraq, traditionally believed to be near the site of the biblical Garden of Eden. In 1991, embankments and canals were built that diverted water from these marshlands. Over 70% of the marshes had died by 1993. Today, there is a project to restore the southern Iraqi wetlands, and the reeds along with them.



View of the traditional Garden of Eden, looking east across the Euphrates, from the *Pagaent of America Collection*, n.d. Miriam and Ira D. Wallach Division of Art, Prints and Photographs, Photography Collection



Miniature of John the Evangelist from a Book of Hours written by Jean Peyer, 15th century. Manuscripts and Archives Division

CALLIGRAPHY

CALLIGRAPHY CAN BE DEFINED as the art of fine hand-lettering. The quality of calligraphy depends on the proper use of the flat-edged calligraphy pen.

If you try your hand at calligraphy, remember these four guidelines:

- 1 Hold the pen's flat writing edge at a consistent angle to the writing lines.
- 2 Write Arabic and Hebrew letters from right to left, English and Greek letters from left to right. Direction matters.
- 3 Write letters using the established number of strokes, moving the pen in the direction indicated.

- ✦ 6 4 Make each pen stroke carefully and deliberately. Some parts of letters should be written more slowly than others.

Take your time, and practice to achieve good results.



GREEK

This is Greek Uncial, one form of Greek calligraphy. It is written left to right, just like English, and entirely in capital letters. By contrast, ancient Greek was written right to left, similar to Hebrew and Arabic.

From about 600 BCE, Greek scribes began to write *boustrophedon*, meaning "as the ox plows": right to left, then left to right, then right to left, and so forth. Around 350 BCE, Greek came to be written only from left to right, as it is today.



HEBREW

This is Hebrew Stam, one form of Hebrew calligraphy. It is written from right to left, only using capital letters, none of which may touch.

Some letters change shape when used at the end of a word. All Hebrew letters also have numerical values.



ENGLISH

This form of European calligraphy is named Latin Black Letter, and is commonly referred to as Gothic. It is written from left to right, using both capitals and small letters. The letters can touch. Certain letters have numerical values in the Roman numeral system.



ARABIC

This is Arabic Naskh, one form of Arabic calligraphy. It is written from right to left. It is also written only in capital letters, because there are no lowercase letters in Arabic. Letters change shape when used at the middle or end of a word. Arabic letters can touch. All Arabic letters also have numerical values.



PIGMENTS & PAINT

PIGMENTS AND DYES ARE the sources of color that, when mixed with binders and fluids, make paint. When illuminators make paint, they use water and ox gall as fluids. They must work with binders durable enough to survive the constant abrasion caused by readers turning pages.



Today, the natural pigments and dyes available globally continue to be created using materials available to artisans according to local climate, geography and geology. Natural sources for reds, blues, and purples are rare. For example, Afghanistan is the original source of Lapis Lazuli, the only natural ultramarine blue (which means “beyond the sea”). The rare pigment Dragon’s Blood is the deep red resin from the *Draconia draco* tree found in Africa and Asia.



COLORS FROM PLANTS

Colors can be brewed from a plant’s leaves, berries, roots, stems, and stigmata. An illuminator’s apprenticeship used to include learning which plants to boil, soak in alcohol, ferment, or precipitate. Some color recipes were simple: to make the color yellow from saffron, put saffron stigmata in glair and soak overnight.



Others, like the recipe to make a red dye from the madder plant, were more time-consuming and complex: grow the madder for two years, harvest the roots, dry them for two years, and then ferment them.

left: Saffron from *Hortus Romanus juxta systems Tournefortianum Paulo*, edited by Niccoló Martelli. Rome: Sumptibus Bouchard et Gravier, 1772–1793. Rare Book Division

right: Madder from *A Curious Herbal* by Elizabeth Blackwell. London: Printed for John Nourse, 1751. Science, Industry and Business Library



COLORS FROM EARTH

Colorful earths—clays, dirt, and stone—must be processed before they can be used as pigment. First, all vegetal matter that can rot must be removed. The earth must then be crushed to a fine powder, sifted, and washed in water to separate the finest earth from the coarsest.



BINDERS are glues that are mixed with colors to create a flexible paint film that will adhere to the page. Tempera (from egg yolk), glair (from egg white), size (gelatin from animal skin), or gums (from tree saps) are used separately or in combination to make binders for book paint. Adding fresh fig tree sap, a natural form of latex, makes paint more flexible.



left: Detail from “Looking Northeast from Mojave Point, Grand Canyon, Arizona.” Detroit Publishing Company, 1898–1931. Miriam and Ira D. Wallach Division of Art, Prints and Photographs, Photography Collection

middle: Fig branch from *Pomona Italiana* by Giorgio Gallasio. Pisa, 1817–1839. Rare Book Division

right: Gum tragacanth from *Hortus Romanus juxta systems Tournefortianum Paulo*, edited by Niccoló Martelli. Rome: Sumptibus Bouchard et Gravier, 1772–1793. Rare Book Division

GOLD & ILLUMINATION

ILLUMINATION IS THE HIGHLY SKILLED artistic decoration of manuscripts by the expert hands of scribes. Many illuminated manuscripts include gilding, the application of gold. The gold can take two forms: shell gold, which is a finely powdered gold paint, or gold leaf, which is solid gold hammered into sheets about 1/250,000th of an inch thick—so thin that you can see through them.



Psalter (De la Twyere Psalter), in Latin. England, after 1304–ca. 1310. Spencer Collection

Religious traditions and regional customs often dictate the use of illumination and which glues may be used. For example, it is forbidden to use gold or any color in a Torah, and Cistercian monks restricted the use of gold or color in their Bibles. Jewish and Islamic scribes avoid gilding that uses hide glues made from animals that are not kosher or halal, respectively.

A manuscript could be written and illuminated by one person or a group of specially trained artisans: a parchmenter to prepare the parchment, a scribe to draw lines, another to write text, a rubricator to write the red or blue text, an artist to draw margins and decorate initials, a gilder to apply the gold leaf, a limner to paint the margins, and a miniaturist to draw and paint the miniatures.

DECORATIVE SCHEMES

Jewish and Islamic restrictions on figurative art have resulted in wonderfully inventive decorative schemes, including geometric patterns, arabesques, and micrography, which is very small writing that forms floral and geometric designs. These designs have been adopted by Christian manuscript illuminators as well.



SHELL GOLD

Shell gold derives its name from the packaging in which it was traditionally housed. Scribes stored dried gold shell paint in mussel shells, and merchants sold it in scallop shells. Shell gold is made by combining finely powdered gold and a binder, either gum arabic or gelatin.



left: *Anwar al-Tanzil* (Lights of Revelation) by Al-Baydawi. Istanbul (?), Ottoman Empire, AH 976 (1569 CE). Manuscripts and Archives Division

right: King David highlighted with shell gold, from a *haggadah* written by Jacob Sofer ben Judah Leib Shamash. Hamburg, AM 5491 (1731 CE). Dorot Jewish Division



GILDER'S TIP

The best gold leaf is hammered by hand from a solid piece of gold. It takes an average of two days and 200,000 strikes of a hammer weighing between 6.5 and 11 pounds to make gold leaf. Gold leaf can be either patent or loose. Patent leaf is pressure-adhered to a thin paper.

Loose leaf is only 1/250,000th of an inch thick, and moves with any tiny air current. Aware of every breath and action, a gilder must take great care not to cause the gold to fly away. The extreme thinness of loose gold leaf makes it necessary to pick it up using a gilder's tip or tweezers.

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The Library Shop

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Exhibition Website

exhibitions.nypl.org/threefaiths

Docent Tours

Free public tours of *Three Faiths* are conducted Monday through Saturday at 12:30 p.m. and 2:30 p.m. and Sunday at 3:30 p.m. All group tours, including school groups, must be scheduled well in advance. Unauthorized tours are not permitted. To schedule a tour, call 212.930.0650. Group tour fees are \$7 per person (\$5 for seniors); there is no charge for full-time students.

Hours and General Information

The exhibition is open Monday–Saturday, 10:00 a.m.–6:00 p.m., and Sunday, 1:00 p.m.–5:00 p.m. Closed federal holidays, Monday, November 1, and Sunday, December 5. For more information on hours, current and upcoming exhibitions, programs, and services at The New York Public Library, call 917.ASK. NYPL (917.275.6975) or visit the Library's website at www.nypl.org.



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