

Medieval Manuscript Production: Scribes, Illuminators and Their Methods of Work

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Medieval manuscripts were made during a period of about 1500 years between the late Roman Empire and the high Renaissance all over Europe and in many varied places ranging from hermits' cells in the mountains to commercial production lines in the cities.

- As Christianity advanced across Europe in the Dark Ages, it brought with it the Mediterranean skills of reading and writing. The rule of Saint Benedict, around the 9th century, encouraged monks and nuns in the use of books, and the monasteries and religious communities needed libraries. Teaching children to read was one of the parochial duties of the church.
- Until the 11th or 12th century, most manuscripts were probably made in monasteries. Monks sat in cloisters copying and studying texts, but monks had other duties as well. Attending chapel up to eight times a day and taking turns with other tasks around the monasteries, schools, kitchen, guest house, and garden. Some monastic manuscript-making projects could extend over years. An 11th-century scribe might achieve three or four moderate-sized books a year.
- There wasn't much private ownership of books at that time, and religious communities simply produced manuscripts for use by themselves and their dependants. They could hope to have a fairly comprehensive collection with only a few hundred books.
- By 1100 the number of texts were increasing, and the monks were having some trouble keeping up. They began to employ secular scribes and illuminators to collaborate in manuscript production in order to keep their libraries up to date.
- In the 12th century early universities in Paris, Bologna, and Geneva introduced education, which was more or less independent of the monasteries, causing an increase in the number of authors writing books. It became impossible for the monastic libraries to keep up, and it became more and more common for people to want to own books of their own—from students seeking textbooks to ladies wanting to own beautiful Books of Hours.
- By 1200 there is evidence of secular workshops writing and decorating books for sale to the laity, making new books as well as trading in second-hand books.
- By 1300 it was exceptional for monasteries to make their own manuscripts. They bought from the booksellers like everyone else, with the exception of the Carthusians and some of the religious communities in the Netherlands.
- By the 15th century if a layman wanted a Book of Hours he went to the booksellers and commissioned one. He then subcontracted with scribes, illuminators, parchment makers, and binders—all of whom were paid by the work, not by the hour, and were often members of guilds. A 15th-century scribe could write one book in a matter of days. (Giovanni Marco Cinico, often referred to as “Velox,” or speedy, boaster that he

could complete a manuscript in 52–53 hours.) An illuminator could complete 2 to 3 miniatures a day. Remember, a professional artisan who knows his job and repeats it throughout a lifetime can often work extremely fast.

THE ILLUMINATED BOOK

Strictly speaking, an “illuminated” manuscript contains gold or silver, which reflects the light, as opposed to a “decorated” manuscript, which only has painted designs. The scale or lavishness of decoration was usually determined by the importance of the text. Major divisions were generally more elaborate and lesser ones less so. Types of books that were often decorated or illuminated:

- Bibles
 - Gospel Book (the first four books of the New Testament)
 - Psalters (Book of Psalms)
 - Apocalypse—more in demand around 1000, 1260, and 1500.
- Breviary—this book included all the services of divine office.
- Missal—a liturgical manuscript to be read at the altar.
- Choir books
- Pocket Bibles—became more popular in Paris in the 13th century.
- Book(s) of Hours—books of Psalms of penitence
 - became more popular in the second quarter of the 14th century.
 - production increased in the 15th century for the use of the middle class.
- Secular and vernacular texts—these were histories, stories of travel, poems, etc.; seen from the 12th century on.
- Romances—e.g., Arthurian legend, romance of Alexander, etc.
- Bestiaries, herbals
- Advice to women
- Genealogy
- Student texts

MATERIALS USED

- Techniques and materials used in the production of medieval manuscripts did not change much throughout the centuries.
- We can determine the kinds of materials used by physical examination and spectrometry as well as from period instruction manuals (master manuals). Three such manuals are:
 - Theophyllis—12th century
 - Cennino Cennini—late 14th century
 - Gottingen manuscript—mid-15th century

These had instructions on everything from preparing the parchment for use to how to make quills, inks, pigments, gesso, and apply gold leaf.

PARCHMENT

Papyrus was used in the production of scrolls prior to the use of parchment or “vellum.” Parchment, which is made of animal hides, was discovered around the end of the 1st century A.D. and was made popular by the Christians. It was found to be preferable to papyrus in the production of books because it could be folded and bound into the more

compact and durable “Codex” (book form we use today). Papyrus was used to make scrolls because it was too brittle to make a proper codex. Whereas the use of papyrus scrolls lingered until the 7th and 8th centuries, parchment was used almost exclusively by the 4th century on.

As stated before, parchment is made from the skin of an animal. The process of transforming the animal skin into a clean, white material suitable for writing medieval manuscripts was the task of the “parchment-maker” or parchmenter. These professionals existed throughout the Gothic period and probably back into the Romanesque and Carolingian ages.

The earliest documentary evidence of book production in Oxford is a land charter dating from not long after 1200, witnessed by a scribe, three illuminators, and two parchmenters. In the late middle ages, parchment makers were among the artisans and tradesmen of every town.

In normal usage, the terms *parchment* and *vellum* are interchangeable. “That stouffe that we wrytte upon: and is made of beesties skynnes: is somtyme called parchment somtyme velum” (William Horman, early 16th century).

The word *parchment* is derived from the city of Pergamum, where it is said to have been invented in the second century B.C. during a trade blockade on papyrus. The word *vellum* has the same origin as *veal*. In other words, calf; and it is strictly the writing material made from cow skin. It is practically impossible to tell the prepared skin of one animal from another. I doubt that medieval scribe and readers of manuscripts either knew or cared what the animal had been when it was alive (though different animals and different hair types could produce different colors of skins).

Parchment is more durable than leather and, properly prepared, is soft and velvety and easy to fold. Within moderation, a bit of handling is said to be good for parchment because, like leather, it responds well to movement and can lose suppleness if untouched for centuries.

A brief description as how to prepare parchment is as follows:

- Wash it for a day and a night in clear running water.
- Soak it in lime water for 3–10 days for the hair to rot and fall out.
- Scrape the sides clean of hair and flesh.
- Soak in lime water again.
- Scrape it again.
- Rinse in clear running water for 2 days.
- Stretch it and scrape and scrape and scrape.
- After it’s dried, sand it, pumice it, then it can be written on.
- The flesh side of the parchment is whiter than the grain side. The pages in each book were arranged so that flesh side faced flesh side and grain side faced grain side.

PAPER

Paper was invented in the orient around the 2nd century B.C. The knowledge of its manufacture and use came through the Arab world to the West. The term *paper* was derived from the word *papyrus*, although it is not made from the same material. Medieval paper was made from linen rags and was much stronger and more durable than modern wood pulp paper. After it was made, sizing was added by dipping it into a pot of animal

glue, which was made by boiling down scraps of vellum. Sizing made the paper act much like vellum, preventing ink from running or bleeding into the paper.

There were established paper mills in Spain and Italy by the 13th century, in France by 1340, and in Germany by 1390. Paper was primarily used for the production of small, cheap books, because it was considered inferior to parchment. It was the invention of printing in the 1450s that transformed the need for paper. By the 15th century, it was so much cheaper than parchment that it was used for all but the most luxurious of books.

PENS

Quills were made from five or so outer wing pinions of a goose or swan. If a scribe was right-handed, he would use feathers from the left wing—they made a better curve.

A brief description of how to make a pen:

- Pluck feathers fresh from the bird.
- Trim the barbs.
- Harden them by soaking them in water and plunging them into heated sand.
- Scrape away the outer leather.
- Pare away the tip.
- Slit the tip.

A good scribe needed several pens available. He would sharpen a pen up to sixty times a day. Scribes wrote with the pen in the right hand and a pen knife in the left. The knife served the purpose of not only sharpening the pen, but correcting minor errors and holding the parchment down, because it tends to warp with humidity.

MEDIUMS

A medium was used to thicken, suspend, and help both pigments and inks adhere to the parchment surface. There were several kinds, but the two most commonly used were egg glair and gum arabic. Egg glair is made from rotten egg whites and is waterproof. When glair is dried, it is impervious to air and water; therefore, it was used to seal toxic or tarnishable pigments (e.g., a lead was often applied before and after the paint was applied to prevent interactions). Gum arabic is sap obtained from the acacia arabica tree and refined by boiling it like our modern maple syrup. Gum is not waterproof. Gum water was probably the most used for illumination up to the 15th century, and it could be made from resins of the cherry, plum, or almond trees as well as the acacia tree.

GISSO

Gesso was used as a glue for the application of gold leaf. The making of gesso was described at some length by both Cennino and the Gottingen model. Gesso, by these descriptions, was made of a mixture of slaked plaster of paris, white lead, a little Armenian bole (for pink color), sugar or honey (which attracts moisture), gum, egg glair, and water. It was applied with a quill or brush and allowed to dry for a day. It was then reactivated with a hot breath before applying the gold leaf. It was considered best to apply the gold leaf on damp days.

GOLD LEAF

Gold leaf was made by beating gold nuggets into gossamer thin leaves. It was said that a good “gold beater” could make 145 leaves from one ducat. Gold leaf was rarely used prior to 1200, with the exception of lavish, princely documents. One reason could have been the fact that monastic cloisters were open to the wind. A proper sheet of gold leaf is so light that one little puff of air can send it floating across a room. Gold leaf was applied before any painting was done because it would also stick to the medium used to suspend the paints. “Shell gold” was also used to illuminate manuscripts. Shell gold is made of powdered gold suspended with gum. It was cheaper and could be applied with a pen or brush. Shell gold allowed for finer detail and could also be applied after paint had been. Both were burnished with a burnishing tool, which was traditionally made from a dog’s tooth. Burnishing brought the gold to shine.

PIGMENTS

Medieval pigments, like many other modern pigments, were made of organic materials, minerals metals, and bricks. Many were poisonous, and their preparation was also poisonous. I could go on and on describing the many different pigments that were used in the middle ages as well as the process used to produce them, but in interest of time and space, I will only cover the most popular/favorite ones of the time.

Purple was an extremely valued pigment (in the early middle ages, it was considered a royal color) and it was extremely difficult to obtain and process. It was made from the bodies of shellfish obtained from the shores of Phoenicia. The process was long, arduous, and odorous, and it took several pounds of material to make just a few ounces of dye. There were other methods of obtaining purple dye, like mixing a blue with a red, but they were not as brilliant and were not well suited for use as pigments.

Blue or ultramarine was the next most popular pigment, or color of choice for the medieval illuminator. Ultramarine was made by grinding lapis into a fine powder, separating the different colors from the stone by hand and mixing it with various binders. One could obtain different shades of blue by doing this. There were basically two distinct hues used by medieval painters: a light (warm) shade and an intense (cool) shade. The warmer shade was used for clothing, sky, etc. The cooler, more rare, shade (almost tending toward purple) was used for royal or divine robes or for decorative backgrounds that were embellished with gold.

Red There were several sources for red pigments, but the two most popular were orange tetroxide and red mercuric sulfide. Both were chemically manufactured and both were called by the name “minium” (after which the term *miniatures* was obtained). Orange lead is made by roasting powdered white lead in an uncovered iron pan until it turns yellow and then orange-red. It tends to tarnish. Orange-red was used most frequently in early period illumination. Red minium, or mercuric oxide, was much preferred and was more commonly known as *vermillion*. It was made by cooking mercury and white or yellow sulfur in a clay flask surrounded by a charcoal fire. The smoke coming from the flask is watched until it progresses from a yellow to a red color—then it is done.

Yellow There were many sources for medieval artists to obtain yellow pigments. The term *ochre* is usually used to refer to a golden color and was usually obtained from natural deposits, such as hydrated iron oxides and clay minerals. The favorite yellow of medieval illuminators was “orpiment,” which is a sulfide of arsenic. It is a clear, lemon yellow in color. It occurs naturally and can be made by alchemists. Orpiment can react unfavorably with other pigments and can turn black from exposure to air. It was recommended to temper it with size (rabbit-skin glue) to prevent these things from happening.

White The most common form of white was “lead white.” It was made by exposing lead sheets to vinegar or urine for several weeks in a warm, dark casket, preferably underground. The white produced in this manner was extremely opaque and mixed easily with other media, but it was highly reactive when exposed to air and other pigments, especially orpiment. It is also very poisonous, especially when grinding. Gypsum (plaster of paris) and lime were also popular sources of white, but the process of “slaking” them is long and tedious, taking up to three months before they are usable.

Ink and Black Pigments Ink is a liquid pigment that is thinner than paint. Inks are basically composed of a dark pigment mixed in a liquid medium, and they are organic rather than mineral. Carbon inks can be made from a variety of burnt substances (charcoal, bones, rags, wood) or from lamp soot that is produced by burning an oil-lamp flame against a piece of glass (linseed oil seems to work best). Carbon inks are opaque and dense, but need to be tempered to make them stick to the page. Otherwise they flake off like dust when the water dries. Oak galls, when prepared appropriately, make an excellent ink. They make a fine, dark permanent black. Walnut hulls produce a warm, dark brown to black ink, which can be made darker by adding carbon black. Both of these are produced by crushing and grinding them, boiling them in water, and allowing them to ferment for several months. The most popular colored inks were red and blue and some green. They were used to highlight the beginning of important phrases.

IN CONCLUSION

I have tried to give an overview of manuscript production in the middle ages. I have covered a little about its history, the people, and the materials involved in producing them. I want to stress, however, that this is only the tip of the iceberg. There is a wealth of information that I did not even bring to cover. I would take much more time than we have here. If you are interested in pursuing this field of research, I have listed a few books in my bibliography, which I am sure that you will find very helpful. Thank you, and enjoy!

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