

Between then and now — A meandering memoir

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Abstract

I was asked to talk about something interesting—perhaps how I came to develop the memoir class. Following this suggestion the first part is about how I became involved with L^AT_EX and friends and why the memoir class. To me all this is not particularly interesting as it falls into the personal ‘been there, done that’ category. What I find more interesting is how the written word has been presented. The second part briefly describes this, starting four millenia ago with Cuneiform and, with a few stops along the way, ending at recent times.

memoir, *n.* a fiction designed to flatter the subject and impress the reader.

With apologies to Ambrose Bierce

We are the inheritors of an ancient tradition, one that goes back for more than four thousand years. It has taken me a long time to start to appreciate it, and had it not been for L^AT_EX I never would have realised that it was there.

1 Neophyte

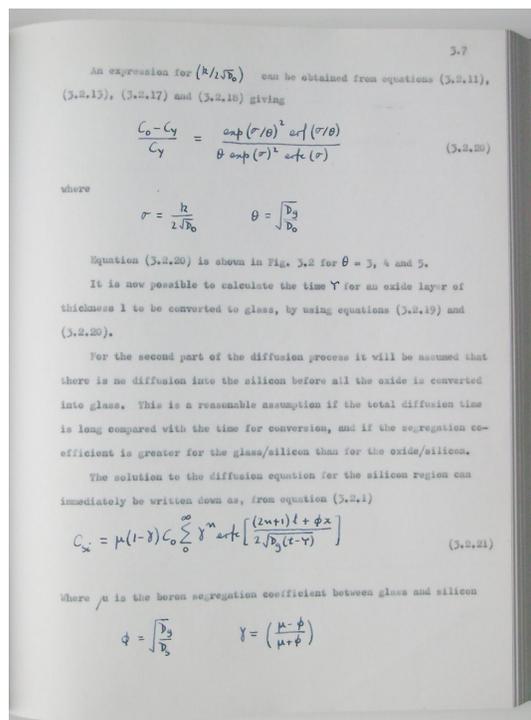
In 1973 I had to submit six bound copies of my thesis—one for my supervisor, another for the external examiner, the third for the University library, a fourth for myself, and two spare in case something untoward happened.¹ A very kind secretary typed it for me, one original and five carbon copies. I had to insert all the mathematics by hand (see Figure 1, original size 7¹/₂ by 10 inches), and in the last carbon copy that was about all that was legible.

Round about 1980 I came across a computer program called RUNOFF that would do a reasonable job of printing technical reports, provided you didn’t mind adding in any mathematics by hand and you could overlook the fact that all we had was a dot matrix printer with too few dots.

Relief came in 1985 when I was introduced to L^AT_EX; no more hand insertions, justified text, different fonts, a professional look, and no looking back.

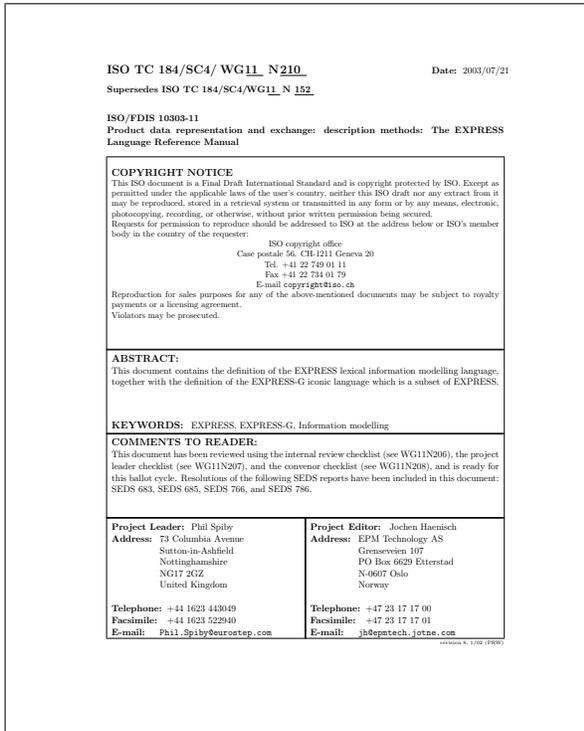
I used it for all my internal company reports and paper submission to journals—this was before we could ship documents around electronically so in

¹ It did. The binder bound one copy with some pages upside down and others back to front!



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Figure 1: Page from PhD thesis (1973)



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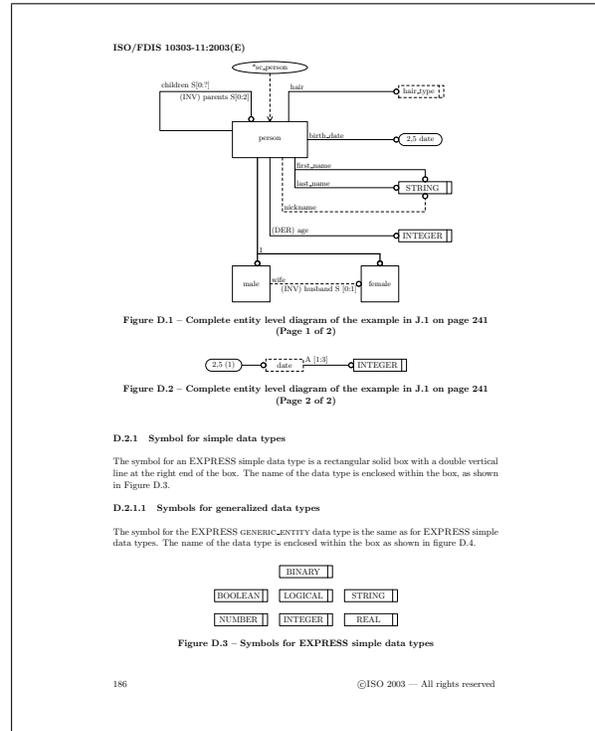
Figure 2: Cover sheet for ISO/WDIS 10303-11:2003

some sense it didn't matter what you used to create them as they would either be copied or retyped.

I became involved in the development of the International Standard 10303 *Industrial automation systems and integration — Product data representation and exchange*, commonly known as STEP, both as the editor and as a technical contributor. ISO had strict rules about the layout of the typewritten documents we would be submitting, which they would then retype for their publishing system, merely adding typos as they went along. We managed to persuade them to take camera-ready copy so they could eliminate the typo introducing stage. We used L^AT_EX, of course, as it produced high quality output and, further, it was non-proprietary and we were working in a non-proprietary area.

The draft standard grew to about 2000 pages before we were allowed to split it up into parts to be published separately. Some part editors, for whatever reason, started to use wordprocessors instead of L^AT_EX. In the meantime I had developed a class for ISO standards in general (Wilson, 2002a), and ISO 10303 in particular (Wilson, 2002b).

Figure 2 shows the cover sheet for the part of the standard defining the EXPRESS and EXPRESS-G information modeling languages. The cover sheet

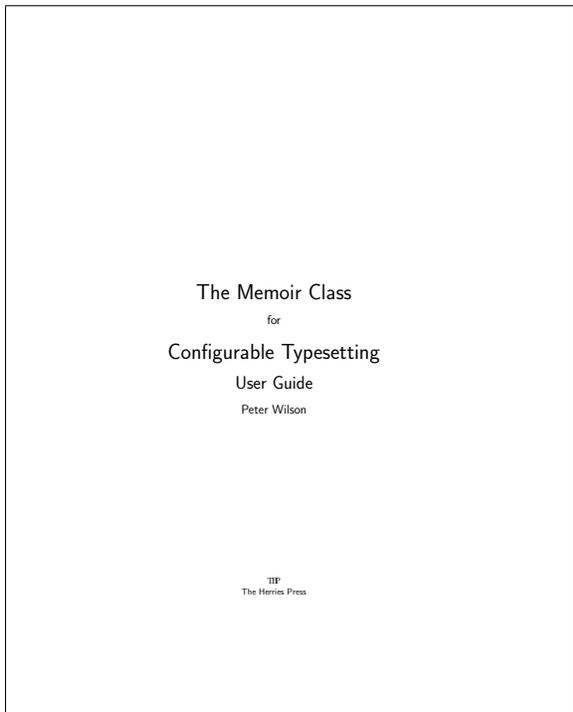


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Figure 3: Page 186 from ISO/WDIS 10303-11:2003

was implemented using the `picture` environment and all that an author had to do was use a few macros for the text — rather like for the `\maketitle` command. Also as part of my work on STEP I developed the MetaPost `expressg` package (Wilson, 2004a) for drawing BLA (box, line, annotation) diagrams like the ones in Figure 3.

I eventually moved to the National Institute of Standards and Technology (NIST) in Maryland where the secretariat for STEP was based (Kemerer, 1999). Someone up the management chain decided that the whole thing should be maintained as SGML documents (or portions thereof) in a database. As they were one of the major supporters of using wordprocessors I was surprised that they chose L^AT_EX as the publishing system and I spent a considerable time writing a L^AT_EX to SGML translator, and vice-versa. Unfortunately ISO kept changing their formatting requirements, L^AT_EX authors kept introducing their own macros, the SGML team kept changing their DTD, and the wordprocessor users were going to be involved at some indefinite date in the future. The experience made me really appreciative of Eitan Gurari's TeX4ht (Gurari, 2007). I left before any document made it through the system, which I think has died the death it deserved.



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Figure 4: Title page of the memoir class user manual

Some of the documents had got up to 1200 pages which caused enormous difficulties to the poor souls who had to use ‘the’ wordprocessor.

This led me on to the development of my L^AT_EX memoir class (Wilson, 2004b). I didn’t want to be bitten by the ISO experience again, so I felt that a class that would let me change the document formatting easily without having to delve into its innards would be very useful. I had written a few packages that helped in formatting bits and pieces and decided to incorporate them into the class. Then there were other packages that I quite often used and integrating those, or their functionality, seemed reasonable, thus ensuring that they would all work well together. Then, like Topsy, it ‘just grew’. Now it encompasses the functionality of more than 30 popular packages.

Putting everything together got me started on wondering how a document should be put together. This led to a long trail. One portion was trying to get a better idea about the typographer’s craft. And as typographers deal with letter forms that led me to the history of the alphabet and the story of the letter forms that we use now.



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Figure 5: Sumerian cuneiform tablet (circa 2112–2004 BC)

2 Early writing

Writing was invented in ancient Mesopotamia, an area which roughly corresponds to modern day Iraq. The earliest recorded writings are by the Sumerians from around 3300 BC, who used pointed sticks or reeds to impress marks into wet clay tablets that were subsequently dried. The result is what we call Cuneiform.² We are still in the business of recording writing.

As the city states arose and society became more complex writing was necessary to help the bureaucrats and merchants keep track of things and so that tax collectors and others could go about their business in a fair manner.

Figure 5 shows a replica of a Sumerian cuneiform tablet dating back to between 2112 and 2004 BC, from the Third Dynasty of Ur, about the time of the Biblical Abraham. The original is 1¼ by 1¼ by 3⁄8 inches. The scribes would write on the front and the back of a tablet, and sometimes on the sides as well.

Cuneiform writing was adopted by the Babylonians even though their language was not like Sumerian, and Figure 6 shows a replica of a Babylonian

² From the Latin *cuneus* meaning wedge.



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Figure 6: Babylonian cuneiform tablet and envelope (circa 1790 BC)

tablet and its clay envelope, from about 1790 BC. The tablet is 1½ by 1¾ by ½ inches.

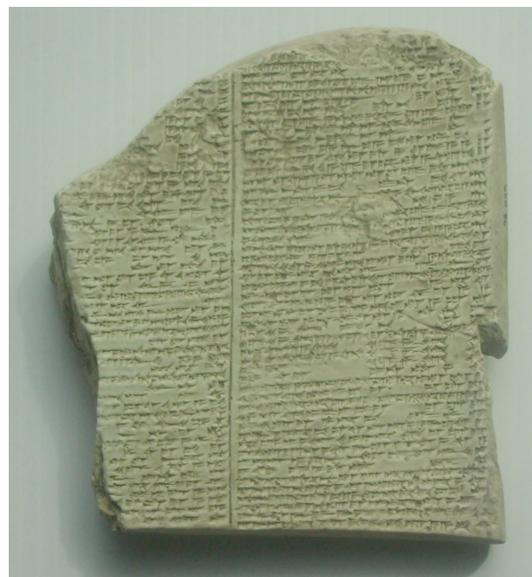
The package is a receipt for an amount of grain sufficient for one man for 6 months. The same text is on the outside of the clay envelope as on the tablet; if there was doubt about the external message then the envelope could be broken and the external and internal messages compared.

Writing evolved from that needed for simple record keeping to be able, for instance, to write people’s names or to record the majestic deeds of the ruler. The earliest literary tablets containing parts of the *Epic of Gilgamesh*, which is by far the world’s oldest epic, date back to about 2100 BC. The Gilgamesh story has been pieced together from thousands of pieces of broken cuneiform tablets (George, 2000). Figure 7 shows a replica of one of the many tablets found by Sir Austen Henry Layard in 1850–53 in the ruins of King Ashurbanipal’s library at Ninevah which was destroyed in 612 BC. This particular one contains much of what is called ‘Tablet 11’ of the Epic which includes the best preserved story of a Deluge³ or Flood, well pre-dating the Biblical version which was written around the 9th century BC.

The tablet, which is 5¾ by 5¾ by 1¼ inches, was first translated in 1872 by George Smith working at the British Museum. Wallis Budge (Budge, 1925) described the event like this:

Smith took the tablet and began to read over the lines which Ready [the conservator who had cleaned the tablet] had brought to light; and when he saw that they contained the portion of the legend he had hoped to find there,

³ There is evidence that the catastrophe occurred around 7500 BC when the Black Sea’s water level rose by 400 feet during the course of about a year (Ryan and Pitman, 2000).



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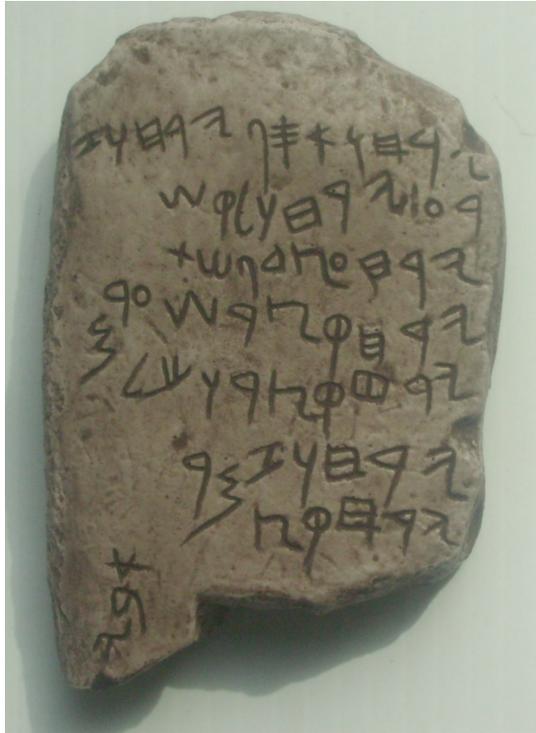
Figure 7: Epic of Gilgamesh, part of tablet 11 (circa 650 BC)

he said, “I am the first man to read that after two thousand years of oblivion.” Setting the tablet on the table, he jumped up and rushed about the room in great excitement, and, to the astonishment of those present, began to undress himself!

Figure 8 shows a replica of a soft piece of limestone rock from around 925 BC. This was found in 1908 by R.A.S. Macalister at Tell el-Jazari (the historic city of Gezer) about 20 miles NW of Jerusalem. The tablet is 3 by 4½ by ⅝ inches. The text is written right to left in what some say is in a Proto-Hebrew script while others (Healey, 1990, p. 30) say it is in the Phoenician⁴ script. It is a calendar of agricultural tasks and seasons. The tablet’s inscription is:

IYΘ41 1F<YΘ41
 WΦLYΘ41O4
 †W1<ΓOΘ41
 ~14OW4ΓΦΘ41
 L7Y4ΓΦΘ41
 4~IYΘ41
 ΓΦΘ41
 19<

⁴ To me it looks remarkably like Phoenician.



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Figure 8: Gezer Calendar (circa 925 BC)

In the following transliteration I have added inter-word spaces that are not in the original. The first two lines on the tablet contain the first three lines of the calendrical information.

z whry ps' whry
 šql whry 'r
 tšp 'š' hry
 mr'š ršq hry
 lkw ršq hry
 rmz whry
 šq hry
 yb'

And a translation is:

Two months are [olive] harvest,
 Two months are planting [grain],
 Two months are late planting;
 One month is hoeing up flax,
 One month is harvest of barley,
 One month is harvest and feasting;
 Two months are vine tending,
 One month is summer fruit.

It is signed in the bottom lefthand corner with the name 'Abijah'.



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Figure 9: Leaf from a copy of the *Bhagavad Gita*, Kashmir (circa 1800)

3 Manuscripts

Our modern alphabets date back to around 1600 BC, and in particular to the Phoenician script and alphabet. By various routes this spread out from the Middle East, changing as time went on to accommodate different languages (Wilson, 2005).

Throughout the ages scribes have always taken great care in the appearance of their work, especially with religious works.

Figure 9 is a leaf from a Kashmiri copy of the *Bhagavad Gita*. The original is 5½ by 3¼ inches overall in a black Devanagari script surrounded by a yellow, red and blue border, on burnished paper. It dates to the late 18th or early 19th century. The *Bhagavad Gita* (The Song of the Divine One) is a poem consisting of a dialogue between the warrior prince Arjuna and Lord Krishna (in the person of his charioteer), on the eve of the climactic battle at Kurukshetra. It forms part of the Hindu epic, the *Mahabharata* which dates back to the first millenium BC, while the *Gita* was written later, probably between the fifth and second centuries BC.

N. P. Davis (Davis, 1969) quotes J. Robert Oppenheimer after observing the first test of the atomic bomb on July 16, 1945, as saying:

There floated through my mind a line from the *Bhagavad Gita* in which Krishna is trying to persuade the Prince that he should do his duty: 'I am become death: the shatterer of worlds'. I think we all had this feeling more or less.

The preceding lines in the *Bhagavad Gita* are:

If the radiance of a thousand suns
 Were to burst into the sky,
 that would be like
 the splendour of the Mighty One.



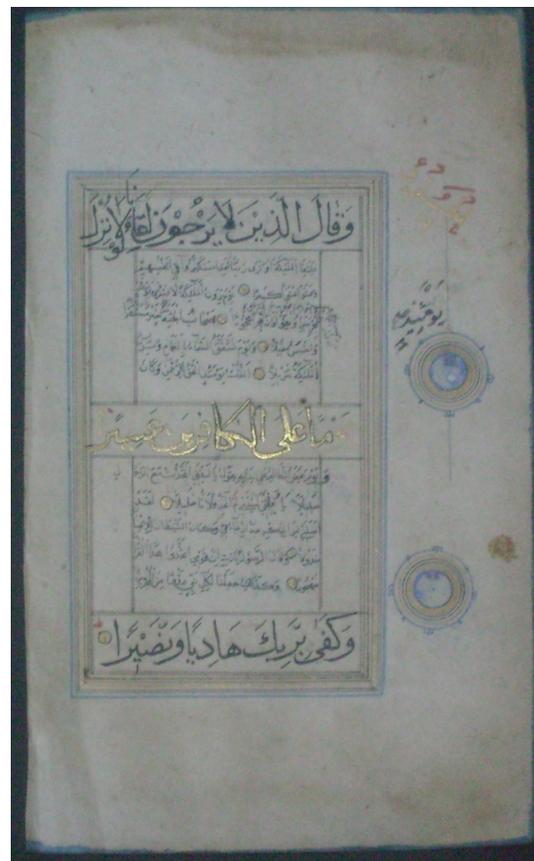
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Figure 10: Leaf from a copy of *Delail al-Khayrat* Arabic/Persian (circa 1690)

Figure 10 shows a leaf from a copy of *Delail al-Khayrat* — the book of *Blessings on the Prophet* composed by Muhammad ibn Sulayman al-Jazuli (d. 1465). The original of the leaf is $4^{11}/_{16}$ by $7^{5}/_{8}$ inches. It was written about 1690 by Mohammed Azeem for Nawab Sadullah Khan who was the Prime Minister of the Moghul emperor Shah Jehan — the builder of the Taj Mahal. The Arabic text is black with an interlinear Persian translation in red and a commentary in the margins around the main text. The border is in gold and a light blue.

Figure 11 is a leaf from a 16th century Indian copy of the *Koran*. The original is $3^{1}/_{2}$ by 6 inches overall. The Arabic script is in black ink, except for the central line which is in liquid gold, surrounded by a main border, $2^{1}/_{4}$ by $3^{3}/_{4}$ inches, in gold and blue. The marginal discs are also in gold and blue.

Arabic texts are famous for their calligraphy but there are other cultures as well where calligraphy is an esteemed art. Figure 12 is number 66 from the series of Japanese woodblock prints *Ogura Imitation of 100 Poets* illustrating a famous anthol-



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Figure 11: Leaf from a *Koran*, India (16th century)

ogy of 100 poems by 100 poets that was assembled by the poet Fujiwara no Teiko in 1235. The woodblock print publisher Iba-ya Sensburō commissioned three artists — Kuniyoshi, Hiroshige and Kunisada — to produce the prints in the series which were published between 1845 and 1847. This one by Hiroshige illustrates a poem by Daisōjō Gyōson (1055–1136). The poem reads:

Morotomi ni	Let us, each for each
Aware to omoe	Pitying, hold tender thought,
Yamazakura	Mountain cherry flower!
Hana yori hoka ni	Other than thee, lonely flower,
Shiru hito mo nashi	There is none I know as friend.

The main illustration shows a contemplative Kuganosoke (the hero of the play *Imoseyama*) outside a pavilion on the bank of a river. The title of the series is at the top right in large kanji characters and at the top left is a description of the main illustration in smaller kanji. The lozenge contains a portrait of the poet and the poem itself in a highly calligraphic style. The original is in the standard

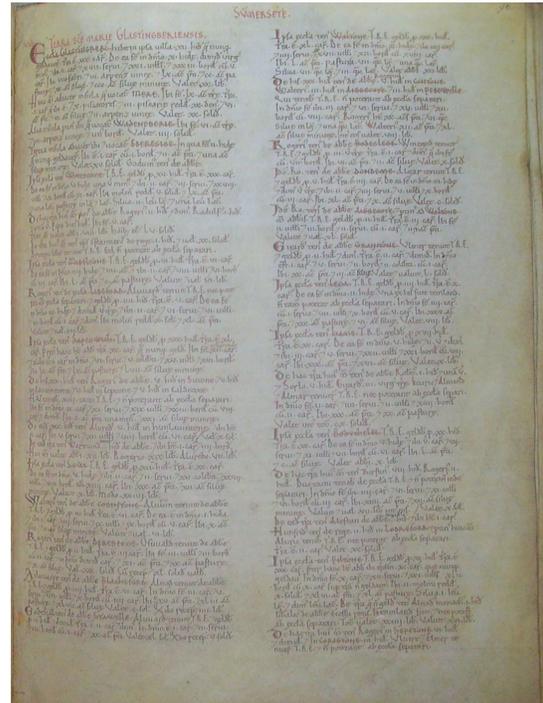


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Figure 12: *Ogura Imitation of 100 Poets* no. 66, by Hiroshige (circa 1846)

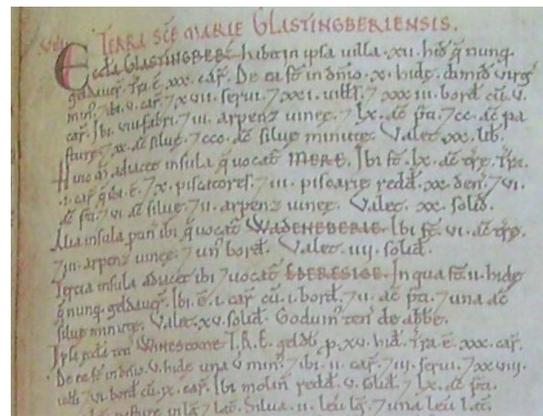
oban size of approximately 9½ by 14 inches. To print it there would have been one carved woodblock for each colour in the picture, with the picture being gradually built up one colour at a time. Registration between the individual blocks and with the paper is critical. Even seemingly simple pictures could require ten or more blocks.

Coming closer to home, European books were mainly written in Latin. Literacy was essentially confined to the Church, the Papal See and monasteries in particular, and to clerks in noble courts. Most works that have survived were religious in nature but rulers required administrative records of all kinds. One of the most famous is the *Domesday Book* that William the Conqueror (circa 1028–1087) ordered to be compiled in 1086. It is a survey of the newly conquered England, from Yorkshire to the South Coast, arranged by county, and listing all the landowners and the worth and taxes paid on their properties (Hinde, 1985). Figure 13 shows one page from the book that starts with information about Glastonbury in the County of Somerset. The text is in Latin, in two columns of 44 lines each, written in a Carolingian minuscule script. An enlarged view



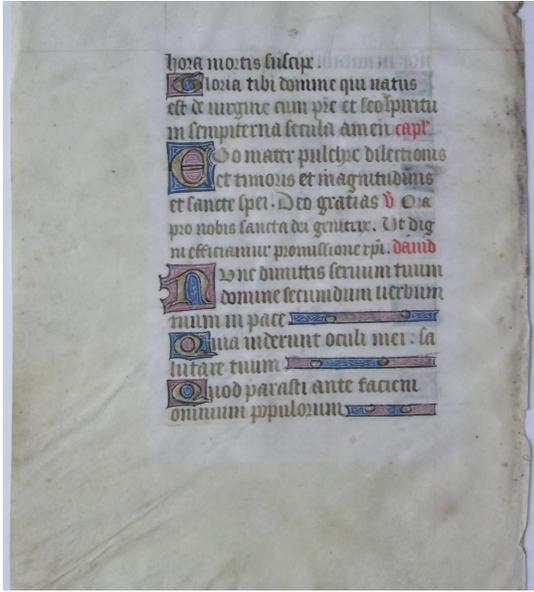
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Figure 13: Page from the *Domesday Book*, England (1086)



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Figure 14: *Domesday Book* (enlarged), England (1086)



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Figure 15: Book of Hours, France, (circa 1445)

of the top of the left column is shown in Figure 14. Some headings are in red, but the text is not without errors.

Many beautiful manuscripts were written by scribes in monasteries, some for use by the Church and others for rich patrons. Many of the latter are elaborately decorated and illuminated.

Figure 15 is a leaf (verso) from a Benedictine Book of Hours produced in France around 1445. The original vellum leaf is $5\frac{3}{4}$ by 8 inches. The Latin text, 3 by $4\frac{1}{4}$ inches, is in the Gothic Textura Quadrata bookhand in a light brown ink. The versal initials are in liquid gold on grounds of red and blue with white tracery. The paragraph endings use the same style.

A more decorative example is shown in Figure 16 which is a leaf from a Book of Hours produced in France, perhaps at Rheims, around 1450 or maybe a little later. The original vellum leaf is $3\frac{3}{4}$ by $5\frac{5}{8}$ inches. The Latin text, $2\frac{1}{2}$ by $2\frac{7}{8}$ inches, is in the Gothic Textura Quadrata bookhand in a dark brown ink. The versals are in liquid gold with additional decoration in red and blue. The floriated decoration uses green as well as the other colours.

In a different vein, and a different script, Figure 17 is a page from Antonio Pigafetta's account of Magellan's circumnavigation (1519–1522), beautifully written in a humanist bookhand. There are four surviving manuscripts, one in the Venetian dialect of Italian, and three in French. Pigafetta prob-



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Figure 16: Book of Hours, France, (circa 1450)

ably completed his work in 1524 and it would then have been copied out by professional scribes. The manuscript now at the Bernicke Library at Yale University consists of 103 vellum leaves, measuring $7\frac{1}{2}$ by $11\frac{1}{4}$ inches, with 27 lines to a page (Pigafetta, 1969). The page in the illustration shows the end of chapter XVIII, a summary (in red) of the next chapter, and the title and first four lines of chapter XIX. The marginal notes, in red and blue, are a summary of the corresponding paragraphs in the main text.

4 Printed books

In the West, printing using moveable type was invented by Johannes Gutenberg around 1440–1450, although the earliest printed book known is a 9th century Chinese woodblock printing of the *Diamond Sutra*. Gutenberg had to experiment to determine the formula for a suitable ink and also to discover a good metal alloy for the type itself. He came up with lead to which he added antimony for strength and hardness and tin for toughness.⁵

⁵ This is still the basis for type today; Monotype casting machines use lead with 15–24% antimony and 6–12% tin.

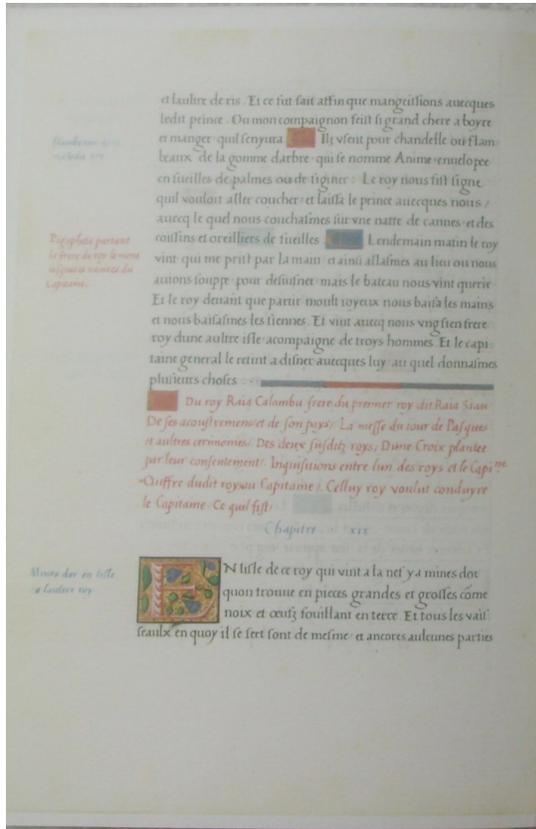
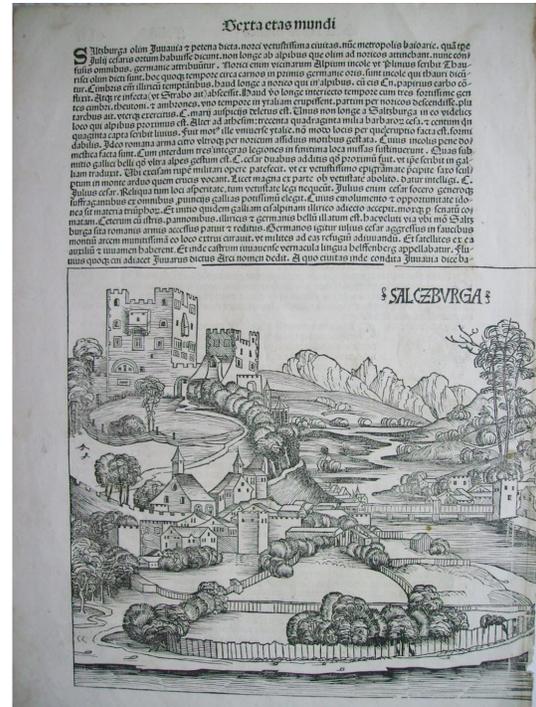


Figure 17: Magellan's Voyage Around the World (1524)

In order to be successful in the market, Gutenberg had to produce books that equaled those produced by the scribes, except that they did not necessarily have to be decorated so lavishly. The scribes, though, used many ligatures and other techniques to try and have non-ragged text blocks. To compete with them Gutenberg's font for his 42-line Bible, published around 1455, consisted of some 290 characters though all the text is in Latin which requires a basic character set of only forty letters — twenty lowercase letters and twenty caps — and some punctuation marks (Thorpe, 1999).

The 42-line Bible is set in two columns of 42 lines each. It is believed that about 135 copies were printed on paper and 40 on vellum. The page size was 12 by 16½ inches and it is estimated that more than five thousand calfskins were required for the vellum copies.

The *Nuremberg Chronicle* was published in 1493 in Nuremberg and was the first book to combine text with illustrations that illuminated the words (instead of using randomly selected woodblock en-



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Figure 18: Nuremberg Chronicle, Folio CLIIv (1493)

gravings that happened to be at hand). As was usual then the book did not have a title page: Latin scholars call it the *Liber Chronicarum* and in German it is called *Die Schedelsche Weltchronik* after its author Hartmann Schedel. The book was printed and published by Anton Keberger with a print run of about 1500 Latin copies and 900 German ones. Around 400 Latin and 300 German copies have survived.

There are 1809 woodcut illustrations printed from 645 originals, so many were used multiple times, usually portraits. For example a single woodcut was used to represent Alcuin, Cato, Dante, Paris and Plutarch on different pages. The woodcuts were created by Michael Wolgemut and Hans Pleydenwurff, with perhaps one or two by Albrecht Dürer who was apprenticed to Wolgemut at the time.

The pages are large, 12 by 17½ inches. Views of cities were printed as a double spread. Spaces were left in the text for the woodcuts; in the more luxurious volumes the woodcuts were hand coloured.

The *Chronicle* divides the history of the world into seven ages:

1. Creation of the Deluge
2. ends with the birth of Abraham
3. ends with the reign of King David
4. ends with the Babylonian captivity



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Figure 19: *Nuremberg Chronicle*, Folio CXLVIIIr (1493)

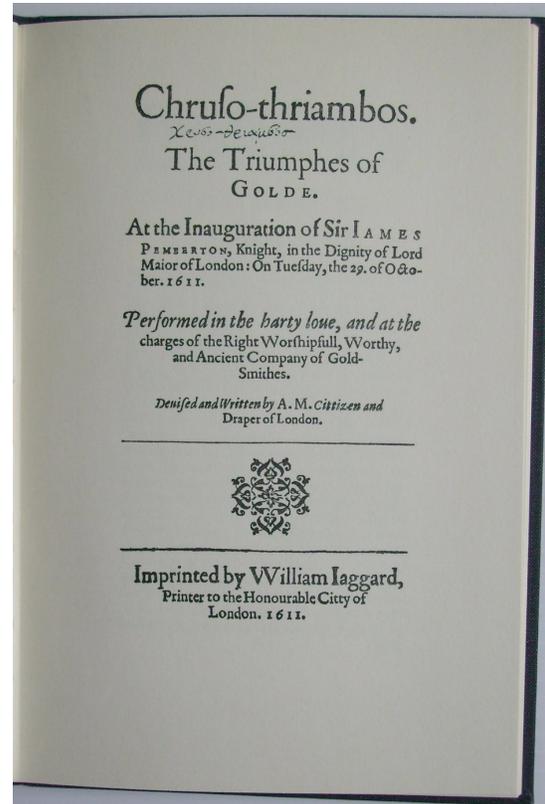
5. ends with the Incarnations of Jesus
6. from the birth of Christ to the end of the world
7. the age of the Anti-Christ
8. the Last Judgement

Beloit College has an extensive web site (<http://www.beloit.edu/~nurember>) devoted to their copy of the *Nuremberg Chronicle* which has coloured illustrations.

Figure 18 is Folio CLII (verso) from the *Nuremberg Chronicle*. At the bottom is half of a double spread picture of Salzburg (the other half is on the recto of Folio CLIII).

Figure 19 shows Folio CXLVIII (recto) from the *Nuremberg Chronicle*. The hand coloured pictures are of various ecclesiastical personages and at the lower right a queen (Radegudis regina fracie) and a doctor (Gregorius magnus doctor). The original for this picture is 12 by 15½ inches (over the years 2 inches have disappeared from the lower margin).

Books had, of course, been made and sold long before Gutenberg. In London, for example, the publishing trade was regulated by the Guild of Stationers which was incorporated in 1403. At that time stationers were either booksellers who sold manuscripts that they had copied; or illuminators who il-



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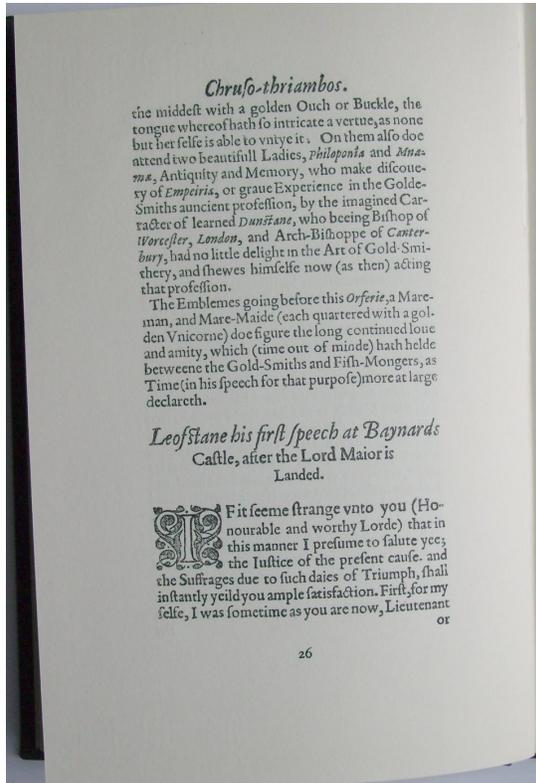
Figure 20: *Chruso-thriambos*: Title page (1611)

lustrated and decorated manuscripts; or bookbinders who bound manuscripts. Stationers would also sell the materials that they used. Unless you were a member of the Guild you could do none of these things.

Following Gutenberg, printing rapidly spread out over much of Europe. In England, for example, Caxton set up his shop in 1476, Theoderic Rood was printing in Oxford between 1478 and 1485, and John Sieberch in Cambridge in 1520. The Stationers Guild received a royal charter in 1557 and was responsible for regulating the printing industry over all the country, which meant that they had a monopoly on book production—once a member asserted ownership of a text (or ‘copy’) no other member could publish it. This is the origin of the term ‘copyright’.

In Germany books were usually printed in a gothic type but the rest of Europe moved to types based on the humanist tradition that had been maintained in Italy.

Figure 20 is the title page of a reprint of *Chruso-thriambos* or *The Triumphs of Golde* by Anthony Mundy, published in 1611. The original is 6 by 9

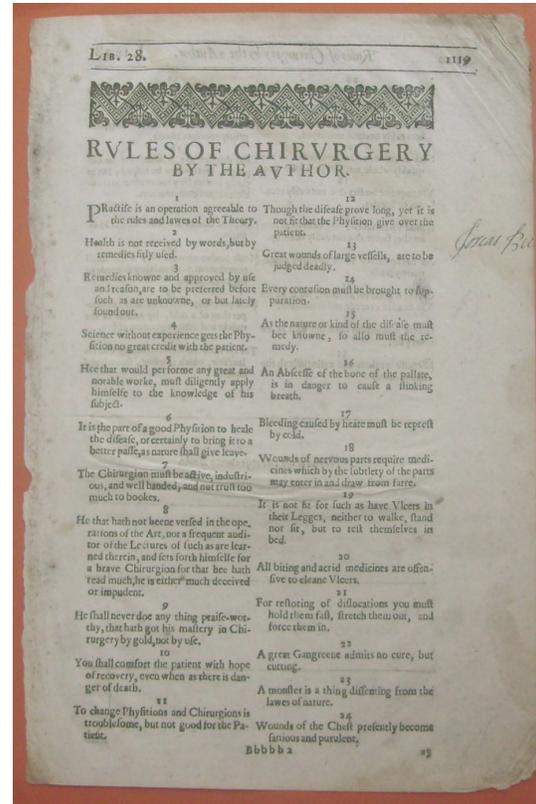


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Figure 21: *Chruso-thriambos*: page 8 (1611)

inches. The pageant *Chruso-thriambos* was written and produced at the request and charge of the Worshipful Company of Goldsmiths in honour of Sir James Pemberton, a goldsmith, the newly elected Lord Mayor of London. Page 8 (numbered 26 in the book containing the reprint) from the body is shown in Figure 21.

Ambroise Paré (1510–1590) served as the official royal surgeon for kings Henry II, Francis II, Charles IX and Henry III of France, and did much to advance medical procedures, particularly surgery. A page from the first English translation of his major work, by Thomas Johnson and printed in 1634 by Th. Cotes and R. Young, is shown in Figure 22. The original is 8 by 12½ inches and is set using an Oldstyle type, possibly Garamond. Paré’s major contributions included the abandonment of boiling oil for the treatment of gunshot wounds in favour of egg yolk, oil of roses and turpentine which worked far better. He also introduced the use of ligatures instead of cauterisation during amputations, and was especially adept at devising ingenious and efficient artificial limbs and new surgical instruments. All in



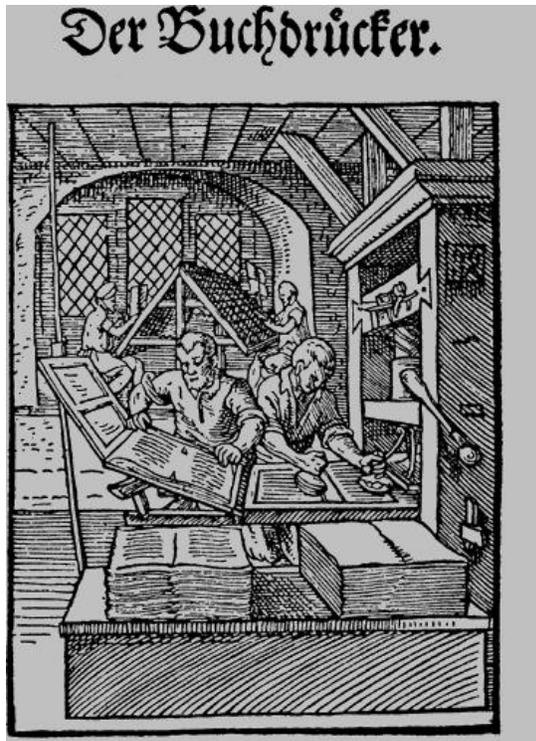
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Figure 22: Page from the first English translation of Ambroise Paré’s works (1634)

all he seems to have been afflicted with a great deal of common sense.

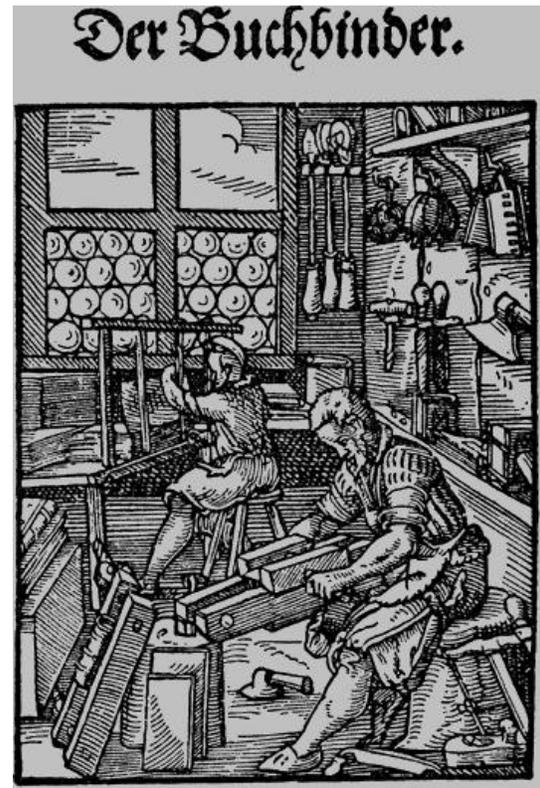
A book by Hans Sachs, *Eygentliche Beschreibung Aller Stände auff Erden* about 16th century trades, was published in Frankfurt in 1568 which included several woodcuts from drawings by Jost Amman. Figure 23 is one of these showing a printing shop. The two men in the background are setting type, taking the characters from the type cases in front of them. The men in the foreground are operating the printing press. The one on the left is removing a sheet of paper that has just been printed and the one on the right is using two circular pads to ink the type for the next sheet. A fresh sheet of paper will replace the one being removed. The flap at the left, with the cutouts, will be folded down to hold the paper in place, then the assembly folded over to lie on top of the type. The final assembly is slid into the press, the lever pulled to press the paper onto the type, the assembly slid out from the press and the printed page removed.

Figure 24 is another of the woodcuts, this time showing a book bindery. In the background there is



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Figure 23: 16th century printing shop



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Figure 24: 16th century book bindery

a sewing frame with a book and the man is sewing the sheets together. In the foreground there is a book in a lying press at the left and at the right the man is trimming the edges of the pages in a sewn book, which is in another lying press, before the covers will be put on. In those days books were often sold without covers so that clients could select the kind they wanted.

Little changed in the manufacture of books until the middle of the 19th century when some of the processes began to be mechanized (Chappell and Bringhurst, 1999). Figure 25 is a reconstructed 18th century print shop in Williamsburg, Virginia, 2007. James Mosley, who for 42 years was the Librarian at the St Bride Printing Library in London, said that it was 'the most perfect and accurate working reconstruction of an 18th-century office' that he had ever seen (Mosley, 2003). The paper holder is at the left, the type in the center and the press itself, a so-called *English Common Press*, at the right. The man is preparing to ink the type.

Also at Williamsburg is a reconstructed 18th century bindery, shown in Figure 26. Two sewing frames are in the foreground and a large standing press is in the semi-background.



Herries Collection

Figure 25: Reconstructed 18th century print shop (Williamsburg 2007)



Herries Collection

Figure 26: Reconstructed 18th century bindery (Williamsburg 2007)

In the days of the American Colonies, printing was not encouraged. Sir William Berkeley, who was the governor of Virginia for 1642 to 1652 and again from 1660 to 1677, spoke for many officials when he said,

But, I thank God, there are no free schools nor printing, and I hope we shall not have these for hundreds of years; for learning has brought disobedience, and heresy, and sects into the world, and printing has divulged them, and libels against the best government. God keep us from both.

However, using type purchased from England, such as those of William Caslon (1692–1766), printing became a thriving business. Figure 27 is Caslon’s first specimen sheet, originally printed in 1734. The original is 15½ by 20½ inches. As well as the expected roman, italic, and blackletter, the specimens include fonts for the Saxon, Gothic, Coptic, Armenian, Syriac, Samaritan, Arabic, Hebrew (both with and without points), and Greek alphabets. The roman ranges in size from Canon to Pearl although examples of 6- and 8-line Pica are also shown; the exotics mostly come in a single size although there are three sizes of Greek. There are also several typographic ornaments.

Nowadays, the size of a font is expressed in points but originally names were used. The more common sizes are given in Table 1.

Caslon’s type was used in Philadelphia by John Dunlap for the first printing of *The Declaration of Independence* in 1776. A more prosaic example of the kind of work done by Colonial printers is Figure 28 showing the title page of *Every Man his own Doctor: or, The Poor Planter’s Physician* as printed

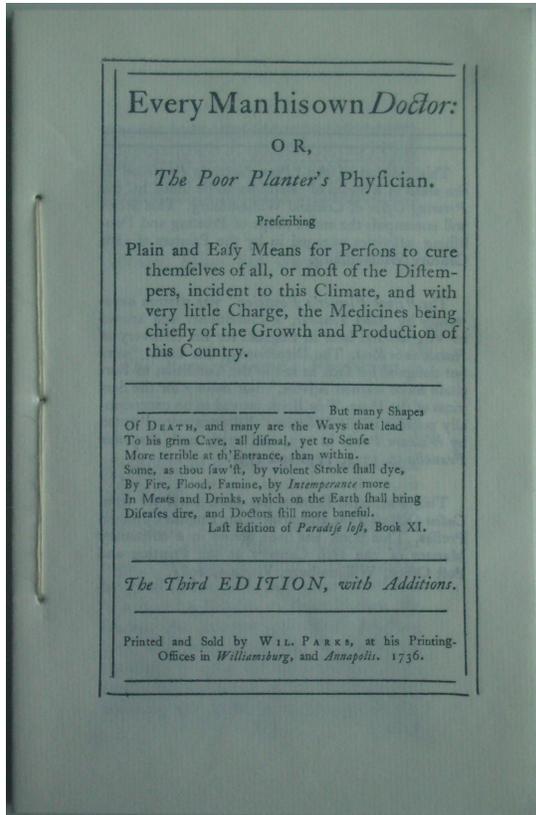


Herries Collection

Figure 27: Specimen sheet of Caslon types (1734)

Table 1: Traditional font size designations

Points	Name
3	Excelsior
3½	Brilliant
4	Diamond
5	Pearl
5½	Agate
6	Nonpareil
6½	Mignonette
7	Minion
8	Brevier
9	Bourgeois
10	Long Primer
11	Small Pica
12	Pica
14	English
18	Great Primer
24	Double (or Two Line) Pica
28	Double (or Two Line) English
36	Double (or Two Line) Great Primer
48	French Canon (or Four Line Pica)
60	Five Line Pica
72	Six line Pica
96	Eight Line Pica



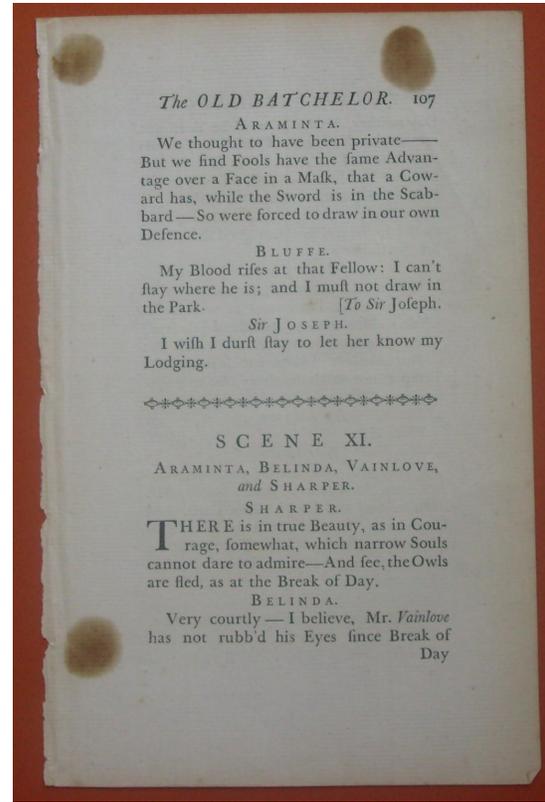
Herries Collection

Figure 28: Title page of *Every Man his own Doctor*, Williamsburg, VA (1736)

in Williamsburg by William Parks in 1736. This edition is hand set with Caslon Oldstyle Type. The original is 5 by 7½ inches. The binding of such publications was very easy as the sheets were simply sewn together along the lines of Japanese stab bindings, but not so attractively.

The book was very popular; two editions were printed by William Parks, and Benjamin Franklin printed three editions between 1734 and 1737. The reprinted version notes that ‘The Directions in the Book “were not designed for such as are in the Condition to Purchase more learned Advice” but mainly for the Services of the Poor’. The Directions mainly seemed aimed at making the patient so uncomfortable that it was better to be well than ill. The recommended treatments for almost everything except physical injuries seemed to involve the letting of copious amounts of blood accompanied by potions aimed at purging anything the patient may have eaten or drunk over the previous couple of days.

Like Caslon, John Baskerville (1706–1775) came from the Birmingham area in England. He printed

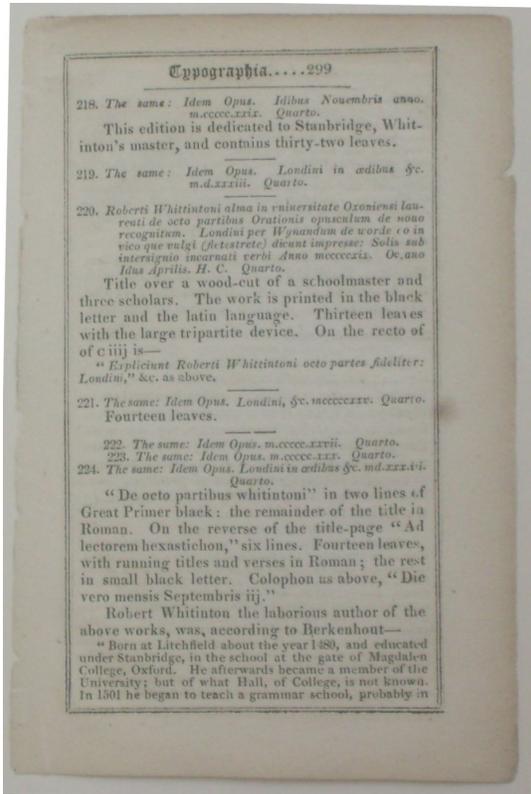


Herries Collection

Figure 29: Page from Baskerville’s edition of *The Plays and Poems of William Congreve* (1761)

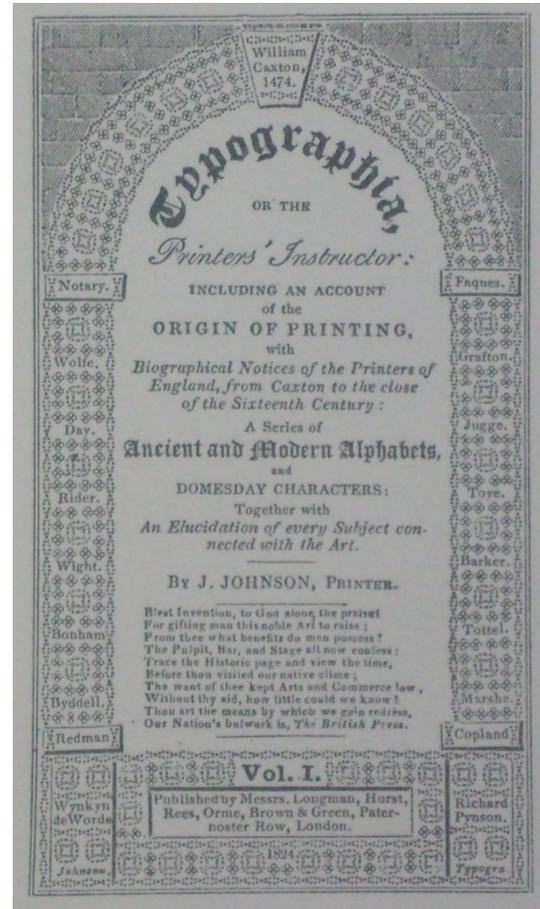
his first book, Virgil’s *Georgics*, in 1757. Not only did he design his type but he also improved on the printing press of the day and experimented with the formula for ink to produce one that was blacker and more uniform, and also dried quicker which improved the overall efficiency of the printing process. A page from his 1761 edition of *The Plays and Poems of William Congreve* is shown in Figure 29; the original is 5¾ by 8⅞ inches. He invented, and used, a new kind of paper called *wove* rather than the normal *laid* paper. His type had greater contrast between the thick and thin strokes than Caslon’s and was more open. His work was not much appreciated in his native England as it was felt to be too brilliant, or bright, thus hurting the eyes. However he had a major influence on continental type designers such as Fournier, Didot and Bodoni.

John Johnson (1777–1848) produced an exhaustive survey of typography and printing in his two volume, 1300 page *Typographia, or the Printers’ Instructor* published in 1824. The work was produced in four sizes, the largest being royal octavo (6⅛ by 9⅞ inches) and the smallest, as shown in Figure 29,



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Figure 30: Page from John Johnson's *Typographia* (1824)



Herries Collection

Figure 31: Title page of John Johnson's *Typographia* (1824)

being thirty-two (3¼ by 47/8 inches) (Wulling, 1967). The latter is not easy to read because of the small size of the print, from 8pt down to 4pt, but it must have been infinitely more difficult to typeset and proofread the half a million words in the two volumes. The title pages alone, one of which is shown in Figure 31 enlarged slightly, were built up using over a thousand flowers and rules. Included in the two volumes are sixty exotic alphabets assembled from the learned and commercial presses in England.

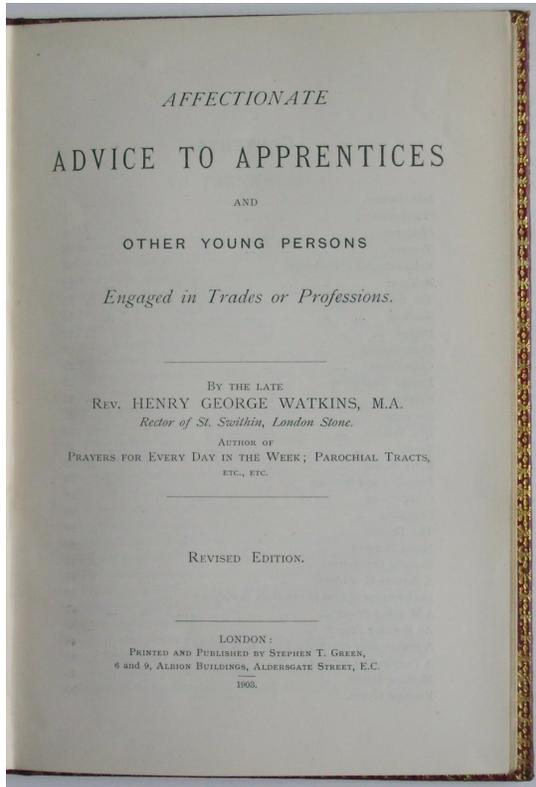
Many nineteenth century printers seem to have felt the need to show off their collection of fonts, often choosing a book's title page as the ideal place for this. Johnson's title page is an amazing piece of printing, but most certainly is not at all representative of the general style. Figure 32 is the title page from *Affectionate Advice to Apprentices*, written in 1827 by the Rector of St. Swithin's at London Stone, for the then Lord Mayor of London. It was distributed widely to many of the young peo-

ple learning their crafts within the City.⁶ This copy was reprinted in 1903. The original size is 4¾ by 7 inches. The Victorian lifestyle comes through very clearly: work, obey, learn, and pray. There is no mention of having fun but plenty of advice about avoiding sinful pleasures like going to the theatre to see a play. There is one telling remark, though.

Our Creator, in great mercy to working people, has commanded every seventh day to be kept to the end of the world as a day of holy rest. If God had not appointed this rest, masters would never in the first instance have thought of giving it to their workpeople.

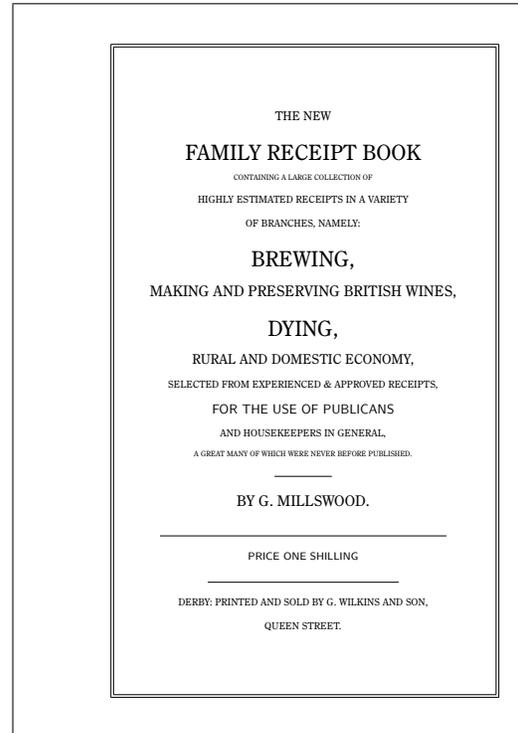
When clearing out my late father-in-law's Lincolnshire farmhouse I came across an old recipe book tucked away at the back of a cupboard. It covered a

⁶ The Worshipful Company of Goldsmiths, chartered in 1327, still presents it to those seeking to become Freemen of the Company; other Livery Companies may do so as well.



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Figure 32: *Affectionate Advice to Apprentices* (1827)



Herries Collection

Figure 33: Title page of a Recipe book (1830)

fascinating collection of topics ranging from brewing beer and adulterating rum, through dyeing cloth, to destroying vermin. As the pages were very fragile I reprinted it using the memoir class and the Century Old Style fonts from Christopher League’s *fontsite* package (League, 2003). The title page is shown in Figure 33 and the L^AT_EX code, among many other examples for title pages, is given in Wilson (2007). The original had been printed by George Wilkins and Son, Derby, in 1830.

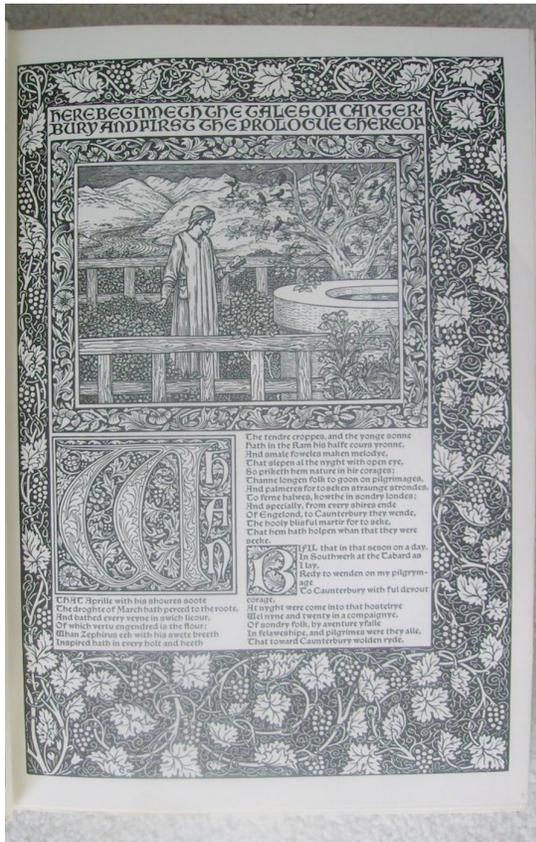
William Morris, one of the founders of the Arts and Crafts movement, disliked the erosion of craftsmanship by machines, and in 1891 he established the Kelmscott Press to produce hand made books of the highest quality.

Among others, he produced what is known as the Kelmscott Chaucer, his best known book, consisting of Chaucer’s *Canterbury Tales* and all his other works — a total of 31 altogether — which include *The Romaunt of the Rose*, *Troilus and Cressida* and *A Treatise on the Astrolabe*. Although Morris designed the type (Chaucer) and the borders and the decorative initials, 87 woodcuts by Edward Burne-Jones were used as well. The book was pub-

lished as a limited edition in 1896. There were 425 copies on paper, forty-eight of which were bound in pigskin by Thomas Cobden-Sanderson of the Doves Bindery (later the Doves Press). There were also thirteen copies on vellum. As the pages are 11³/₈ by 16⁵/₈ inches it is not a book for light reading.

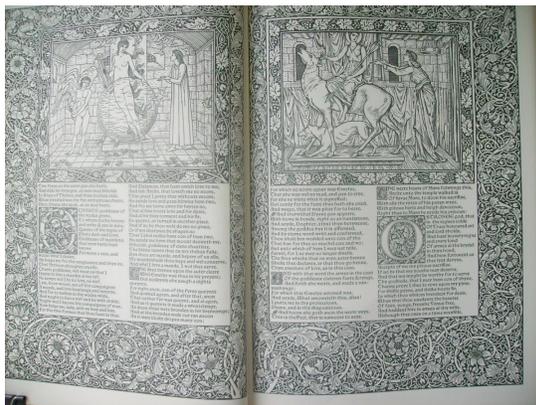
Figure 34 is the opening page of the Prologue to Chaucer’s *Canterbury Tales* from a facsimile of the Kelmscott Chaucer. The facsimile is ‘slightly reduced in size’ where the pages are only 8⁵/₈ by 12⁷/₈ inches and weighs 6¹/₂ lbs (3 kg).

Morris believed that the factors in bookmaking were all interdependent, that is, the type, paper, ink, imposition and impression all had to be considered together. He also declared that a double spread must always be considered as a whole unit, as demonstrated in Figure 35. Although it has been said (Chappell and Bringhurst, 1999, p. 226) that his style has ‘an abundance of thickets and undergrowth’, he started people considering a book as a work of art, not as simply words on pages, and was instrumental in initiating the move away from the excesses of the Victorian printers.



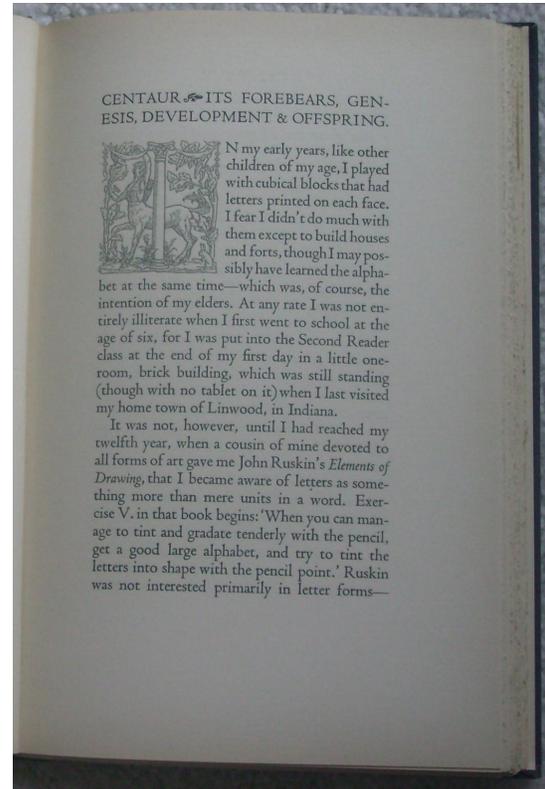
Herries Collection

Figure 34: Opening page of the Kelmscott Chaucer's *Prologue* (1896)



Herries Collection

Figure 35: Double spread from the Kelmscott Chaucer (1896)



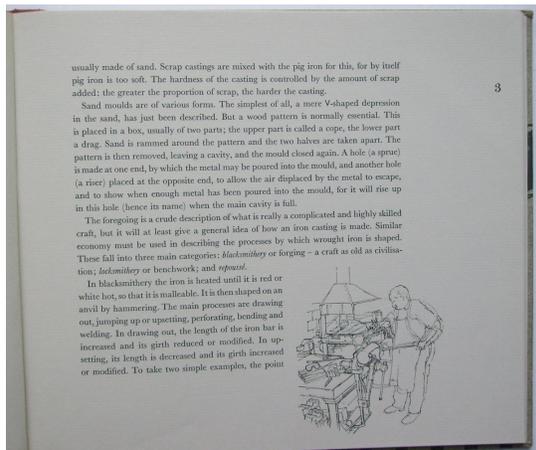
Herries Collection

Figure 36: *The Centaur Types* (1949)

5 Almost today

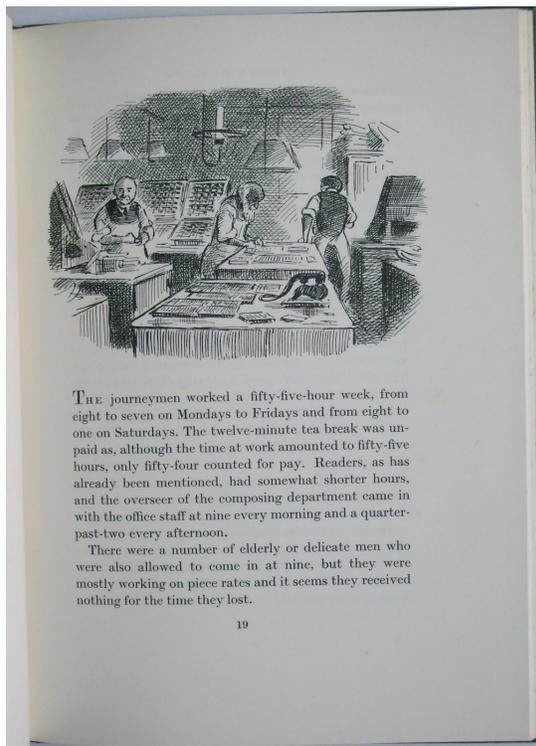
The traditions that started to be established in the 16th century are still seen today. Although books are not so lavishly decorated as some from the early days of printing, in general they have calmed down from the freneticism that occurred during the 19th century.

Manuscripts tended to emphasise the capital letter at the start of a paragraph (see Figures 15 and 16), and especially at the start of a major piece of the text as in Figure 17. Versals are still used, as shown in Figure 36 which is the opening page of *The Centaur Types* (Rogers, 1949), but much more rarely than in medieval times. Bruce Rogers (1870–1957) is said to be the ‘most accomplished book designer that America has yet produced’ (Lawson, 1990, p. 62). He was also the designer of the Centaur type which ‘has been one of the widely praised roman types of our time’ (ibid, p. 72). Rogers described how he came to design Centaur in his book *The Centaur Types*, which, of course, is set in Centaur and also includes exact size reproductions of the engraver’s patterns. The original size is 6¼ by 9½ inches.



Herries Collection

Figure 37: *Hammer and Hand* (1969)



Herries Collection

Figure 38: *A Stickful of Nonpareil*: page 19 (1956)



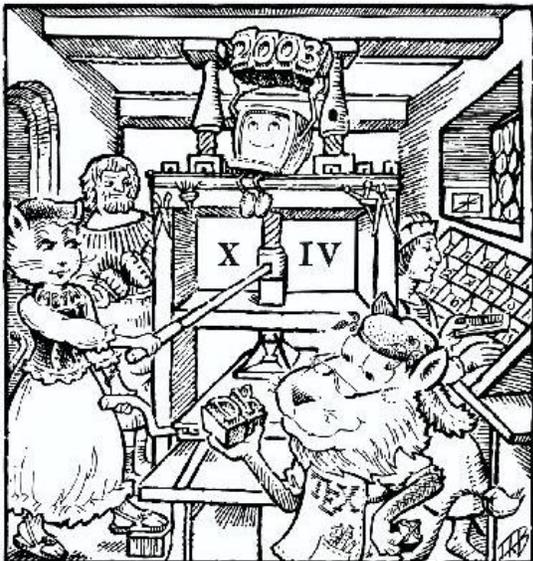
Herries Collection

Figure 39: Type metal medallion (1987)

The *Nuremberg Chronicle*, as in Figure 19, put woodcuts into cutouts in the text. The same idea can be seen in Figure 37 which shows page 3 from *Hammer and Hand* by Raymond Lister with drawings by Richard Bawden (Lister, 1969). The book is a long essay on the ironwork of Cambridge, principally the colleges' wrought iron gates. It was the Cambridge University Printer's Christmas book for 1969. The original page size is $9\frac{3}{4}$ by $8\frac{3}{8}$, and unusually it is printed on beige paper.

Another element in the design of the *Nuremberg Chronicle* is putting full width illustrations at the top of a page or, as in Figure 18, at the bottom. Figure 38 shows page 19 from *A Stickful of Nonpareil* by George Scurfield and illustrated by Edward Ardizzone (Scurfield, 1956). It was the Cambridge University Printer's Christmas book for 1956. The original is $6\frac{1}{2}$ by 9 inches. 'Nonpareil' is an old printers name for a particular size (6pt) of type, and the book consists of recollections of working at the Cambridge University Press around the end of the nineteenth century. The illustration shows a part of the composing room which is not all that different from the composing area in Jost Amman's 16th century view (Figure 23).

There are, of course, the inevitable changes, both in fashion and, more significantly, in technology. For example, the Cambridge University Press used metal types when it was founded in 1584 and since then all was set by hand until a Monotype composing machine was introduced in 1913 (Black, 1988). Computer-aided phototypesetting and lithographic printing were introduced in the early 1970s. Finally, after four centuries, the last vestiges of the traditional techniques vanished in 1987 when the types that remained in use were finally melted down and cast into commemorative medallions, shown in Figure 39.



Duane Bibby (EuroT \TeX 2003)

Figure 40: The T \TeX print shop, 2003

On the other hand, Duane Bibby’s drawing for the EuroT \TeX 2003 conference (Figure 40) shows that the spirit of the tradition lives on.

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