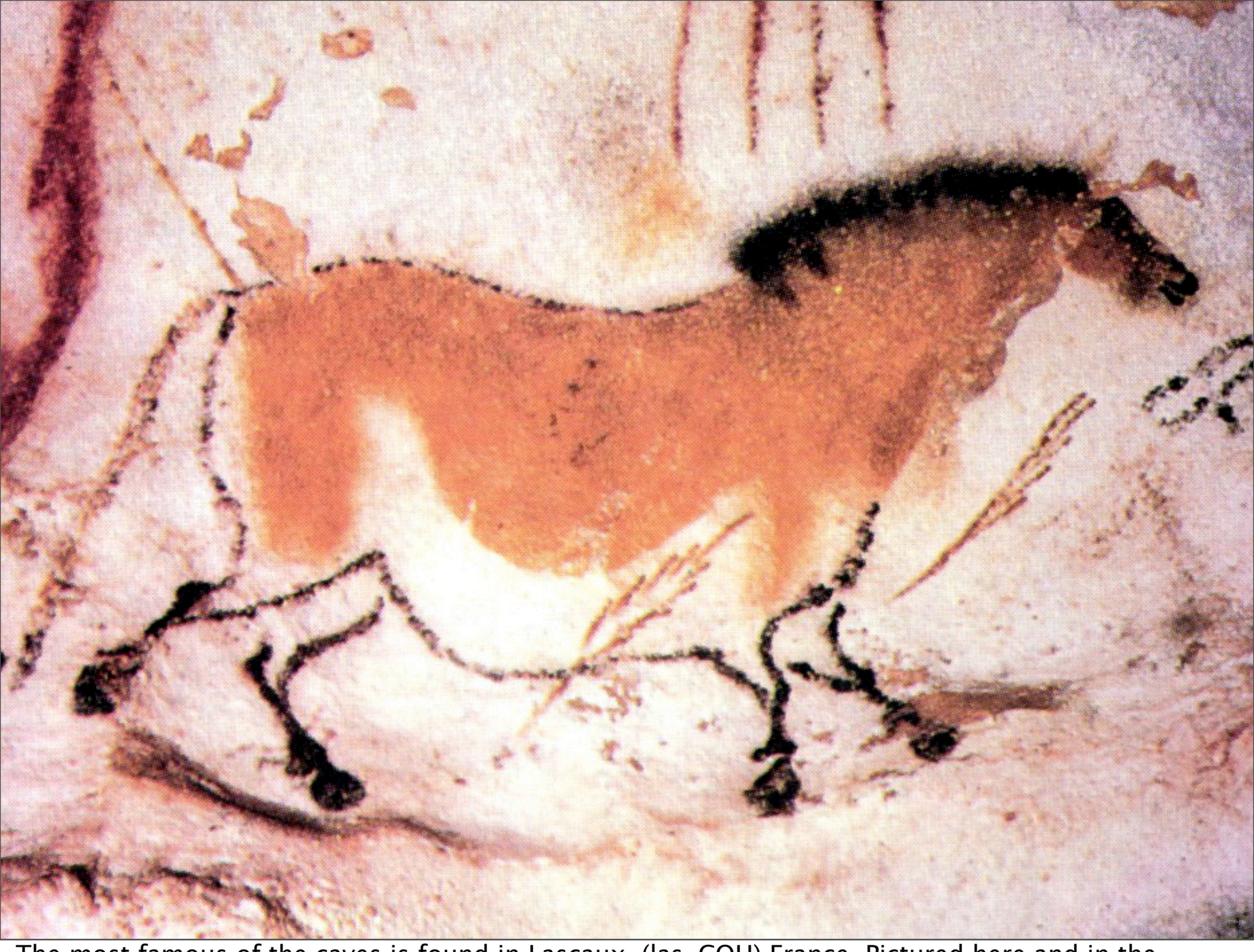
Where do we start the story?

Last week we discussed the difficult task of defining graphic design. This presents an equally difficult task of figuring out where one begins the discussion of its history.

If we work within the first purpose of graphic design proposed by Hollis which is to identify we can start 200,000 years ago. The earliest known human markings reach back that far. The earliest known human made imagery is found in caves, starting from 35,000 BC.

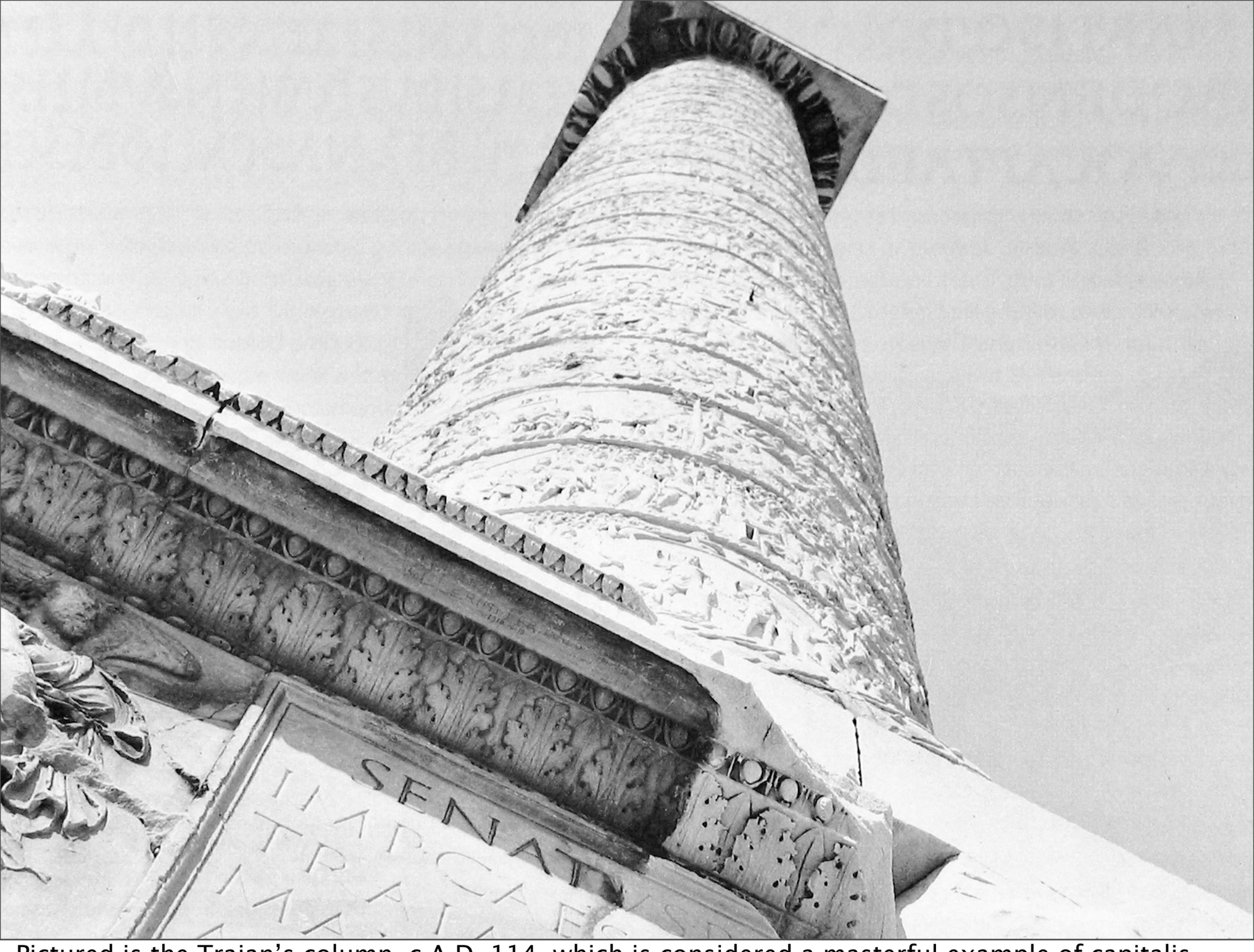


The most famous of the caves is found in Lascaux, (las-COH) France. Pictured here and in the previous slide. While the purpose of these images are not definitively known it can be said it is an example of humans attempting to record the world around them.

1–5

We could start from when humans moved from an oral tradition towards a written one and made a monumentally important shift from simply transferring information to both transferring and storing information. Pictured here is an early Sumerian pictograph tablet c 3100 B.C. This is an example of early symbols and structures that were the seeds for the development of writing.

We could start with the evolution of the greek alphabet. Pictured is a manuscript, 4th century B.C., in Greek on papyrus, a thick paper-like substrate make from the papyrus plant, This example of the greek alphabet shows the symmetrical form and even visual rhythm that helped establish it as the prototype for further developments into the roman alphabet.



Pictured is the Trajan's column, c A.D. 114. which is considered a masterful example of capitalis monumentalis or Roman Square Capitals.

Pictured is a detail from an inscription on a tomb along the Appian Way, Rome.
This is an exceptionally narrow hop skip and jump from cave paintings to the Roman capitals. The development of written language has been varied and quite amazing.

"Typography is the craft of endowing human language with a durable visual form, and thus with an independent existence."

— *Robert Bringhurst*

Our expression of language in written form is at the core of what we do as modern visual communicators.

Typography & Printing

The pairing of an evolved written language with printing and then the printing press sets off a profound wave of change in how the world communicates that is not seen again until the invention of the telephone and then the proliferation of the internet. Pages 14-29 in your book cover almost 500 years. We are going to step a bit further back and then as we catch up to the period in the reading isolate the key people, technology and terminology associated with this period.

ty · pog · ra · phy
n. pl. ty · pog · ra · phies

1. a. The art and technique of printing with movable type.
   b. The composition of printed material from movable type.

2. The arrangement and appearance of printed matter.

[French typographie, from Medieval Latin typographia : Greek tupos, impression + Latin -graphia, -graphy (a writing or representation produced in a specified manner or by a specified process)

Source: *The American Heritage® Dictionary of the English Language, Fourth Edition*
Copyright © 2000 by Houghton Mifflin Company.

The mechanical* notation** and arrangement of language.***

I have heard it said that Typography is the only unique action that we as Graphic Designers hold in high regard and understanding. No other discipline scrutinizes typography to a similar degree as Graphic Designers.

Type and Typography by Phil Baines & Andrew Haslam

mechanical*

referring to the science of machines and the precise automation of a task.

typography *is mechanical, repeatable*
writing *is unique*

notation**

graphic system of documenting a discipline through a symbolic code

the code we primarily use is the western or latin alphabet

language***

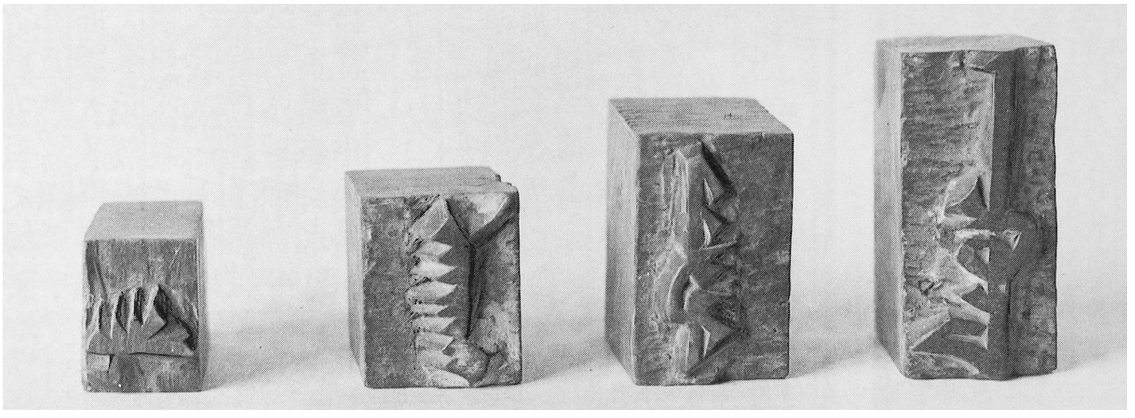
both spoken and written codes: groups of sounds which in various combinations forms words with tacitly labeled objects or ideas; arrangements of words which signal complex meanings to groups familiar with the code

Printing was invented by the Chinese. The earliest wood block print fragments are dated around 220 A.D.

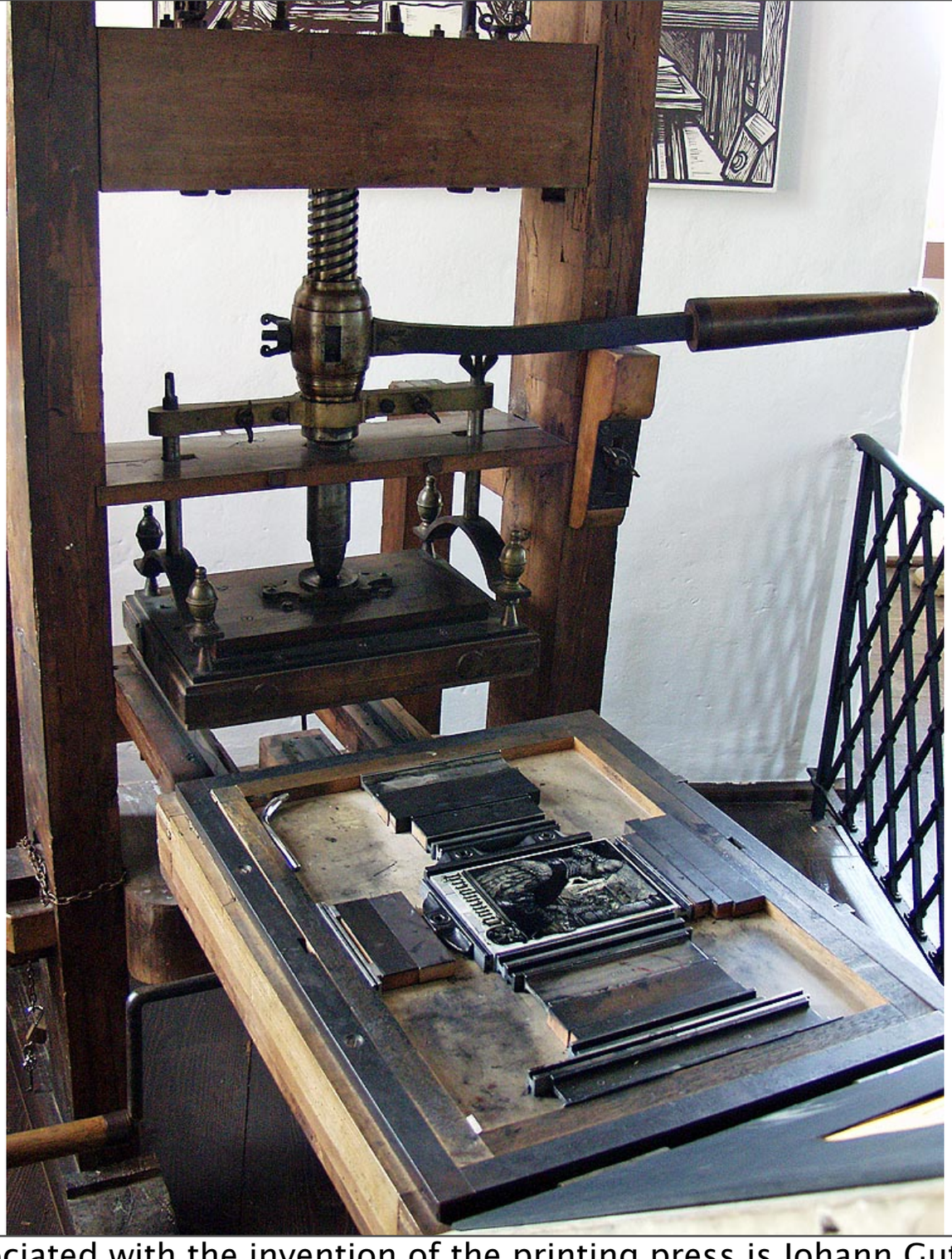
Chops, pictured here, were made by carving calligraphic characters into a flat surface of jade, silver, ivory etc. Around 500 A.D. Chops were made by carving the negative space around the characters so the character would be printed in ink surrounded by the white of the paper.

凡欲讀經先念淨口業真言遍
脩唎 脩唎 摩訶脩唎 脩脩唎 娑婆訶
奉請除災金剛 奉請辟毒金剛 奉請黃隨求金剛
奉請白淨水金剛 奉請乘脊金剛 奉請定除厄金剛
奉請紫賢金剛 奉請大神金剛
金剛般若波羅蜜經
如是我聞一時佛在舍衛國祇樹給孤獨園與大
比丘衆千二百五十人俱尒時世尊食時著衣持
鉢入舍衛大城乞食於其城中次第乞已還至本處

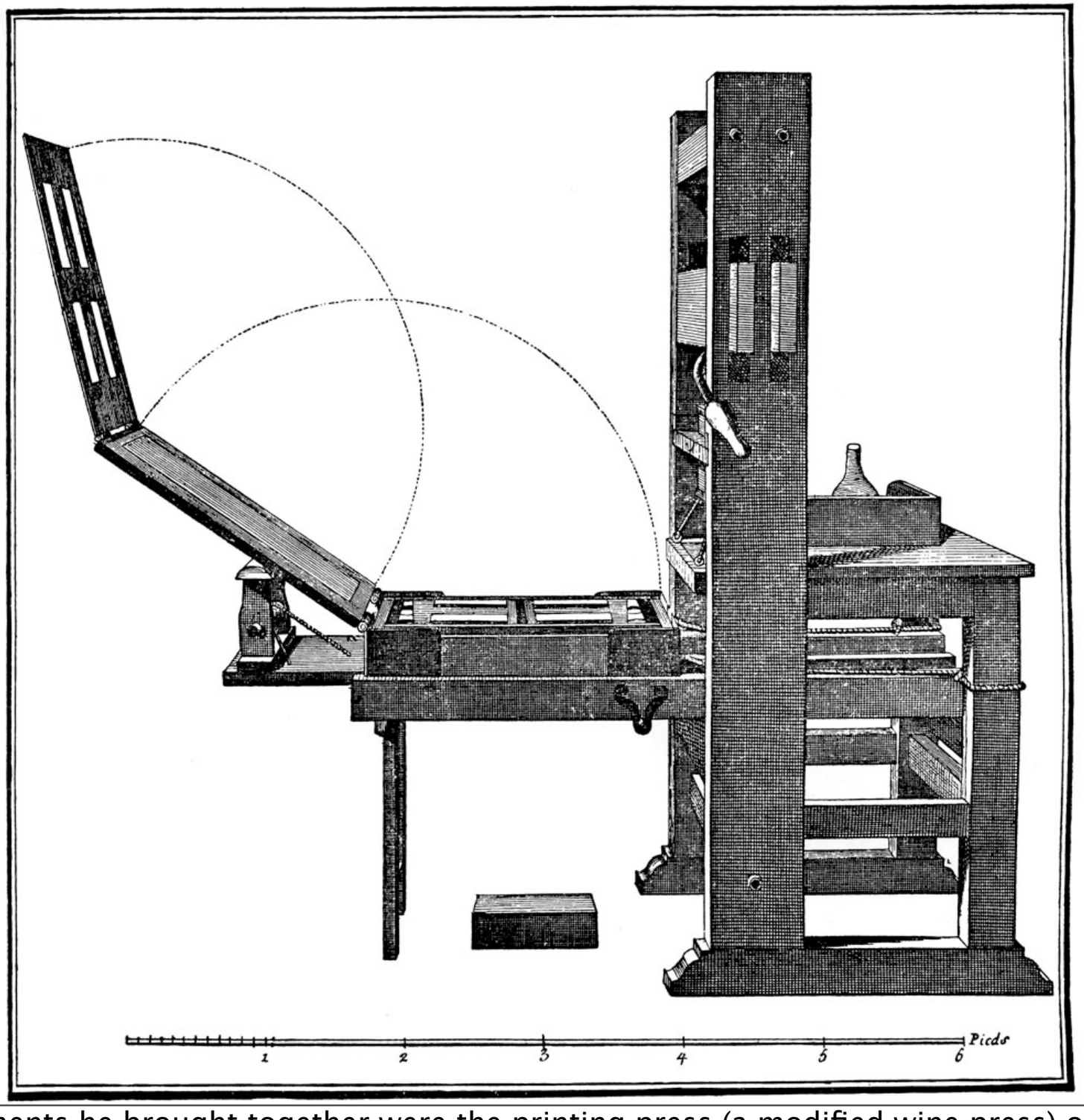
The earliest known complete survival of a dated printed book is the "Diamond Sutra", printed in China in 868 AD



The use of movable type in printing was invented in 1041 AD by Bi Sheng in China. Sheng used clay type and adhered it to a board with wax. Korea sponsored the production of metal type, specifically brass was established by the Korean government in 1234 AD. Since there are thousands of Chinese characters (Koreans also used Chinese characters in literature), the benefit of the technique is not as clear as with alphabetic based languages which typically have less than 50 characters. Movable type was never extensively used in the east until the European style printing press was introduced in relatively recent times (thus bringing the technology full circle).



The name most associated with the invention of the printing press is Johann Gutenberg. He was able to bring together a number of existing technologies to be at the forefront of moving the publishing of books from the time intensive wood block and hand copying practices that had been the norm for centuries to a mechanical process that allowed production on a scale unheard of.



The key elements he brought together were the printing press,(a modified wine press) oil based inks and cast metal, lead, movable type.

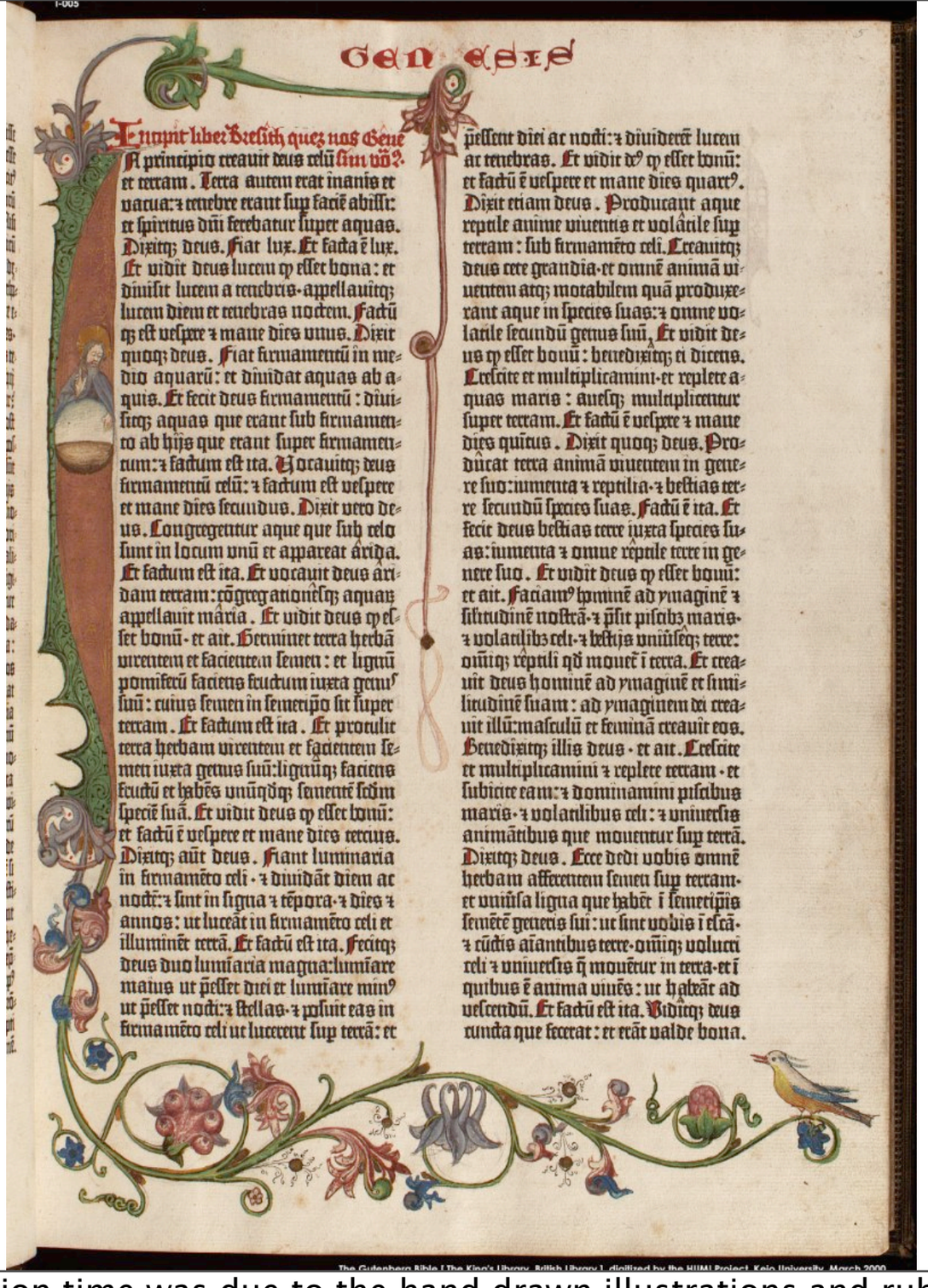
Incipit epla tri ad eusebium ⁊ ad Paulinū presbiterū de omnibus diuine hystorie libris. Capitulum primū.

Frater ambrosius tua michi munuscula perferens detulit simul ⁊ suauissimas litteras: que a principio amicicie fidē probate iam fidei et veteris amicicie pferebant. Hera enī illa necessitudo et xpi glutino copulata: quā nō utilitas rei familiaris. non pſentia tantū corpoz. nō subdola ⁊ palpās adulatio: sed dei timoz. et diuinarū scripturarū studia conciliant. Legimus in veteribus hystorijs. quosdā lustrasse puincias. nouos adisse ploſos. maria trāsisse: ut eos quos ex libris nouerāt: coram ꝙz viderent. Sic pitagoras memphiticos vates. sic plato egiptum ⁊ architam tarentinū. eamq; oram ytalie. que quondā magna grecia dicebaſ: laboriosissime peragrauit: et ut qui athenis mgr erat. ⁊ potens. cuiuslq; doctrinas achademie gignasia ꝓsonabāt. fieret peregrinus atq; discipulus: maluit a lieua verecunde discere: ꝙz sua impudenter ingerere. Denicq; cum litteras quasi toto orbe fugientes persequitur. raptus a piratis et venūdatus. tyranno crudelissimo paruit. ductus captiuus vinctq; et seruus: tamen quia philosophus: maior emenit se fuit. ad eruditionē. lacteo eloquentie fonte manantem. de ultimis hispanie galliarū ꝙz finibus quosdam venisse nobiles legimus: et quos ad cōtemplatiōnem sui roma non traxerat: unius hominis fama perduxit. Habuit illa etas inauditum omnibus seculis. celebrādumq; miraculum: ut urbem tātam ingressi: aliud extra urbem quererent. Apollonī siue ille magi ut vulgus loquitur. siue phi ut pitagorici tradunt. iter fecit ephesi. ꝓfectus est ad iarcham. albanos. scithas. massagetas. opulentissima indie regna penetrauit: et ad extremum latissimo phisonis amne trānauso peruenit ad bragmanas: ut hyarcam in throno sedentē aureo. ⁊ de tantali fonte potantem. inter paucos discipulos. de natura. de moribz ac de cursu dieī ⁊ siderū audiret docentem. Inde p elamitas. babilonios. chaldeos. medos. assirios. parthos. syros. phenices. arabes. palestinos. reuersus ad alexandriā. peruenit ad ethiopiam: ut gimnosophistas ⁊ famosissimam solis mensam videret i fabulo. Inuenit ille vir ubiq; quod disceret: ⁊ semp proficiens. semper se melior fieret. Scripsit super hoc plenissime octo voluminibus. phylostratus. II.

Quid loquar de seculi hominibz: cum apostolus paulus. vas electionis. et magister gentium. qui de conscientia tanti in se hospitis loquebatur. dicens. An experimentum queritis eius qui in me loquitur christus. post damascum arabiāq; lustratam. ascenderit iherosolimā ut uideret petrū et māserit apud eum diebus quindecim. Hoc enim misterio ebdomadis et ogdoadis: futur gentium predicator instruendus erat. Quicumq; post annos quatuordecim assumpto barnaba et tyto. exposuit eum apostolis euangelium: ne forte i vacuum curreret aut cucurrisset. Habet nescio quid latentis energie unte vocis actus: et in aures discipuli de auctoris ore transfusa: forti sonat. Unde et eschines cū rodi exularet. et legeret illa demostenis.

The Gutenberg Bible | The King's Library, British Library 1, digitized by the HUMI Project, Keio University, March 2000

In 1455 in Mainz Germany, Gutenberg published a two volume bible. The production took over two years for a run of probably less than 200.



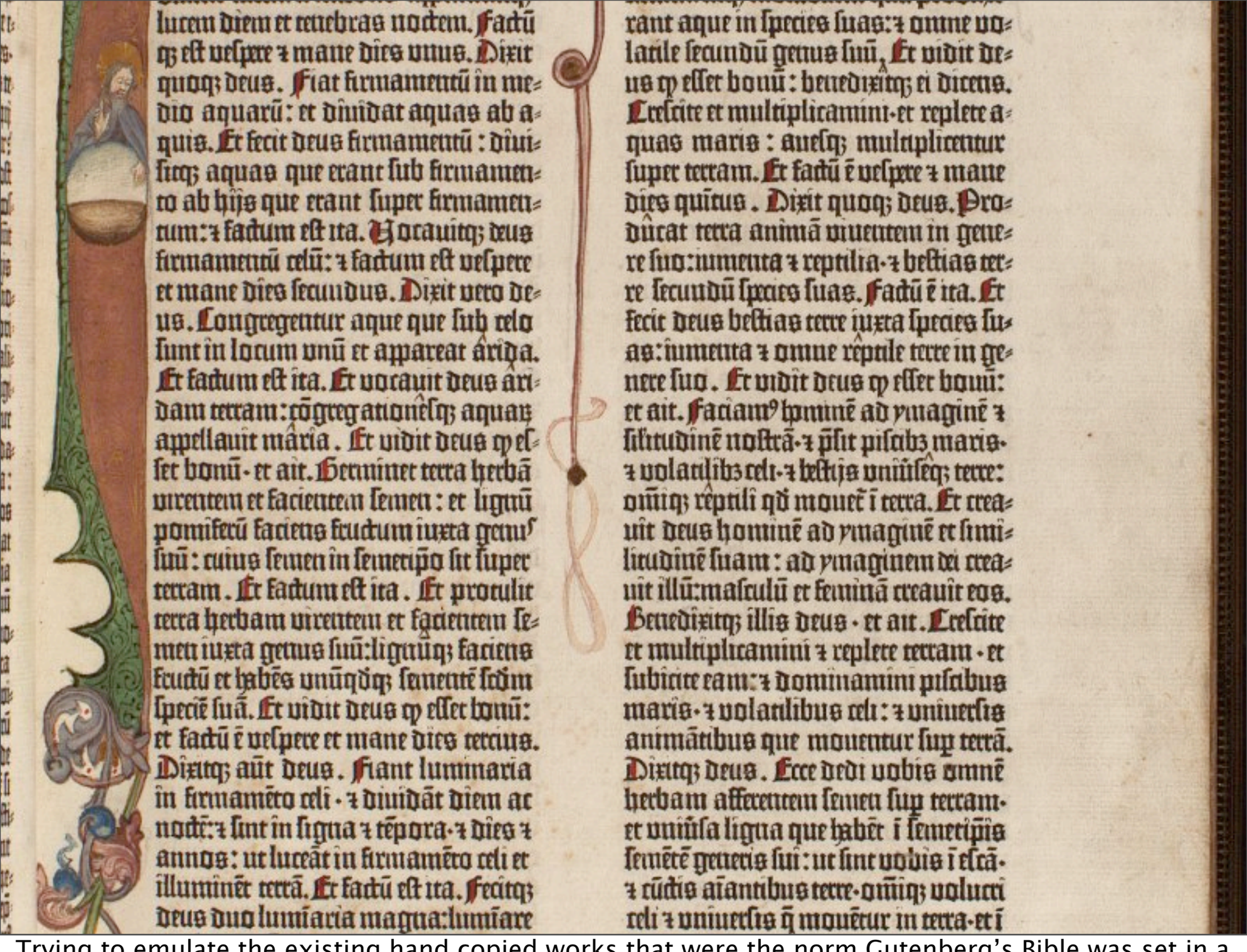
GENESIS

Incipit liber Bresith quez nos Genesim vocamus.

A principio creauit deus celū et terram. Terra autem erat inanis et vacua: ⁊ tenebre erant sup faciē abissi: et spiritus dñi ferebatur super aquas. Dixitq; deus. Fiat lux. Et facta ē lux. Et vidit deus lucem q̄ esset bona: et diuisit lucem a tenebris. appellauitq; lucem diem et tenebras noctem. Factū q; est vespere ⁊ mane dies vnus. Dixit quoq; deus. Fiat firmamentū in medio aquarū: et diuidat aquas ab aquis. Et fecit deus firmamentū: diuisitq; aquas que erant sub firmamento ab hijs que erant super firmamentum: ⁊ factum est ita. Vocauitq; deus firmamentū celū: ⁊ factum est vespere et mane dies secundus. Dixit vero deus. Congregentur aque que sub celo sunt in locum vnū et appareat arida. Et factum est ita. Et vocauit deus aridam terram: cōgregationesq; aquarū appellauit maria. Et vidit deus q̄ esset bonū. et ait. Germinet terra herbā virentem et facientem semen: et lignū pomiferū faciens fructum iuxta genus suū: cuius semen in semetipso sit super terram. Et factum est ita. Et protulit terra herbam virentem et facientem semen iuxta genus suū: lignūq; faciens fructū et habēs vnūqdq; sementē scdm speciē suā. Et vidit deus q̄ esset bonū: et factū ē vespere et mane dies tercius. Dixitq; aūt deus. Fiant luminaria in firmamēto celi. ⁊ diuidāt diem ac noctē: ⁊ sint in signa ⁊ tēpora. ⁊ dies ⁊ annos: ut luceāt in firmamēto celi et illuminēt terrā. Et factū est ita. Fecitq; deus duo lumīaria magna: lumīare maius ut p̄esset diei et lumīare min⁹ ut p̄esset nocti: ⁊ stellas. ⁊ posuit eas in firmamēto celi ut lucerent sup terrā: et p̄essent diei ac nocti: ⁊ diuiderēt lucem ac tenebras. Et vidit de⁹ q̄ esset bonū: et factū ē vespere et mane dies quart⁹. Dixit etiam deus. Producant aque reptile anime viuentis et volatile sup terram: sub firmamēto celi. Creauitq; deus cete grandia. et omnē animā viuentem atq; motabilem quā produxerant aque in species suas: ⁊ omne volatile secundū genus suū. Et vidit deus q̄ esset bonū: benedixitq; ei dicens. Crescite et multiplicamini. et replete aquas maris: auesq; multiplicentur super terram. Et factū ē vespere ⁊ mane dies quītus. Dixit quoq; deus. Producat terra animā viuentem in genere suo: iumenta ⁊ reptilia. ⁊ bestias terre secundū species suas. Factū ē ita. Et fecit deus bestias terre iuxta species suas: iumenta ⁊ omne reptile terre in genere suo. Et vidit deus q̄ esset bonū: et ait. Faciam⁹ hominē ad ymaginē ⁊ similitudinē nostrā. ⁊ p̄sit piscibz maris. ⁊ volatilibz celi. ⁊ bestijs vniuersēq; terre: omīq; reptili qd̄ mouet̄ ī terra. Et creauit deus hominē ad ymaginē et similitudinē suam: ad ymaginem dei creauit illū: masculū et feminā creauit eos. Benedixitq; illis deus. et ait. Crescite et multiplicamini ⁊ replete terram. et subicite eam: ⁊ dominamini piscibus maris. ⁊ volatilibus celi: ⁊ vniuersis animātibus que mouentur sup terrā. Dixitq; deus. Ecce dedi vobis omnē herbam afferentem semen sup terram. et vniuersa ligna que habēt ī semetipsis semētē generis sui: ut sint vobis ī escā. ⁊ cūctis aīantibus terre. omīq; volucri celi ⁊ vniuersis q̄ mouētur in terra. et ī quibus ē anima viuēs: ut habeāt ad vescendū. Et factū est ita. Viditq; deus cuncta que fecerat: et erāt valde bona.

The Gutenberg Bible | The King's Library, British Library | digitized by the HUMI Project, Keio University, March 2000

The extended production time was due to the hand drawn illustrations and rubrication. The process by which sections of the text were highlighted or added by hand. The goal was to compete with the very valuable hand copied texts that were the norm. So right from the outset mechanical printing had to match or exceed the established high standard. Printing spread rapidly throughout Europe. There were 1000 printers in Germany by 1500.



lucem diem et tenebras noctem. Factū
q; est vespere ⁊ mane dies vnus. Dixit
quoq; deus. Fiat firmamentū in me-
dio aquarū: et diuidat aquas ab a-
quis. Et fecit deus firmamentū: diui-
sitq; aquas que erant sub firmamen-
to ab hijs que erant super firmamen-
tum: ⁊ factum est ita. Vocauitq; deus
firmamentū celū: ⁊ factum est vespere
et mane dies secundus. Dixit vero de-
us. Congregentur aque que sub celo
sunt in locum vnū et appareat arida.
Et factum est ita. Et vocauit deus ari-
dam terram: cōgregationesq; aquarū
appellauit maria. Et vidit deus q̄ es-
set bonū. et ait. Germinet terra herbā
virentem et facientem semen: et lignū
pomiferū faciens fructum iuxta genus
suū: cuius semen in semetipso sit super
terram. Et factum est ita. Et protulit
terra herbam virentem et facientem se-
men iuxta genus suū: lignūq; faciens
fructū et habēs vnūqdq; sementē scdm
speciē suā. Et vidit deus q̄ esset bonū:
et factū ē vespere et mane dies tercius.
Dixitq; aūt deus. Fiant luminaria
in firmamēto celi. ⁊ diuidāt diem ac
noctē: ⁊ sint in signa ⁊ tēpora. ⁊ dies ⁊
annos: ut luceāt in firmamēto celi et
illuminēt terrā. Et factū est ita. Fecitq;
deus duo lumīaria magna: lumīare

rant aque in species suas: ⁊ omne vo-
latile secundū genus suū. Et vidit de-
us q̄ esset bonū: benedixitq; ei dicens.
Crescite et multiplicamini. et replete a-
quas maris: auesq; multiplicentur
super terram. Et factū ē vespere ⁊ mane
dies quītus. Dixit quoq; deus. Pro-
dūcat terra animā viuentem in gene-
re suo: iumenta ⁊ reptilia. ⁊ bestias ter-
re secundū species suas. Factū ē ita. Et
fecit deus bestias terre iuxta species su-
as: iumenta ⁊ omne rēptile terre in ge-
nere suo. Et vidit deus q̄ esset bonū:
et ait. Faciamꝰ hominē ad ymaginē ⁊
similitudinē nostrā. ⁊ p̄sit piscibꝫ maris.
⁊ volatilibꝫ celi. ⁊ bestijs vniūseq; terre:
omīq; rēptili qd̄ mouet ī terra. Et crea-
uit deus hominē ad ymaginē et simi-
litudinē suam: ad ymaginem dei crea-
uit illū: masculū et feminā creauit eos.
Benedixitq; illis deus. et ait. Crescite
et multiplicamini ⁊ replete terram. et
subicite eam: ⁊ dominamini piscibus
maris. ⁊ volatilibus celi: ⁊ vniuersis
animātibus que mouentur sup terrā.
Dixitq; deus. Ecce dedi vobis omnē
herbam afferentem semen sup terram.
et vniūsa ligna que habēt ī semetipīs
semētē generis sui: ut sint vobis ī escā.
⁊ cūctis aīantibus terre. omīq; volucri
celi ⁊ vniuersis q̄ mouētur in terra. et ī

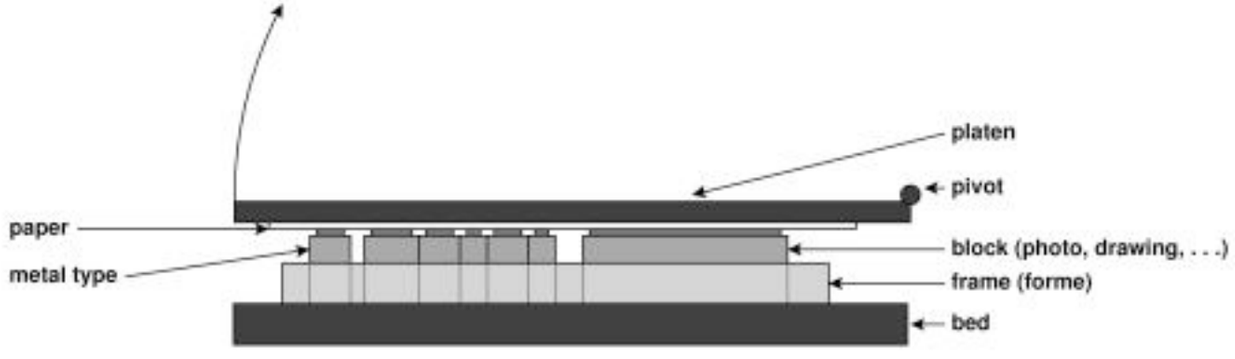
Trying to emulate the existing hand copied works that were the norm Gutenberg's Bible was set in a gothic script called Textura.

Textura is an example of Blackletter which it mimics the calligraphic writing of medieval scribes.

Textura is an example of Blackletter meaning it mimics the calligraphic writing of medieval scribes.

Textura is an example of Blackletter meaning it mimics the calligraphic writing of medieval scribes.

In 1457 the business men who seized Gutenberg's workshop when he defaulted on his loans printed the Mainz Psalter. It was an important development that combines woodcut illustrations with movable type. The basis of what will be centuries of letter press printing.


platen
pivot
paper
block (photo, drawing, . . .)
metal type
frame (forme)
bed

Type High

PRIMVS

EL SEQVENTE triúpho nõ meno miraueglioſo dl primo. Impo
che egli hauea le q̃tro uolubile rote tutte, & gli radii, & il meditullo defu
ſco achate, di cãdide uẽule uagaméte uaricato. Ne tale certam̃te geſtoe re
Pyrrho cũ le noue Muſe & Apollinẽ ĩ medio pulſãte dalla natura ĩpſſo.
Laxide & la forma del dicto q̃le el primo, ma le tabelle erão di cyaneo
Saphyro orientale, atomato de ſcintillule doro, alla magica gratiſſimo,
& longo acceptiſſimo a cupidine nella ſiniſtra mano.

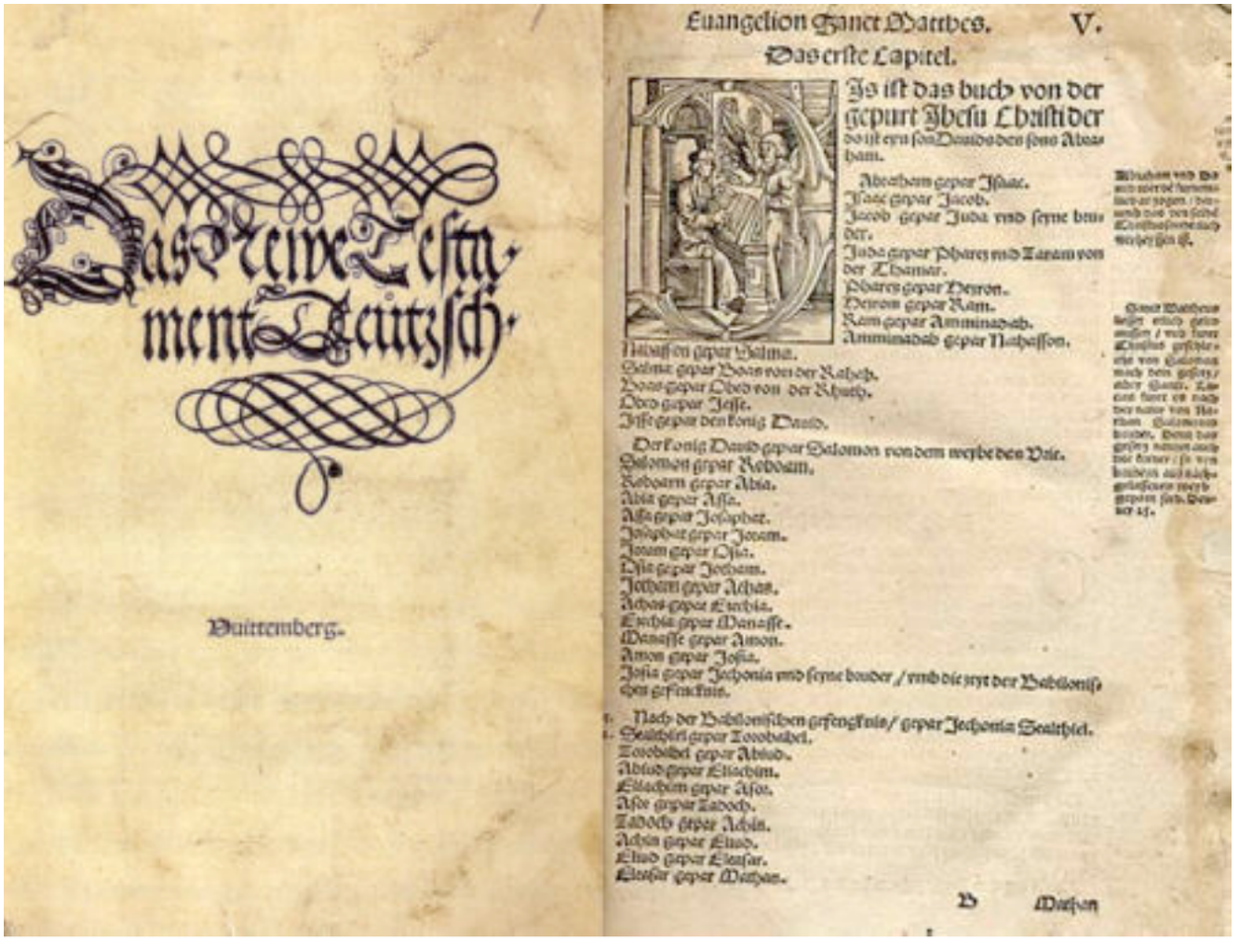
Nella tabella dextra mirai exſcalpto una inſigne Matrõa che
dui oui hauea parturito, in uno cubile regio colloca
ta, di uno mirabile pallacio, Cum obſtetrice ſtu
pefacte, & multe altre matrone & aſtante
NympheDegli quali uſciua de
uno una flammula, & delal-
tro ouo due ſpectatiſſi
me ſtelle.

* *
*

in the 1460's a competing type style emerged from mechanical printing in Venice. The development of roman type is connected to the Renaissance via its embracing of classical culture from Greece and Rome. The example pictured is by Aldus Manutius.

Nos patriæ fines, et dulcia linqui
mus arua,
Nos patriam fugimus, tu Tityre lentus in umbra
Formosam resonare doces Amaryllida syluas.
O Melibœe, deus nobis hæc otia fecit. Ti.
Nanq; erit ille mihi semper deus, illius aram
Sæpe tener nostris ab ouilibus imbuet agnus.
Ille meas errare boues, ut cernis, et ipsum
Ludere, quæ uellem, calamo permisit agresti.
Non equidem inuideo, miror magis, undiq; totis Me.
Vsque adeo turbatur agris. en ipse capellas
Protinus æger ago, hanc etiam uix Tityre duco.
Hic inter densas corylos modo nanq; gemellos,
Spem gregis ah silicæ in nuda connixa reliquit.
Sæpe malum hoc nobis, si mens non leua fuisset,
De cœlo tactas memini prædicere quercus.

Aldus Manutius is credited with publishing the first work in roman italic type in 1500. He also produced a number of new Roman type forms. Before we head off on the relatively rapid fire evolution of type design there is an important cultural separation involving the use of blackletter and roman forms.



The blackletter faces Schwabacher (1480) and Fraktur (1514) came to be associated with Germany's national identity. In 1522 with roman faces being widely used Martin Luther's New Testament was printed in Schwabacher. With Luther's rejection of the authority of both the Roman Church and the Pope and the subsequent establishment of Protestantism it seems the rejection of roman type is another layer of symbolism. This association of blackletter to German national identity will rise again as we discuss later periods.

Typography

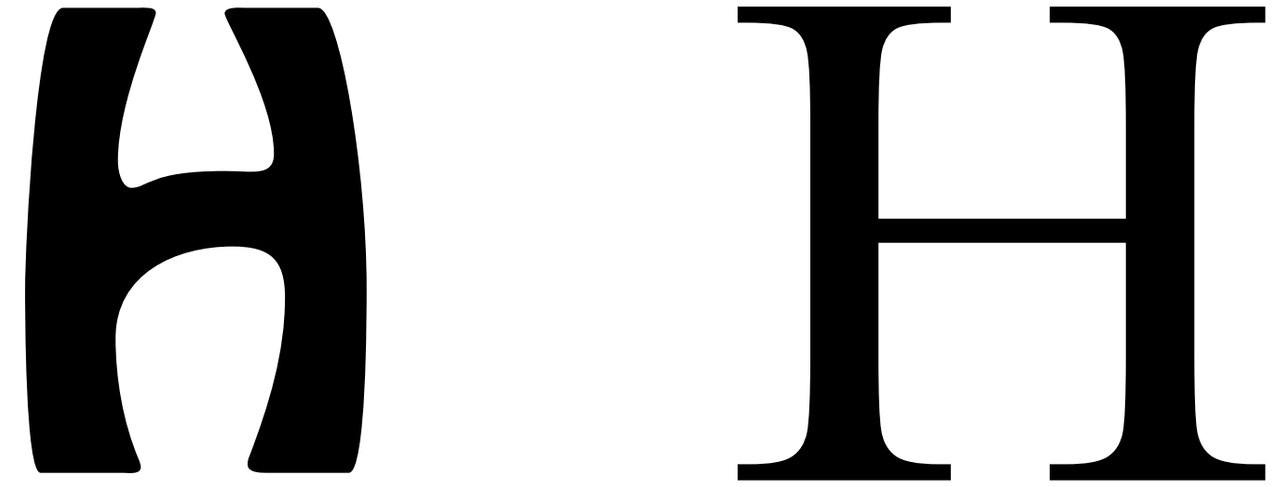
Before we race from roughly year 1500 to 1900 I thought it would be best to cover some of the terminology surrounding type and typography. Knowing the terminology provides a means for communication when discussing type.

character

The basic typographic element is called a **character**, which is any individual letter, numeral, or punctuation mark. Numbers are called numerals or figures. There are two main types of numerals, Old Style or Lining Figures (also called Modern).

character

Learning the anatomy of the characters informs the eye of the underlying structure of the varied designs and reveals the differences between them.



font

A complete set of characters in one design, size, and style.

In traditional metal type, a font meant a particular size and style; in digital typography the term font has been expanded to include multiple sizes and even altered styles of a typeface design.

typeface

The design of alphabetical and numerical characters unified by consistent visual properties.

type family

The complete range of variations of a typeface design, including roman, italic, bold, expanded, condensed, and alternate versions.

baseline

The imaginary line defining the visual base of letterforms.

meanline / median

The imaginary line defining the x-height of letterforms.

capline

Imaginary horizontal line defined by the height of the capital letters.

cap height

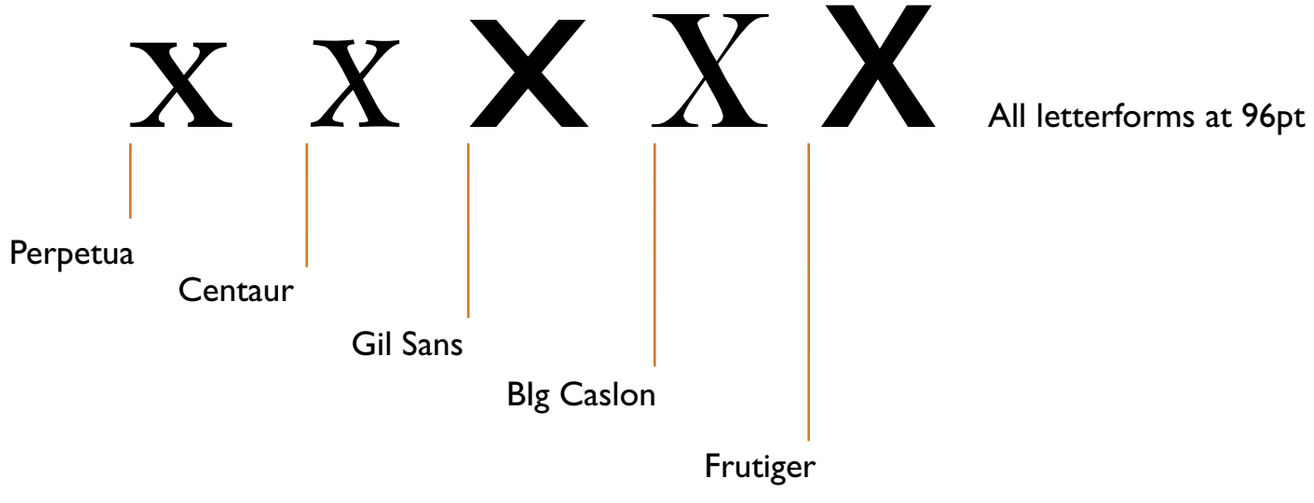
Height of the capital letters, measured from the baseline to the capline.

x-height

The height of lowercase letters, excluding ascenders and descenders.

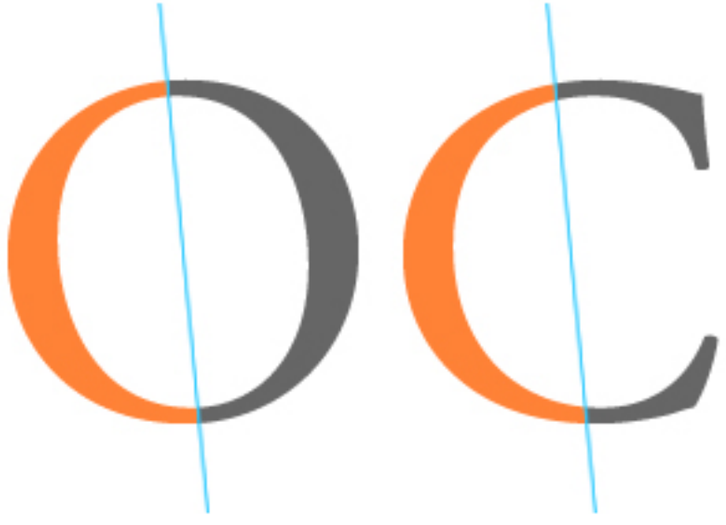
x-height

This is most easily measured on the lowercase x.



stress

The direction in which a curved stroke changes weight. The orientation of the letterform, indicated by the thin stroke in round forms.



stroke

Any line that defines the basic letterform. A straight or curved line. Term has its roots in the scribal pen.

stem

The significant vertical or oblique stroke.

ascender

The portion of the stem of a lowercase letterform that projects above the median, or x-height.

descender

That portion of the stem of a lowercase letter that projects below the baseline.

serif

Projections extending off of the ends of the main stroke on characters in a serif typeface.

bracket

The transition between the serif and the stem.

serif

Serifs are usually bracketed or unbracketed. Brackets give the transition between strokes and serifs a softer look where unbracketed serifs connect to the letter sharply, usually at a 90° angle.

counter

The negative space within a letterform, either fully or partially enclosed.

"The quality of typography is dependent on the relationship between the printed and unprinted parts. It is a sign of professional immaturity to ignore the decisive contribution of the unprinted area."

– Emil Ruder

roman

The basic letterform style, so called because it was derived from the Roman writing and inscriptions on Roman monuments.

In some typefaces, a slightly lighter stroke than roman is called ‘book’, ‘regular’, or ‘medium’.

italic / oblique

Contemporary typefaces often blur the distinction between italic and oblique, but you should be aware of the differences.

Oblique is a slanted version of a roman face while italics were derived from handwriting and were designed potentially to work with a roman face or independently.

boldface

Characterized by a thicker stroke than the roman form.

Depending upon the relative stroke widths within typefaces, it can also be called ‘semibold’, ‘black’, ‘extra bold’, or ‘super’.

In some typefaces the boldest rendition of the typeface is referred to as ‘poster’.

light

A lighter stroke than the roman form. Even lighter strokes are often called ‘thin’.

condensed

As the name suggests, a condensed version of the roman form. Extremely condensed styles are often called ‘compressed’.

expanded

Exactly what you would think. An extended variation of the roman form.

There are many more weights and styles that are found in type families. Reference your book for further info.

Semibold
Semibold Italic
Expert
Old Style Figures
Ornaments
Poster

Black
Ultra Condensed
Book
Thin
In-line
Small Caps

classifications

An inexhaustible variety of type styles is available for use today, and many attempts to classify these into logical groupings have fallen short due to the overlapping traits of typefaces.

classifications

A flawless classification system does not exist; however, a general system based on the historical development of typeface is used widely. This delineation breaks down typefaces into the following groups.

old style

Old style characteristics:
- Medium stroke contrast
- Slanted stress
- Oblique bracketed serifs
- Medium overall weight

Caslon
Garamond
Sabon

transitional

Transitional characteristics:
- Medium to high stroke contrast
- Nearly vertical stress
- Sharp, bracketed serifs
- Slightly slanted serifs

Baskerville

Stone Serif

modern

Modern characteristics:
- High stroke contrast
- Vertical stress
- Thin serifs
- Serifs sometimes unbracketed

Didot

Bodoni

slab serif (Egyptian)

Slab serif characteristics:

- Little stroke contrast
- Little or no stress
- Thick, square serifs
- Large x-height

Lubalin Graph

Serifa

sans serif

Sans serif characteristics:

- Some stroke contrast
- Nearly vertical stress
- Squarish, curved strokes
- Lower-case g has open tail

Rotis Sans Serif

Akzidenz Grotesk

Gil Sans

sans serif

Sans serif characteristics:

- Sans serif typefaces can be humanist, transitional or geometric
- Also called gothic or grotesk

Avante Garde
geometric sans

Optima
humanist sans

Univers
transitional sans